# NetApp® Manageability SDK 9.8

# Reference Manual for ONTAP® 9.12.1 APIs

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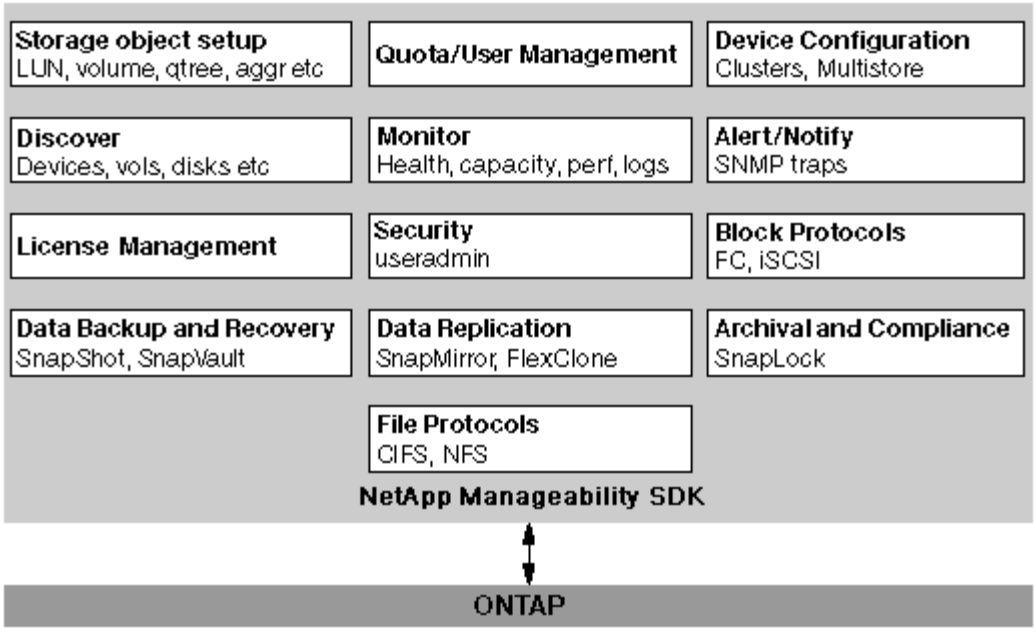
## Introduction to ONTAP APIs

You can create an application for seamless integration with NetApp solutions by using the ONTAP APIs. ONTAP APIs are available for security management, license management, backup and recovery, data replication, data archiving, and so on (see the following figure).



# What is new

This section provides the list of new APIs and APIs with new parameters for ONTAP 9.12.1.

### New APIs

There is no change in the APIs and API categories.

### Changed parameters

This section lists the APIs for which parameters have been changed:

- **Clustered APIs**
- **Vserver APIs**

Parameters of following Cluster-Mode API categories have been modified in ONTAP 9.12.1 compared with ONTAP 9.11.1. Click on the categories to see the changed parameters.

security

## security

[top]

| API | Input Parameters | Output Parameters |
| --- | --- | --- |
| security-key-manager-external-modify-server | nfs-service-create | |

Parameters of following Vserver API categories have been modified in ONTAP 9.12.1 compared with ONTAP 9.11.1
Click on the categories to see the changed parameters.

nfs

# nfs

[top]

| API | Input Parameters | Output Parameters |
|---|---|---|
| nfs-service-create | allow-idle-connection | |
| nfs-service-modify | allow-idle-connection | |

## Version Matrix

The version matrix shows the supported ONTAPI for each version of Data ONTAP.

Clicking a particular version number takes you to the documentation for that version of the interface.

| Data ONTAP Support | ONTAPI |
|---|---|
| 9.11.1 | 9.11.1 |
| 9.10.1 | 9.10.1 |
| 9.9.1 | 9.9.1 |
| 9.8 | 9.8 |
| 9.7 | 9.7 |
| 9.6 | 9.6 |
| 9.5 | 9.5 |
| 9.4 | 9.4 |
| 9.3 | 1.130 |
| 9.2 | 1.120 |
| 9.1 | 1.110 |
| 9.0 | 1.100 |

The SNMP MIB files are present are on the NetApp Support Site. Click here to view.

# Introduction to ONTAP

## Iterative APIs

Iterative APIs allow you to operate on a large set of objects by dividing that set of objects into manageable sub-sets, repeatedly executing an API call.

To repeatedly call a Data ONTAP 7-Mode API, you can use `*-iter-start`, `*-iter-next`, and `*-iter-end`. In clustered environments, you can use a single API `*-get-iter`.

`*-get-iter` API supports queries, which can be used to return all objects that match the query. The objects are sorted alphabetically (default) in ascending order of the keys. It can be sorted numerically too.

Following are the input elements of an iterative API:

- max-records—determines the maximum objects that can be sent as response, in a one API call.

  Each iterative API, for an API category, has a set upper limit and a default value. This element is supported for all APIs that support queries.
- tag— specifies a value used by the server to identify the next set of records to return.

  If tag value is not specified, the server starts from the first record of the query result.
- query—specifies the query and must be specified for each iteration of an API.

  You can use wildcards and range in a query.
- desired-attributes—specifies the number of elements that can be returned for each record.

  This is an optional value. If it is not specified, elements, which contain values, are returned.

Following are the output elements of an iterative API:

- next-tag—specifies the tag value passed to the tag input element in the next call to the same API.
- num-records—specifies the total number of records returned for the API call.
- attributes-list—specifies the actual list of records in the `*-get-iter` API call.

## ONTAP 7G-like API

ONTAP 8.1 and later provides APIs for both cluster and non-cluster nodes. ONTAP 7G-like APIs are APIs for non-cluster environment for those storage systems that have upgraded from Data ONTAP 7-Mode to ONTAP. Upon upgrade, the storage system retains 7-Mode functionality, such as the IP address, and the cluster nodes can be accessed by using Storage Virtual Machine (SVM, formerly known as Vserver) tunneling mechanism.

You can find the list here.

## ONTAP White-list API

The Data ONTAP 7-Mode APIs that do not create, modify, or delete a cluster object are called ONTAP White-list APIs. A user in a cluster environment can use these 7-Mode API by using Storage Virtual Machine (SVM, formerly known as Vserver) tunneling.

You can find the list here.

## SVM tunneling

The mechanism of accessing 7G-like APIs to a Storage Virtual Machine (SVM, formerly known as Vserver) through a cluster-management interface is called SVM tunneling. This is for storage systems that have been upgraded from Data ONTAP 7-Mode to ONTAP. If you want to access such a system, you have to use the ONTAP 7G-like API set.

ONTAP responds to a tunneled API based on the tunnel destination, target interface and the API family, as described in the following cases:

- ONTAP SVM APIs can be executed if they are sent through a cluster-management LIF to an Admin SVM.
- ONTAP SVM APIs can be executed if they are sent through a SVM-management LIF to a Data SVM.
- ONTAP SVM APIs can be executed if they are sent through a cluster-management LIF to a Data SVM.
- ONTAP clustered APIs can be executed if they are sent through a cluster-management LIF to a Node SVM.

## Network and File Access Management concepts

- **Logical interface**

  A logical interface (LIF) is an IP address with associated characteristics, such as a home port, a list of ports for failover, a firewall policy, a routing group. Logical interface is also known as virtual interface. For more information, see Data ONTAP documentation.

  Each logical interface has a role associated with it and must be assigned to the correct type of network port. A logical interface can have any one of the following four roles: node-management, cluster-management, cluster, or data.

  - **Node-management**

    A node-management logical interface provides a dedicated IP address for managing a particular node and is created at the time when a cluster is created or added to the cluster. Node-management logical interfaces can be configured on either node-management ports or data ports.

  - **Cluster-management**

    A cluster-management logical interface provides a single management interface for the entire cluster. Cluster-management logical interfaces can be configured only on data ports.

  - **Cluster**

    A cluster logical interface is used for intracluster traffic. Cluster logical interfaces can be configured only on cluster ports.

  - **Data**

    A data logical interface is used for communicating with clients. Data logical interfaces can be configured only on data ports.

- **SVM**

  In Data ONTAP C-Mode, a virtual server provides network access through unique network addresses, serves data out of a distinct namespace, and administered separately from the rest of the cluster. There are three types of SVMs: admin, data, and node. However, SVM usually refers to data SVM unless there is a specific need to identify different types of SVMs.

  - **Admin SVM**

    A SVM that has overall administrative access to all objects in the cluster, including the objects owned by other SVMs is an Admin SVM. It does not provide data access to clients or hosts.

  - **Node SVM**

    A SVM that is restricted to operation in a single node of the cluster at any one time, and provides administrative access to some objects owned by that node. It does not provide data access to clients or hosts.

  - **Data SVM**

    A virtual server that facilitates data access from the cluster; the hardware and storage resources of the cluster are dynamically shared by data SVMs within a cluster. Also known as a cluster SVM.

  To view information about role-based access on ONTAP, see the System Administration Guide.

**Related Topics**

- ONTAP System Administration Guide

## API Version 1.31

| S.No. | Data ONTAP API |
|---|---|
| 1 | **aggr-add** |
| 2 | **aggr-check-spare-low** |
| 3 | **aggr-create** |
| 4 | **aggr-destroy** |
| 5 | **aggr-get-filer-info** |
| 6 | **aggr-mirror** |
| 7 | **aggr-modify-raid-type** |
| 8 | **aggr-offline** |
| 9 | **aggr-online** |
| 10 | **aggr-options-list-info** |
| 11 | **aggr-rename** |
| 12 | **aggr-restrict** |
| 13 | **aggr-scrub-list-info** |
| 14 | **aggr-scrub-resume** |
| 15 | **aggr-scrub-start** |
| 16 | **aggr-scrub-stop** |
| 17 | **aggr-scrub-suspend** |
| 18 | **aggr-set-option** |
| 19 | **aggr-verify-list-info** |
| 20 | **aggr-verify-resume** |
| 21 | **aggr-verify-start** |
| 22 | **aggr-verify-stop** |
| 23 | **aggr-verify-suspend** |
| 24 | **cf-force-takeover** |
| 25 | **cf-get-partner** |
| 26 | **cf-giveback** |
| 27 | **cf-hwassist-stats** |
| 28 | **cf-hwassist-status** |
| 29 | **cf-service-disable** |
| 30 | **cf-service-enable** |
| 31 | **cf-status** |
| 32 | **cf-takeover** |
| 33 | **cg-commit** |
| 34 | **cg-start** |
| 35 | **cifs-share-delete** |

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|---|---|
| 36 | **diagnosis-alert-definition-get** |
| 37 | **diagnosis-alert-definition-get-iter** |
| 38 | **diagnosis-alert-get** |
| 39 | **diagnosis-alert-get-iter** |
| 40 | **diagnosis-alert-modify** |
| 41 | **diagnosis-config-get** |
| 42 | **diagnosis-config-get-iter** |
| 43 | **diagnosis-delete-alert** |
| 44 | **diagnosis-policy-definition-get** |
| 45 | **diagnosis-policy-definition-get-iter** |
| 46 | **diagnosis-policy-modify** |
| 47 | **diagnosis-status-get** |
| 48 | **diagnosis-subsystem-config-get** |
| 49 | **diagnosis-subsystem-config-get-iter** |
| 50 | **disk-fail** |
| 51 | **disk-remove** |
| 52 | **disk-sanown-assign** |
| 53 | **disk-sanown-filer-list-info** |
| 54 | **disk-sanown-list-info** |
| 55 | **disk-sanown-reassign** |
| 56 | **disk-sanown-remove-ownership** |
| 57 | **disk-unfail** |
| 58 | **disk-update-disk-fw** |
| 59 | **disk-zero-spares** |
| 60 | **ems-autosupport-log** |
| 61 | **fc-config-adapter-disable** |
| 62 | **fc-config-adapter-enable** |
| 63 | **fc-config-set-adapter-fc-type** |
| 64 | **fcp-adapter-config-down** |
| 65 | **fcp-adapter-config-up** |
| 66 | **fcp-adapter-set-speed** |
| 67 | **fcp-node-get-name** |
| 68 | **fcp-node-set-name** |
| 69 | **fcp-port-name-set** |
| 70 | **fcp-service-start** |
| 71 | **fcp-service-status** |
| 72 | **fcp-service-stop** |
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|---|---|
| 73 | **fcp-wwpnalias-remove** |
| 74 | **fcp-wwpnalias-set** |
| 75 | **fcport-get-link-state** |
| 76 | **feature-status-list-info** |
| 77 | **file-create-directory** |
| 78 | **file-create-symlink** |
| 79 | **file-delete-directory** |
| 80 | **file-delete-file** |
| 81 | **file-get-file-info** |
| 82 | **file-get-space-reservation-info** |
| 83 | **file-read-file** |
| 84 | **file-read-symlink** |
| 85 | **file-set-space-reservation-info** |
| 86 | **file-truncate-file** |
| 87 | **file-usage-get** |
| 88 | **file-usage-result-get** |
| 89 | **file-usage-start** |
| 90 | **file-write-file** |
| 91 | **flash-device-list-info** |
| 92 | **flash-get-thresholds** |
| 93 | **fpolicy-disable-policy** |
| 94 | **fpolicy-enable-policy** |
| 95 | **igroup-add** |
| 96 | **igroup-bind-portset** |
| 97 | **igroup-create** |
| 98 | **igroup-destroy** |
| 99 | **igroup-lookup-lun** |
| 100 | **igroup-remove** |
| 101 | **igroup-rename** |
| 102 | **igroup-set-attribute** |
| 103 | **igroup-unbind-portset** |
| 104 | **iscsi-auth-generate-chap-password** |
| 105 | **iscsi-initiator-add-auth** |
| 106 | **iscsi-initiator-delete-auth** |
| 107 | **iscsi-initiator-get-auth** |
| 108 | **iscsi-initiator-get-default-auth** |
| 109 | **iscsi-initiator-modify-chap-params** |
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| 110 | **iscsi-initiator-set-default-auth** |
| 111 | **iscsi-interface-disable** |
| 112 | **iscsi-interface-enable** |
| 113 | **iscsi-isns-config** |
| 114 | **iscsi-isns-get-info** |
| 115 | **iscsi-isns-start** |
| 116 | **iscsi-isns-stop** |
| 117 | **iscsi-isns-update** |
| 118 | **iscsi-node-get-name** |
| 119 | **iscsi-node-set-name** |
| 120 | **iscsi-service-start** |
| 121 | **iscsi-service-status** |
| 122 | **iscsi-service-stop** |
| 123 | **iscsi-target-alias-clear-alias** |
| 124 | **iscsi-target-alias-get-alias** |
| 125 | **iscsi-target-alias-set-alias** |
| 126 | **iscsi-tpgroup-create** |
| 127 | **iscsi-tpgroup-destroy** |
| 128 | **iscsi-tpgroup-interface-add** |
| 129 | **iscsi-tpgroup-interface-delete** |
| 130 | **license-v2-add** |
| 131 | **license-v2-delete** |
| 132 | **license-v2-list-info** |
| 133 | **lun-clear-persistent-reservation-info** |
| 134 | **lun-create-by-size** |
| 135 | **lun-create-from-file** |
| 136 | **lun-destroy** |
| 137 | **lun-get-attribute** |
| 138 | **lun-get-comment** |
| 139 | **lun-get-geometry** |
| 140 | **lun-get-inquiry-info** |
| 141 | **lun-get-maxsize** |
| 142 | **lun-get-minsize** |
| 143 | **lun-get-occupied-size** |
| 144 | **lun-get-persistent-reservation-info** |
| 145 | **lun-get-select-attribute** |
| 146 | **lun-get-serial-number** |
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| 147 | **lun-get-space-reservation-info** |
| 148 | **lun-get-vdisk-attributes** |
| 149 | **lun-has-scsi-reservations** |
| 150 | **lun-initiator-list-map-info** |
| 151 | **lun-initiator-logged-in** |
| 152 | **lun-map** |
| 153 | **lun-map-list-info** |
| 154 | **lun-move** |
| 155 | **lun-offline** |
| 156 | **lun-online** |
| 157 | **lun-port-has-scsi-reservations** |
| 158 | **lun-resize** |
| 159 | **lun-set-attribute** |
| 160 | **lun-set-comment** |
| 161 | **lun-set-device-id** |
| 162 | **lun-set-select-attribute** |
| 163 | **lun-set-serial-number** |
| 164 | **lun-set-space-reservation-info** |
| 165 | **lun-unmap** |
| 166 | **lun-unset-attribute** |
| 167 | **lun-unset-device-id** |
| 168 | **net-vlan-create** |
| 169 | **net-vlan-delete** |
| 170 | **nfs-disable** |
| 171 | **nfs-enable** |
| 172 | **nfs-exportfs-append-rules** |
| 173 | **nfs-exportfs-append-rules-2** |
| 174 | **nfs-exportfs-check-permission** |
| 175 | **nfs-exportfs-delete-rules** |
| 176 | **nfs-exportfs-list-rules** |
| 177 | **nfs-exportfs-list-rules-2** |
| 178 | **nfs-exportfs-modify-rule** |
| 179 | **nfs-exportfs-modify-rule-2** |
| 180 | **nfs-get-supported-sec-flavors** |
| 181 | **nfs-status** |
| 182 | **options-get** |
| 183 | **options-list-info** |
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| 184 | **options-set** |
| 185 | **perf-object-counter-list-info** |
| 186 | **perf-object-get-instances** |
| 187 | **perf-object-list-info** |
| 188 | **portset-add** |
| 189 | **portset-create** |
| 190 | **portset-destroy** |
| 191 | **portset-remove** |
| 192 | **qtree-create** |
| 193 | **qtree-delete** |
| 194 | **qtree-rename** |
| 195 | **quota-add-entry** |
| 196 | **quota-delete-entry** |
| 197 | **quota-get-entry** |
| 198 | **quota-modify-entry** |
| 199 | **quota-off** |
| 200 | **quota-on** |
| 201 | **quota-resize** |
| 202 | **quota-set-entry** |
| 203 | **quota-status** |
| 204 | **sis-disable** |
| 205 | **sis-enable** |
| 206 | **sis-set-config** |
| 207 | **sis-start** |
| 208 | **sis-status** |
| 209 | **sis-stop** |
| 210 | **snapmirror-abort** |
| 211 | **snapmirror-break** |
| 212 | **snapmirror-get-volume-status** |
| 213 | **snapmirror-initialize** |
| 214 | **snapmirror-quiesce** |
| 215 | **snapmirror-release** |
| 216 | **snapmirror-resume** |
| 217 | **snapmirror-resync** |
| 218 | **snapmirror-update** |
| 219 | **snapshot-autodelete-list-info** |
| 220 | **snapshot-autodelete-set-option** |
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| 221 | **snapshot-create** |
| 222 | **snapshot-delete** |
| 223 | **snapshot-delta-info** |
| 224 | **snapshot-get-reserve** |
| 225 | **snapshot-get-schedule** |
| 226 | **snapshot-list-info** |
| 227 | **snapshot-multicreate** |
| 228 | **snapshot-multicreate-validate** |
| 229 | **snapshot-multidelete** |
| 230 | **snapshot-partial-restore-file** |
| 231 | **snapshot-partial-restore-file-list-info** |
| 232 | **snapshot-reclaimable-info** |
| 233 | **snapshot-rename** |
| 234 | **snapshot-reserve-list-info** |
| 235 | **snapshot-restore-file** |
| 236 | **snapshot-restore-file-info** |
| 237 | **snapshot-restore-volume** |
| 238 | **snapshot-set-reserve** |
| 239 | **snapshot-volume-info** |
| 240 | **snmp-community-add** |
| 241 | **snmp-community-delete** |
| 242 | **snmp-community-delete-all** |
| 243 | **snmp-disable** |
| 244 | **snmp-enable** |
| 245 | **snmp-get** |
| 246 | **snmp-get-next** |
| 247 | **snmp-status** |
| 248 | **snmp-trap-disable** |
| 249 | **snmp-trap-enable** |
| 250 | **snmp-traphost-add** |
| 251 | **snmp-traphost-delete** |
| 252 | **storage-adapter-enable-adapter** |
| 253 | **storage-adapter-get-adapter-info** |
| 254 | **storage-adapter-get-adapter-list** |
| 255 | **storage-array-get-config-summary** |
| 256 | **storage-array-list-info** |
| 257 | **storage-array-ports-list-info** |
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| 258 | **storage-disk-get-iter** |
| 259 | **storage-initiator-balance** |
| 260 | **storage-initiator-disk-path-list-info** |
| 261 | **storage-initiator-errors-list-info** |
| 262 | **storage-initiator-get-load** |
| 263 | **storage-initiator-path-list-info** |
| 264 | **storage-initiator-path-quiesce** |
| 265 | **storage-initiator-path-resume** |
| 266 | **storage-shelf-bay-list-info** |
| 267 | **storage-shelf-environment-list-info** |
| 268 | **storage-shelf-get-shelf-info** |
| 269 | **storage-shelf-list-info** |
| 270 | **system-api-get-elements** |
| 271 | **system-api-list** |
| 272 | **system-api-list-types** |
| 273 | **system-get-ontapi-version** |
| 274 | **system-get-vendor-info** |
| 275 | **system-get-version** |
| 276 | **vmservices-vsphere-credential-check** |
| 277 | **vmservices-vsphere-credential-get** |
| 278 | **vmservices-vsphere-credential-modify** |
| 279 | **volume-autosize-get** |
| 280 | **volume-autosize-set** |
| 281 | **volume-clone-create** |
| 282 | **volume-clone-split-estimate** |
| 283 | **volume-clone-split-start** |
| 284 | **volume-clone-split-status** |
| 285 | **volume-clone-split-stop** |
| 286 | **volume-container** |
| 287 | **volume-create** |
| 288 | **volume-destroy** |
| 289 | **volume-get-language** |
| 290 | **volume-get-root-name** |
| 291 | **volume-move-start** |
| 292 | **volume-offline** |
| 293 | **volume-online** |
| 294 | **volume-options-list-info** |
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|---|---|
| 295 | **volume-rename** |
| 296 | **volume-restrict** |
| 297 | **volume-set-option** |
| 298 | **volume-set-total-files** |
| 299 | **volume-size** |
| 300 | **wafl-sync** |

| S.No. | Data ONTAP API |
|---|---|
| 1 | **aggr-space-list-info** |
| 2 | **clock-get-clock** |
| 3 | **clock-get-timezone** |
| 4 | **clone-list-status** |
| 5 | **disk-list-info** |
| 6 | **ems-autosupport-log** |
| 7 | **ems-invoke** |
| 8 | **file-inode-info** |
| 9 | **file-list-directory-iter-end** |
| 10 | **file-list-directory-iter-next** |
| 11 | **file-list-directory-iter-start** |
| 12 | **file-read-file** |
| 13 | **file-get-file-info** |
| 14 | **license-add** |
| 15 | **license-delete** |
| 16 | **license-list-info** |
| 17 | **net-ifconfig-get** |
| 18 | **net-ping** |
| 19 | **net-ping-info** |
| 20 | **net-resolve** |
| 21 | **net-reverse-resolve** |
| 22 | **options-list-info** |
| 23 | **options-get** |
| 24 | **reallocate-list-info** |
| 25 | **system-get-info** |
| 26 | **volume-charmap-get** |
| 27 | **volume-get-filer-info** |
| 28 | **volume-get-supported-guarantees** |

# ONTAPI Categories

The links below will take you to the documentation for individual API's in each of the categories.

| | |
|---|---|
| active-directory | Active Directory configuration and management |
| aggr | Aggregate information and management |
| audit | Cluster Administrative Audit APIs |
| autosupport | AutoSupport ZAPIs |
| cf | cluster-failover operations |
| cg | consistency group management |
| cifs | CIFS configuration and management |
| clock | System timezone and date management |
| clone | Manages file and sub-file cloning operation. |
| cluster | Cluster Management APIs |
| cluster-image | Automated nondisruptive update APIs |
| cluster-peer | Manages cluster peer relationships. |
| cluster-switch | Ethernet Switch Information Zapi |
| config-backup | Configuration Backup Management |
| coredump | coredump operations |
| dashboard | This command is removed starting from ONTAP 9.0 |
| diagnosis | Diagnosis zapis |
| disk | disk-related operations |
| disk-encrypt | Self-Encrypting Disk ZAPIs |
| ems | ems APIs |
| environment | Environment management |
| exports | Export Ruleset ZAPIs |
| fc | fibre channel adapter configuration |
| fcp | fibre channel protocol management |
| fcport | Fibre Channel port operations that manage the Fibre Channel |
| feature | feature management |
| file | supports file system operations |
| file-directory-security | view/set file/directory security information |
| fileservice-audit | FileService audit config ZAPIs |
| flash | Flash Management Module APIs |
| flash-device | Flash Cache Zapis |
| flexcache | FlexCache configuration and management. |
| fpolicy | file policy management and configuration |
| gpo | Group Policy Object(GPO) ZAPIs |
| group-mapping | Group Mapping management APIs |
| ha-interconnect | High-Availability Interconnect Zapis |

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|---|---|
| igroup | initiator group operations |
| iscsi | iscsi management and monitoring |
| job | Contains APIs to manage jobs, their schedules and low-level |
| kerberos | Kerberos configuration and management APIs. |
| ldap | LDAP configuration and management APIs |
| license-v2 | Manage Data ONTAP licenses. |
| lock | Lock Information and Management |
| lun | Manages and monitors LUNs. |
| metrocluster | |
| metrocluster-check-connection | MetroCluster check connection APIs |
| metrocluster-configuration-settings | MetroCluster configuration settings APIs |
| metrocluster-connection | MetroCluster connection APIs |
| metrocluster-dr-group | MetroCluster DR-Group management APIs |
| metrocluster-interface | MetroCluster Interface management APIs |
| name-mapping | Name Mapping management APIs |
| nameservice | Name Services Configuration and Management |
| ndmp | NDMP Zapis |
| net | Access to ONTAP network management |
| netgroup | obtains netgroup information |
| nfs | NFS configuration and management. In Data ONTAP |
| nis | |
| ntp-server | auto generated category. |
| nvme | Manage NVMe Protocol Access |
| options | manage option values |
| perf | Manages counters of various system performance objects |
| platform-cap | Controller platform Zapis |
| portset | portset operations |
| qos | Quality of Service management |
| qtree | qtree management |
| quota | quota management and editing |
| secd | Access-Check ZAPI Infrastructure |
| sectrace | Permission tracing configuration and management |
| security | Manage system security |
| security-certificate | Certificate Zapis |
| security-key-manager | Key Manager Setup Wizard APIs |
| security-key-manager-key | Encryption Key Information ZAPIs |
| security-session | Session Management APIs |
| security-ssl | auto generated category. |
| service-processor | APIs for Managing the Service Processor |
| ses | SCSI enclosure services-related operations |

| | |
|---|---|
| sis | Manage volume deduplication and compression. |
| snapdiff | Generate differences between two snapshots of a volume |
| snaplock | SnapLock information and management |
| snapmirror | snapmirror management |
| snapmirror-policy | SnapMirror Policy Zapis |
| snapshot | manages snapshots |
| snapvault | SnapVault management APIs |
| snmp | SNMP management and retrieving MIB values |
| storage-acp-firmware | auto generated category. |
| storage-adapter | storage adapter operations |
| storage-array | commands to monitor/manipulate back end storage arrays |
| storage-bridge | System Bridge Zapis |
| storage-disk | Storage disk related operations. |
| storage-disk-firmware | auto generated category. |
| storage-initiator | Commands to monitor/view initiator port traffic. |
| storage-iscsi-initiator | |
| storage-pool | Storage Pool Zapis |
| storage-port | Storage port info |
| storage-shelf | Storage shelf info |
| storage-shelf-firmware | auto generated category. |
| storage-switch | Storage Switch ZAPIs |
| system | system information |
| tape-mc-info | Tape MC Info |
| template-management | Manage Templates |
| ucm | Unified Connect adapter information and management |
| useradmin | useradmin configuration and management |
| virtual-machine | |
| volume | Volume information and management |
| vscan | Vscan configuration and managment. |
| vserver | |
| vserver-peer | Create or Manage Vserver peer relationships |
| vserver-peer-transition | Create or Manage transition peer relationships |
| wafl | Utility functions for agents. |

# APIs in Category: **active-directory**


active-directory-account-create
active-directory-account-delete
active-directory-account-get-iter
active-directory-account-modify
active-directory-account-password-change
active-directory-account-password-reset


This set of ZAPIs allows creating an Active Directory account and manage them. It is only used when a full CIFS server is not desired or not available.

## active-directory-account-create

[top]

Create an Active Directory account for the given Vserver. If a CIFS server already exists for the requested Vserver, then this command will fail. The existing CIFS server should be deleted before retrying again. If joining a domain, this command may take several minutes to complete.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **account-name** | | netbios-name | Active Directory account NetBIOS name. |
| **admin-password** | | string | Administrator password required for Active Directory account creation. |
| **admin-username** | | string | Administrator username required for Active Directory account creation. |
| **domain** | | string | Fully qualified domain name. |
| **force-account-overwrite** | | boolean optional | If true and a machine account with the same name as specified in 'account-name' exists in Active Directory, it will be overwritten and reused. The default value for this field is false. |
| **organizational-unit** | | string optional | Organizational unit under which the Active Directory account will be created. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **ECIFS_CIFS_SERVER_ALREADY_EXISTS** | |

## active-directory-account-delete

[top]

Delete the Active Directory account. If a CIFS server already exists for the requested Vserver, cifs-server-delete API should be used to delete the machine account.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string optional | Administrator password required for Active Directory account deletion. |
| **admin-username** | | string optional | Administrator username required for Active Directory account deletion. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# active-directory-account-get-iter

[top]

Retrieve the list of active directory accounts

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | active-directory-account-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | active-directory-account-config optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the active-directory-account object. All active-directory-account objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | active-directory-account-config[] optional | The list of attributes of active-directory-account objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more active-directory-account objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# active-directory-account-modify

[top]

Modify the Windows Active Directory domain. If a CIFS server already exists for the requested Vserver,

cifs-server-modify API should be used to modify the Windows Active Directory domain. If re-joining the current domain or joining a new one, this command may take several minutes to complete.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string optional | Administrator password required for Active Directory account creation in the given domain. |
| **admin-username** | | string optional | Administrator username required for Active Directory account creation in the given domain. |
| **domain** | | string optional | Fully qualified domain name. |
| **force-account-overwrite** | | boolean optional | If true and a machine account with the same name as specified in 'account-name' exists in Active Directory, it will be overwritten and reused. The default value for this field is false. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# active-directory-account-password-change

[top]

Generate a new password for the machine account and change it in the Windows Active Directory domain.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# active-directory-account-password-reset

[top]

Reset the machine account password in the Windows Active Directory domain. This may be required if the password stored along with the machine account in the Windows Active Directory domain is changed or reset without the Vserver's knowledge. This operation requires the credentials for a user with permission to reset the password in the organizational unit (OU) that the machine account is a member of.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string | Administrator password required for Active Directory account password reset. |
| **admin-username** | | string | Administrator username required for Active Directory account password reset. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **active-directory-account-config**

[top]

Active Directory configuration information for the Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **account-name** | | netbios-name optional | Active Directory account NetBIOS name. Attributes: required-for-create, non-modifiable |
| **domain** | | string optional | Fully qualified domain name. Attributes: required-for-create, modifiable |
| **domain-workgroup** | | domain-name optional | NetBios domain/workgroup name. Attributes: non-creatable, non-modifiable |
| **organizational-unit** | | string optional | Organizational unit under which the Active Directory account resides. Attributes: optional-for-create, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **netbios-name**

[top]

Name of a client or a server participating in a NetBIOS Windows File sharing service network. This can be different from the host name.

[none]

# Element definition: **domain-name**

[top]

The domain name is an identification label that defines a realm based on Domain Name Service (DNS).

[none]

# APIs in Category: **aggr**


aggr-64bit-upgrade-scan-start
aggr-64bit-upgrade-scan-stop
aggr-64bit-upgrade-start
aggr-add
aggr-autobalance-aggregate-state-get-iter
aggr-autobalance-config-get
aggr-autobalance-config-modify
aggr-autobalance-notification-get-iter
aggr-autobalance-volume-state-get-iter
aggr-check-spare-low
aggr-create
aggr-destroy
aggr-efficiency-cumulated-get
aggr-efficiency-get-iter
aggr-get-filer-info
aggr-get-iter
aggr-get-root-name
aggr-list-info
aggr-mediascrub-list-info
aggr-mirror
aggr-modify-raid-type
aggr-object-store-attach
aggr-object-store-config-create
aggr-object-store-config-delete
aggr-object-store-config-get
aggr-object-store-config-get-iter
aggr-object-store-config-modify
aggr-object-store-config-provider-list
aggr-object-store-get-iter
aggr-object-store-get-resync-status-iter
aggr-object-store-mirror
aggr-object-store-modify
aggr-object-store-profiler-abort
aggr-object-store-profiler-get-iter
aggr-object-store-profiler-start
aggr-object-store-unmirror


These APIs allow for full manipulation of Data ONTAP aggregates, and their structural components (plexes and RAID groups).

Aggregates are identified in one of two ways:

Name: The standard printable name for the aggregate, following standard Data ONTAP aggregate naming rules.

UUID: A DCE UUID that is formatted as a 36-character string composed of 32 hexadecimal characters. A UUID is broken up into five groupings that are separated by dashes ('-'). The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is NOT used. Also note that this identifier is exactly equivalent to the standard RAID tree ID. Aggregate UUID values can always be determined by invoking 'aggr-list-info' with no parameters (which returns records for all of the node's aggregates) and examining the values of the returned 'uuid' fields.

When requested from Admin Vserver LIF, aggregate UUID values can be determined by invoking 'aggr-get-iter'

An aggregate identifier may also appear inside a pathname format, especially when specifying a plex or RAID group within the aggregate:

[/vol/]<aggr_name_or_UUID>[<plexinfo>][<groupinfo>]

where <plexinfo> is '/plex{0..n}' and <groupinfo> is '/rg{0..n}'.

Examples include:

my_aggr

9ff6e1ce-d57d-11db-be9c-000100000529

/vol/my_aggr

/vol/9ff6e1ce-d57d-11db-be9c-000100000529

/vol/my_aggr/plex0

/vol/9ff6e1ce-d57d-11db-be9c-000100000529/plex0/rg3

Using UUID has the advantage of being able to access taken-over partner aggregates.

An aggregate has an HA (High Availability) policy, which may be one of: 'cfo' (Controller Failover), or 'sfo' (Storage Failover), or 'none' (Not specified)

Aggregates are allowed to have 'cfo' HA policy in both clustered and unclustered environments while having 'sfo' HA policy is restricted only to clustered environments.

With 'cfo' HA policy, failover is strictly pairwise. When a node fails, its HA partner takes over its storage all at once. When the failed node reboots, its HA partner gives back its storage all at once.

In clustered environments, with 'sfo' HA policy, failover may occur in a pairwise fashion much like 'cfo'. Additional differences from 'sfo'

aggr-object-store-vol-btuuids-get-iter
aggr-offline
aggr-online
aggr-options-list-info
aggr-relocation
aggr-relocation-status
aggr-rename
aggr-restrict
aggr-resync-options-get
aggr-resync-options-get-iter
aggr-resync-options-set
aggr-scrub-list-info
aggr-scrub-resume
aggr-scrub-start
aggr-scrub-stop
aggr-scrub-suspend
aggr-set-option
aggr-space-get-iter
aggr-space-list-info
aggr-spare-get-iter
aggr-split
aggr-status-get-iter
aggr-verify-list-info
aggr-verify-resume
aggr-verify-start
aggr-verify-stop
aggr-verify-suspend

include that a node which takes over storage on behalf of another node temporarily takes ownership of that storage. Also, when giveback occurs, its storage is not returned all at once. Rather, the aggregates with 'cfo' HA policy, including root, and its disks are returned first, followed by the remaining storage for that node.

An aggregate has a home owner, which is the node to which its disks have been administratively assigned.

In cluster environments, aggregates are identified as the standard printable name for the aggregate. UUID, Plex name and raidgroup name are invalid inputs when requested from Admin Vserver LIF.

# aggr-64bit-upgrade-scan-start

[top]

Start the 64-bit upgrade scanner on the specified aggregate. Use the 'aggr-list-info' API to query the status of the 64-bit upgrade scanner. The status is made available in the 'status' element that is part of the 'aggr-64bit-upgrade-info' typedef. Similarly, use the 'd-volume-list-info' API to query the status of the 64-bit upgrade scanner running on each contained flexible volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name or UUID of the aggregate for which to start the 64-bit upgrade scanner. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUME_CANT_OBTAIN_VOLREF** | |
| **EVOLUMEREADONLY** | |
| **EOP_DISALLOWED_ON_TRAD** | |
| **EOP_DISALLOWED_ON_STRIPED_AGGR** | |
| **EAGGR_64BIT_UPGRADE_NOT_IN_PROGRESS** | |
| **EOP_64BIT_UPGRADE_SCANNER_DISABLED** | |

# aggr-64bit-upgrade-scan-stop

[top]

Stop the 64-bit upgrade scanner on the specified aggregate. Use the 'aggr-list-info' API to query the status of the 64-bit upgrade scanner. The status is made available in the 'status' element that is part of the 'aggr-64bit-upgrade-info' typedef. Similarly, use the 'd-volume-list-info' API to query the status of the 64-bit upgrade scanner running on each contained flexible volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name or UUID of the aggregate for which to stop the 64-bit upgrade scanner. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUME_CANT_OBTAIN_VOLREF** | |
| **EVOLUMEREADONLY** | |
| **EOP_DISALLOWED_ON_TRAD** | |
| **EOP_DISALLOWED_ON_STRIPED_AGGR** | |
| **EAGGR_64BIT_UPGRADE_NOT_IN_PROGRESS** | |

# aggr-64bit-upgrade-start

[top]

Trigger upgrade from 32-bit to 64-bit on the specified aggregate without adding disks. This API produces a set of results in the background. These results are not available as output from aggr-64bit-upgrade-start. Use the 'aggr-list-info' and 'volume-list-info' APIs to query the results of the 64-bit upgrade process on the aggregate and contained flexible volumes, respectively.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name or UUID of the aggregate for which to trigger 64-bit upgrade. |
| **upgrade-64bit-mode** | | string optional | Option to specify if and how to grow volumes during the 64-bit upgrade. Legitimate values are "check", "grow_all", "grow_none", and "grow_reserved". If the "check" value is specified, aggr-64bit-upgrade-start produces a summary of the space impact which would result from upgrading the aggregate to 64-bit. This summary includes the space usage of each contained volume after the volume is upgraded to 64-bit and the amount of space that must be added to the volume to successfully complete the 64-bit upgrade. The summary can be obtained by querying the 'aggr-list-info' and 'volume-list-info' APIs. The aggregate's summary is made available in the 'check' element that is part of the 'aggr-64bit-upgrade-info' typedef. The flexible volumes' summary is made available in the 'check' element that is part of the 'volume-64bit-upgrade-info' typedef. This option does not result in an upgrade to 64-bit. If the "grow_all" value is specified, aggr-64bit-upgrade-start upgrades the aggregate to 64-bit. This option allows aggr-64bit-upgrade-start to automatically grow volumes as needed if they run out of space due to the 64-bit upgrade. The volumes will be grown to accommodate all the files within these volumes. This option does not affect volumes which have autosize enabled. If the "grow_none" value is specified, aggr-64bit-upgrade-start upgrades the aggregate to 64-bit. This option does not allow aggr-64bit-upgrade-start to automatically grow volumes if they run out of space due to the 64-bit upgrade. If the "grow_reserved" value is specified, aggr-64bit-upgrade-start upgrades the aggregate to 64-bit. This option allows aggr-64bit-upgrade-start to automatically grow volumes if they run out of space due to the 64-bit upgrade, but only to accommodate the space reserved files within these volumes. This option does not affect volumes which have autosize enabled. The default is "grow_none". |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **upgrade-64bit-cookie** | | integer | The opaque cookie to uniquely identify this 64-bit upgrade transaction. This cookie can be compared against the cookie returned by aggr-list-info to ensure that the output produced by aggr-list-info corresponds to this 64-bit upgrade transaction. Range: [0..2^64-1]. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUME_CANT_OBTAIN_VOLREF** | |
| **EVOLUMEREADONLY** | |
| **EVOLUMEBUSY** | |
| **EVOLUME_ALREADY_64BIT** | |
| **EOP_DISALLOWED_ON_TRAD** | |
| **EAGGR_64BIT_UPGRADE_ENOSPC** | |
| **EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC** | |
| **EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC_OVERWRITE** | |
| **EVOLUME_64BIT_UPGRADE_DISALLOWED** | |
| **EOP_DISALLOWED_ON_AGGR_WITH_SPARSE_VOL** | |
| **EOP_DISALLOWED_ON_STRIPED_AGGR** | |
| **EVOLUME_64BIT_UPGRADE_MODE_INVALID** | |
| **EVOLUME_64BIT_UPGRADE_PREQUAL_NOT_AVAIL** | |
| **EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL** | |
| **EVOLUME_64BIT_UPGRADE_ESTIMATE_IN_PROGRESS** | |
| **EVOLUME_IRON_NON_LOCAL_STATUS** | |

# aggr-add

[top]

Add disks to the specified aggregate. The disks to add are specified in the same way as for "aggr-create". Disks cannot be added to a mirrored aggregate if one or more of the plexes is offline. By the time the API returns, the disk(s) may not yet be completely added. Use 'aggr-list-info' to query the aggregate status to determine when it has finished growing due to the added disk(s). Same can be done using 'aggr-get-iter' when requested from Admin Vserver LIF. When the upgrade-64bit-mode input is provided to this API, the API produces a set of results in the background. These results are not available as output from aggr-add. Use the 'aggr-list-info' and 'volume-list-info' APIs to query the results of the 64-bit upgrade process on the aggregate and flexible volumes, respectively.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **actual-disk-type** | | string optional | Actual disk type of disks to use: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, or VMDISK. When this option is used, only disks of the specified type will be selected for use in the aggregate. One of either "disk-type, "actual-disk-type" or "disk-class" is required to be used when converting an existing aggregate to a hybrid one, or when operating on a hybrid aggregate. Otherwise, the option is not required. |
| **aggregate** | | string | Name or UUID of the aggregate to which the disks will be added. See the synopsis for name/UUID format and restrictions. |
| **allocation-units** | | integer optional | The spare capacity in terms of number of allocation units to be added to a given aggregate. Number of allocation units available and size of each unit can be found using ZAPI 'storage-pool-capacity-get-iter'. This option works only when 'storage-pool' is specified. |

| | | | |
|---|---|---|---|
| **allow-mixed-rpm** | | boolean optional | Disks in an aggregate are normally required to have the same RPM. This behavior is overridden with this option when it is set to true. Default value is false. |
| **allow-same-carrier** | | boolean optional | Using two disks from one carrier that houses multiple disks in one RAID group is not desirable. If that happens, Data ONTAP initiates a series of disk copy operations to correct that situation. Sometimes, selection of available spare disks makes it impossible to avoid placing two disks from one carrier in one RAID group. Setting this option to true allows placing two disks from one carrier in one RAID group. This option has an effect only when disks to be used are specified in 'disks'. This option is ignored when 'disk-count' is used. |
| **cache-raid-group-size** | | integer optional | Specifies the RAID group size of the new SSD RAID groups being created as part of the disk add operation. This option should be used while adding SSD disks for the first time to a hybrid-enabled aggregate. Range : [2..28] |
| **cache-raid-type** | | string optional | Specifies the raid-type of the new RAID groups being created as part of the disk add operation. This option should be used while adding SSD disks for the first time to a hybrid-enabled aggregate. Possible values: raid4, raid_dp and raid_tec only. If not specified, the default value is the raid-type of the aggregate. |
| **checksum-style** | | string optional | Specifies the checksum style for the disks to be added to an aggregate. This input is not allowed if a list of disks to use is specified through the "disks" parameter. The possible values:<br>• "advanced_zoned" - advanced_zoned checksum (azcs),<br>• "block" - block.<br>By default, disks with same checksum style as the aggregate are selected. Use this option to override that behavior and create a mixed checksum aggregate. "zoned" is not supported as one of the possible values as a mixed checksum aggregate can support only block and advanced_zoned checksum styles. |
| **disk-class** | | string optional | Class of disks to use. Disks are grouped into classes based on their performance characteristics. Disks belonging to the same class are compatible for use in the same aggregate. When this option is used, all disks belonging to the specified disk class are considered eligible for selection. Possible values are:<br>• "capacity" - Capacity-oriented, near-line disk types. Includes disk types FSAS, BSAS and ATA.<br>• "performance" - Performance-oriented, enterprise class disk types. Includes disk types FCAL and SAS.<br>• "archive" - Archive class SATA disks in multi-disk carrier storage shelves. Includes disk type MSATA.<br>• "solid-state" - Solid-state drives. Includes disk type SSD and SSD_NVM.<br>• "array" - Logical storage devices backed by storage arrays and used by Data ONTAP as disks. Includes disk type LUN.<br>• "virtual" - Virtual disks that are formatted and managed by the hypervisor. Includes disk type VMDISK.<br>One of either "disk-type, "actual-disk-type" or "disk-class" is required to be used when converting an existing aggregate to a hybrid one, or when operating on a hybrid aggregate. Otherwise, the option is not required. |
| **disk-count** | | integer optional | Number of disks to add, including the parity disks. The disks will come from the pool of spare disks. The smallest disks in this pool join the aggregate first, unless the "disk-size" argument is specified. Either the "disk-count" or "disks" argument must be specified. Range : [0..2^31-1]. |
| | | | The individual disk size in 4KB blocks. For example, a disk-size of 131072000 represents a 500GB drive (131072000 * 4 * 1024 = 500 * |

| | | | |
|---|---|---|---|
| **disk-size** | | integer optional | 1024 * 1024 * 1024). Disks with a usable size between 90% and 105% of the specified size are selected. If neither the "disk-size" nor the "disk-size-with-unit" argument is specified, existing groups are appended with disks that are the best match by size for the largest disk in the group. When starting new groups, disks that are the best match by size for the largest disk in the last raidgroup are selected first, then smaller disks, and finally larger disks. This "disk-size" option is ignored if a specific list of disks is specified through the "disks" parameter. Range : [0..2^63-1]. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned. |
| **disk-size-with-unit** | | string optional | This parameter accepts a disk size in the specified unit. It is a positive integer number followed by unit of "T", "G", "M" or "K". For example, these are accepted: 72G, 36G, 1T and 32M. But "72" will not be accepted. This "disk-size-with-unit" option is ignored if a specific list of disks is specified through the "disks" parameter. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned. |
| **disk-type** | | string optional | Type of disks to use: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, or VMDISK. When this option is used, disks of the specified type or disks of a compatible type will be selected for use in the aggregate. The ability to mix compatible disk types in one aggregate is controlled by these system options: 'raid.mix.hdd.disktype.capacity' 'raid.mix.hdd.disktype.performance' and 'raid.mix.disktype.solid_state'. One of either "disk-type, "actual-disk-type" or "disk-class" is required to be used when converting an existing aggregate to a hybrid one, or when operating on a hybrid aggregate. Otherwise, the option is not required. This option will be deprecated in a future release. Please use "actual-disk-type" or "disk-class" instead. |
| **disks** | | disk-info[] optional | Specific list of disks to add to the aggregate. If the aggregate is mirrored and a specific list of disks is supplied, another list ("mirror-disks") must also be supplied with the same number of disks. Either the "disks" or "disk-count" argument must be specified. |
| **force-cache-size** | | boolean optional | When set to true this parameter forces the addition of SSD disks to hybrid enabled aggregate by skipping the check for total (local + partner) hybrid SSD capacity. This can be used when the partner's cache capacity cannot be retrieved. Default value is false. Warning: If force-cache-size is set to true, the administrator is responsible to ensure that the total limit will not be exceeded. |
| **force-spare-pool** | | boolean optional | Disks in a plex are not normally permitted to span spare pools. This behavior is overridden with this option when it is set to true. This is a deprecated parameter. Use the allow-mixed-rpm and ignore-pool-checks parameters instead. |
| **group-selection-mode** | | string optional | Specifies how DATA ONTAP adds the specified disks to raidgroups. Legitimate values are "last", "one", "new" or "all". group-selection-mode is an optional argument, and the behavior when it is not used is selected by value of raid-group. If raid-group is used, the behavior is the same as for group-selection-mode "one". If raid-group is not used, the behavior is the same as for group-selection-mode "last". The raid-group option must be used with group-selection-mode value "one", and it cannot be used with others. If the string value is "last", Data ONTAP adds the specified disks to the existing last RAID group first. After the last RAID group is full, it creates one or more new RAID groups and adds the remaining disks to the new groups. If the string value is "one", Data ONTAP adds the specified disks to the existing RAID group specified by raid-group option until this specified RAID group is full. If the string value is "new", Data ONTAP creates one or more new RAID groups and adds the specified disks to the new groups, even if they would fit into an existing RAID group. The name of new RAID groups are selected automatically. It is not possible to specify the name for the new RAID groups. If the string value is "all", Data ONTAP adds the specified disks to existing RAID groups first. Only after all existing RAID |

| | | | |
|---|---|---|---|
| | | | groups are full, it creates one or more new RAID groups and adds the remaining disks to the new groups. |
| **ignore-pool-checks** | | boolean optional | Disks in a plex are normally required to come from the same spare pool. Similarly, disks in different plexes of a mirrored aggregate are required to come from different spare pools. This behavior is overridden with this option when it is set to true. Default value is false. |
| **mirror-disks** | | disk-info[] optional | Specific list of mirror disks needed to accompany the list in the "disks" parameter. This list must contain the same number of disks as specified in "disks". |
| **pre-check** | | boolean optional | Only check for the warnings without actually adding the disks. This option cannot be used when "simulate" is specified or "upgrade-64bit-mode" is set to "check". Default value is false. |
| **raid-group** | | string optional | Specifies the RAID group (for example rg0) to which the indicated disks are to be added. When a RAID group other than the last RAID group is specified, the aggregate can no longer be reverted to a version of Data ONTAP prior to 6.2. In such a case, the "force-spare-pool" option must be specified as well. By default, the filer fills up one RAID group with disks before starting another RAID group. Suppose an aggregate currently has one RAID group of 12 disks and its RAID group size is 14. If you add 5 disks to this aggregate, it will have one RAID group with 14 disks and another RAID group with 3 disks. The filer does not evenly distribute disks among RAID groups. |
| **simulate** | | boolean optional | Simulates the addition of disks to the given aggregate or UUID of the aggregate. If set to "true", addition of disks won't happen but returns the list of disks that would be automatically selected for the addition of the aggregate. By default, simulate option is set to false. |
| **so-aggr** | | boolean optional | Specifies that disks are being added to an unmirrored aggregate during Switchover. |
| **storage-pool** | | string optional | Name of the storage pool from which the capacity will be added. This parameter cannot be used with disk-list or disk-count option. |
| **upgrade-64bit-mode** | | string optional | Allows the aggregate to grow past 16 TB and begin 64-bit upgrade. If not supplied, adding disks past 16 TB to a 32-bit aggregate will fail. Legitimate values are "check", "grow_all", "grow_none", and "grow_reserved". If the "check" value is specified, aggr-add produces a summary of the space impact which would result from upgrading the aggregate to 64-bit. This summary includes the space usage of each contained volume after the volume is upgraded to 64-bit and the amount of space that must be added to the volume to successfully complete the 64-bit upgrade. The summary can be obtained by querying the 'aggr-list-info' and 'volume-list-info' APIs. The aggregate's summary is made available in the 'check' element that is part of the 'aggr-64bit-upgrade-info' typedef. The flexible volumes' summary is made available in the 'check' element that is part of the 'volume-64bit-upgrade-info' typedef. This option does not result in an upgrade to 64-bit or addition of disks. If the "grow_all" value is specified, "aggr-add" upgrades the aggregate to 64-bit if the total aggregate size after adding the specified disks exceeds 16TB. This option allows "aggr-add" to automatically grow volumes as needed if they run out of space due to the 64-bit upgrade. The volumes will be grown to accommodate all the files within these volumes. This option does not affect volumes which have autosize enabled. If the "grow_none" value is specified, "aggr-add" upgrades the aggregate to 64-bit if the total aggregate size after adding the specified disks exceeds 16TB. This option does not allow "aggr-add" to automatically grow volumes if they run out of space due to the 64-bit upgrade. If the "grow_reserved" value is specified, "aggr-add" upgrades the aggregate to 64-bit if the total aggregate size after adding the specified disks exceeds 16TB. This option allows "aggr-add" to automatically grow volumes if they run out of space due to the 64-bit upgrade, but only to accommodate the space reserved files within these volumes. This option does not affect volumes which have autosize enabled. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-capacity** | | integer optional | Estimated increase in aggregate capacity (in bytes). This is returned only if simulate option is set to true. Range : [0..2^64-1]. |
| **bad-disks** | | disk-info[] optional | List of disks that were not added. This is only returned if there are bad disks. |
| **is-upgrade-64bit-ignore** | | boolean optional | "true" if addition of disks does not make the aggregate size exceed 16TB but 'upgrade-64bit-mode' input was "grow-all", "grow-none" or "grow-reserved". This is not present if upgrade-64bit-mode input is not present or if upgrade to 64-bit was triggered. |
| **is-upgrade-64bit-invalid** | | boolean optional | "true" if aggregate is already 64-bit but 'upgrade-64bit-mode' input was "grow-all", "grow-none" or "grow-reserved". This is not present if upgrade-64bit-mode input is not present or if upgrade to 64-bit was triggered. |
| **nonzeroed-disks** | | integer optional | Number of disks that need to be zeroed before being added. This is only returned if there are non-zeroed disks. |
| **pre-check-results** | | warning-code[] optional | Result of the pre-check for possible warnings. Possible warning codes are:<br>• E_WARN_NEW_RAID_GROUP<br>• E_WARN_EXCEEDS_HALF_CLUSTER_SIZE<br>• E_WARN_DISK_DOWNSIZE<br>• E_WARN_LOW_SPARE<br>• E_WARN_NEEDS_PARTITIONING<br>• E_WARN_UNUSED_SPARE_PARTITIONS<br>• ECANT_USE_ALL_DISKS |
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded", "in-progress", "failed". |
| **selected-disks** | | aggr-simulate-disk-info[] optional | List of disks that would be used for the addition of disks to the given aggregate. This is only returned if the simulate option is set to true. |
| **selected-disks-for-shared-pool** | | aggr-simulate-disk-info[] optional | List of disks that would be added to a storage pool to grow the aggregate. This is only returned if the simulate option is set to true. |
| **selected-mirror-disks** | | aggr-simulate-disk-info[] optional | List of mirror disks that would be used for the addition of disks to the given aggregate. This is only returned if the simulate option is set to true on the mirrored aggregate. |
| **simulation-result** | | aggregate-simulate-layout-info optional | Layout of disks selected for addition to the aggregate. This is returned only if simulate option is set to true. |
| **upgrade-64bit-cookie** | | integer optional | The opaque cookie to uniquely identify this 64-bit upgrade transaction. This cookie can be compared against the cookie returned by aggr-list-info to ensure that the output produced by aggr-list-info corresponds to this 64-bit upgrade transaction. Range: [0..2^64-1]. |
| **warning-message** | | string optional | Warning message returned during aggregate addition. |

| Errno | Description |
|---|---|

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|---|---|
| **EINTERNALERROR** | |
| **EDISKADD_RESTRICT_TO_RAIDTP** | |
| **EINVALIDINPUTERROR** | |
| **EAPIMISSINGARGUMENT** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEDISKSIZEINVALID** | |
| **EVOLUMEDISKDUP** | |
| **EVOLUMEGSMINVALID** | |
| **EAGGR_TOO_LARGE** | |
| **EAGGR_TOO_LARGE_SYSTEM_LIMIT** | |
| **EVOLUME_64BIT_UPGRADE_MODE_INVALID** | |
| **EOP_DISALLOWED_ON_AGGR_WITH_SPARSE_VOL** | |
| **EAGGR_WOULD_UPGRADE** | |
| **EVOLUME_64BIT_UPGRADE_PREQUAL_NOT_AVAIL** | |
| **EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL** | |
| **EVOLUME_IRON_NON_LOCAL_STATUS** | |
| **EVOLUME_64BIT_UPGRADE_ESTIMATE_IN_PROGRESS** | |
| **EAGGR_64BIT_UPGRADE_ENOSPC** | |
| **EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC** | |
| **EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC_OVERWRITE** | |
| **EAGGR_64BIT_UPGRADE_RESTRICTED** | |
| **EOP_DISALLOWED_ON_STRIPED_AGGR** | |
| **EAGGR_SIZE_LESS_THAN_16TB** | |
| **EVOLUME_64BIT_UPGRADE_DISALLOWED** | |
| **EDISK_TYPE_MISMATCH** | |
| **EONTAPI_EINVAL** | |
| **ECKSUMNOTKNOWN** | |
| **EMCS_NOT_ALLOWED_WITH_LUNS** | |
| **EHYBRID_NOT_ALLOWED_ON_RESTRICTED_AGGR** | |
| **EVOLUME_ALREADY_64BIT** | |
| **ENOT_A_AZCS_DISK** | |
| **ENO_AZCS_DISKS** | |
| **ESAME_DISK_CARRIER** | |
| **EFAILED_DISK_IN_CARRIER** | |
| **EHYBRID_SSD_NODE_LIMIT_EXCEEDED** | |
| **ENOTORIGDISKOWNER** | |
| **ENOTDISKOWNER** | |
| **EOP_MIXED_RAID_TYPE_NOT_ALLOWED** | |
| **EFAILED_TO_RETRIEVE_PARTNER_CACHE_CAPACITY** | |
| **EOP_FORCE_CACHE_SIZE_NOT_ALLOWED** | |
| **EARRAYLUNUNSUPPORTED** | |
| **ENOTALLOWEDCACHERAIDSIZECHANGE** | |
| **E_CFT_PRECOMMIT_PHASE** | |
| **E_CFT_QUERY_FAIL** | |
| **EDISK_BAD_DISK_ID** | |
| **EDISK_NOT_SPARE_DISK** | |
| **EDISK_DISK_IS_OFFLINE** | |
| **EDISK_DISK_ALREADY_IN_USE** | |
| **EDISK_NOT_A_BLOCK_DISK** | |
| **EDISK_NOT_A_ZONED_DISK** | |
| **EDISK_NOT_DISKS_SIZE** | |

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| **EDISK_NOT_ENOUGH_DISKS** | |
| **EDISK_NO_BLOCK_DISKS** | |
| **EDISK_NO_ZONED_DISKS** | |
| **EDISK_NO_DISKS_MATCHING_TYPE** | |
| **EDISK_NO_DISKS_MATCHING_RPM** | |
| **EDISK_NO_DISKS_MATCHING_IF_SPEED** | |
| **EDISK_NOT_SAME_POOLS** | |
| **EDISK_POOL_ISOLATION_VIOLATION** | |
| **EDISK_DISK_DR_HOME_MISMATCH** | |
| **EWRONG_POOL_SO_AGGR** | |
| **EDISK_DISK_RPM_MISMATCH** | |
| **EDISK_DISK_IF_SPEED_MISMATCH** | |
| **EDISKTYPEWRONGFORSNAPLOCK** | |
| **ERAIDGROUP_DONT_EXIST** | |
| **ERAIDGROUP_IS_FULL** | |
| **EPLEX_IN_BAD_STATE** | |
| **ENOT_MIRROR_VOLUME** | |
| **EWRONG_POOL_MCC** | |
| **EDISK_COUNT_OP_NOT_SUPPORTED** | |
| **ENOT_SUPPORTED_PARAM_SIZE** | |

# aggr-autobalance-aggregate-state-get-iter

[top]

Iterate over a list of aggr-autobalance objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-autobalance-aggregate-state optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aggr-autobalance-aggregate-state optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-autobalance object. All aggr-autobalance objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-autobalance-aggregate-state[] optional | The list of attributes of aggr-autobalance objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr-autobalance objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# aggr-autobalance-config-get

[top]

Displays the configuration for Auto Balance Aggregate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | aggr-autobalance-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | aggr-autobalance-config | The attributes of the aggr-autobalance. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# aggr-autobalance-config-modify

[top]

Modifies Auto Balance Aggregate configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| available-threshold-percent | | integer optional | When Auto Balance Aggregate identifies an aggregate that needs to be balanced, it will attempt to identify other target aggregates it can move volumes to. An aggregate will only be considered as a target if its projected space usage after the move is still under this percentage. Auto Balance Aggregate will attempt to move volumes from an unbalanced aggregate until it is under this percentage. The default value is 40%. |
| hold-duration-after-move | | time-interval optional | This value represents the number of seconds that need to have elapsed since the volume was last moved before it will be considered a movable candidate again. The default value is 48 hours. |
| is-enabled | | boolean optional | 'true' if Auto Balance Aggregate is enabled. 'false' if Auto Balance Aggregate is disabled. |
| move-mode | | string optional | For all modes, Auto Balance Aggregate will identify the volume moves that will help to balance space usage across the aggregates. The mode dictates what Auto Balance Aggregate will do with the suggested moves. In 'recommend' mode, the suggested moves will be displayed, but no further action will be taken.In 'auto' mode, Auto Balance Aggregate will trigger moves to start. The default mode is 'recommend'. |
| state-polling-interval | | time-interval optional | Polling period, in seconds, used by Auto Balance Aggregate to update volume and aggregate stats. The default value is 3600 seconds (1 hour). |
| unbalanced-threshold-percent | | integer optional | This percentage will indicate the space used threshold that will cause Auto Balance Aggregate to consider this aggregate as unbalanced. The default value is 60%. |
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|---|---|---|---|
| **volume-activity-threshold** | | integer optional | The threshold, in number of operations per second preformed on a volume (read/write/internal), that will disqualify the volume from being a candidate to be moved by Auto Balance Aggregate. The default value is 100 operations per second. |
| **volume-inactive-delay-threshold** | | time-interval optional | This value represents a duration in seconds and designates the amount of time that has to elapse after a volume has exceeded the volume-activity-threshold before it can be considered a movable volume by Auto Balance Aggregate. The default value is 24 hours. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# aggr-autobalance-notification-get-iter

[top]

Displays the nodes that notify Auto Balance Aggregate about aggregates that need to be balanced

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-autobalance-notification optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aggr-autobalance-notification optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-autobalance object. All aggr-autobalance objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-autobalance-notification[] optional | The list of attributes of aggr-autobalance objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr-autobalance objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-autobalance-volume-state-get-iter

[top]

Iterate over a list of aggr-autobalance objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | aggr- | |

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|---|---|---|---|
| **desired-attributes** | | autobalance-volume-state optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aggr-autobalance-volume-state optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-autobalance object. All aggr-autobalance objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-autobalance-volume-state[] optional | The list of attributes of aggr-autobalance objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr-autobalance objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-check-spare-low

[top]

Return true if there is no suitable spare disk available for any filesystem (parity or data) disk.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggr-name** | | string optional | The aggregate to get the spares low information for. If not specified the spares low information is obtained for node. |
| **node-name** | | string optional | Low spare condition checked on the requested node. When requested from Admin Vserver LIF and node name not specified, status for the cluster is returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-spare-low** | | boolean | "true", if system has insufficient spare disk, "false" otherwise. When requested from Admin Vserver LIF, "true" is returned if one or more nodes in the cluster have spare low condition, "false" otherwise. When aggregate name has been specified, "true" is returned if the aggregate exists and any RAID groups have a spare low condition. |

# aggr-create

[top]

Create a new aggregate with the given name. The maximum number of aggregates that can be created on a

filer varies by the type of configuration. In a standalone configuration, up to 200 aggregates can be created on a filer. In an HA configuration, this number drops to 100 and to 50 in a C-mode MetroCluster configuration. The aggregate may not yet be operational immediately after the API returns. Use 'aggr-list-info' to query the status of the newly-created aggregate to determine when it is fully operational. Same can be done using 'aggr-get-iter' when requested from Admin Vserver LIF. NOTE: If ECANT_USE_ALL_DISKS is returned, then the requested aggregate was indeed created, just not with all the disks that were specified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **actual-disk-type** | | string optional | Actual type of disks to use: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, or VMDISK. When this option is used, only disks of the specified type will be selected for use in the aggregate. This option is not allowed if a disk type is specified through the "disk-type" option or if a disk class is specified through the "disk-class" option. It is also not allowed if a list of disks to use is specified through the "disks" option. |
| **aggregate** | | string | Name of the aggregate to create. The aggregate name can contain letters, numbers, and the underscore character(_), but the first character must be a letter or underscore. The maximum length of the aggregate name is 255. |
| **allow-mixed-rpm** | | boolean optional | Disks in an aggregate are normally required to have the same RPM. This behavior is overridden with this option when it is set to true. Default value is false. |
| **allow-same-carrier** | | boolean optional | Using two disks from one carrier that houses multiple disks in one RAID group is not desirable. If that happens, Data ONTAP initiates a series of disk copy operations to correct that situation. Sometimes, selection of available spare disks makes it impossible to avoid placing two disks from one carrier in one RAID group. Setting this option to true allows placing two disks from one carrier in one RAID group. This option has an effect only when disks to be used are specified in 'disks'. This option is ignored when 'disk-count' is used. |
| **auto-provision-target-size** | | integer optional | This field is set to indicate the target size of the aggregate when auto provision is creating it in multiple steps. Range : [0..2^63-1]. |
| **autobalance-state** | | autobalance-aggregate-state optional | The state of the aggregate being balanced. Possible values:<br>• "disabled" - Auto Balance Aggregate is disabled,<br>• "balanced" - Auto Balance Aggregate has determined that the aggregate is below the high-watermark.<br>• "unbalanced" - Auto Balance Aggregate has detected that the aggregate is over the high-watermark but has not initiated any jobs to bring it below the high-watermark.,<br>• "ineligible" - Ineligible<br><br>The states excluded, balanced and unbalanced are available only when Auto Balance Aggregate is enabled. The default value is 'ineligible' |
| **block-type** | | string optional | The indirect block format that the aggregate can have. The default is 64_bit. With a 64_bit block-type creation of aggregates that can be larger than 16TB is allowed. Possible values: 64_bit |
| **checksum-style** | | string optional | Specifies the checksum style for the aggregate. This input is not allowed if a list of disks to use is specified through the "disks" parameter. The possible values:<br>• "advanced_zoned" - advanced_zoned checksum (azcs),<br>• "block" - block, |
| | | | Class of disks to use. Disks are grouped into classes based on their performance characteristics. Disks belonging to the same class are compatible for use in the same aggregate. When this option is used, all disks belonging to the specified disk class are considered eligible for selection. Possible values are:<br>• "capacity" - Capacity-oriented, near-line disk types. Includes disk types FSAS, BSAS and ATA. |

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|---|---|---|---|
| **disk-class** | | string optional | • "performance" - Performance-oriented, enterprise class disk types. Includes disk types FCAL and SAS.<br>• "archive" - Archive class SATA disks in multi-disk carrier storage shelves. Includes disk type MSATA.<br>• "solid-state" - Solid-state drives. Includes disk type SSD and SSD_NVM.<br>• "array" - Logical storage devices backed by storage arrays and used by Data ONTAP as disks. Includes disk type LUN.<br>• "virtual" - Virtual disks that are formatted and managed by the hypervisor. Includes disk type VMDISK.<br><br>This option is not allowed if a disk type is specified through the "disk-type" or "actual-disk-type" option. It is also not allowed if a list of disks to use is specified through the "disks" option. |
| **disk-count** | | integer optional | Number of disks to place into the aggregate, including parity disks. The disks in this newly- created aggregate come from the spare disk pool. The smallest disks in this pool join the aggregate first, unless the "disk-size" argument is provided. Range [0..2^31-1]. Either "disk-count" or "disks" must be supplied. |
| **disk-size** | | integer optional | Disk size in 4KB blocks. Disks that are within 10% of the specified size will be selected for use in the aggregate. If neither "disk-size" nor "disk-size-with-unit" is specified, existing groups are appended with disks that are the best match for the largest disk in the group. When starting new groups, the smallest disks are selected first. This option is ignored if a specific list of disks to use is specified through the "disks" parameter. Range : [0..2^63-1]. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned. |
| **disk-size-with-unit** | | string optional | Disk size in the specified unit. It is a positive integer number followed by unit of "T", "G", "M" or "K". This "disk-size-with-unit" option is ignored if a specific list of disks is specified through the "disks" parameter. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned. |
| **disk-type** | | string optional | Type of disks to use: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, or VMDISK. When this option is used, disks of the specified type or disks of a compatible type will be selected for use in the aggregate. The ability to mix compatible disk types in one aggregate is controlled by these system options: 'raid.mix.hdd.disktype.capacity' 'raid.mix.hdd.disktype.performance' and 'raid.mix.disktype.solid_state'. The "disk-type" option is not allowed if a disk type is specified through the "actual-disk-type" option or if a disk class is specified through the "disk-class" option. It is also not allowed if a list of disks to use is specified through the "disks" option. This option will be deprecated in a future release. Please use "actual-disk-type" or "disk-class" instead. |
| **disks** | | disk-info[] optional | Specific list of disks to use for the new aggregate. To create a "mirrored" aggregate with a specific list of disks, both 'disks' and 'mirror-disks' options must be supplied. Additionally, the same number of disks must be supplied in both lists. This option cannot be used when the 'is-mirrored' option is set to true. |
| **encrypt** | | boolean optional | Enable encryption for the aggregate being created. Default value is false. |
| **encrypt-with-aggr-key** | | boolean optional | Enable NetApp Aggregate Encryption for the aggregate being created. The aggregate will support encryption with aggregate keys. Default value is false. |
| **force-small-aggregate** | | boolean optional | Forces the creation of a 2-disk RAID4 aggregate, or a 3-disk or 4-disk RAID-DP aggregate. The default value is false. |
| **force-spare-pool** | | boolean optional | Disks in a plex are not normally permitted to span spare pools. This behavior is overridden with this option when it is set to true. This is a deprecated parameter. Use the allow-mixed-rpm and ignore-pool-checks parameters instead. |
| | | | Aggregate's HA policy. The only allowed values are "cfo" and "sfo". In |

| | | | |
|---|---|---|---|
| **ha-policy** | | ha-policy-type optional | clustered environments default value is 'sfo' if not specified. In unclustered environments, it is not allowed to specify this attribute as it is always be 'cfo' internally. EINVALIDINPUTERROR is returned if value is other than "cfo" and "sfo". EOP_CLUSTER_ATTR_DISALLOWED is returned if this attribute is used in unclustered environments. |
| **ignore-pool-checks** | | boolean optional | Disks in a plex are normally required to come from the same spare pool. Similarly, disks in different plexes of a mirrored aggregate are required to come from different spare pools. This behavior is overridden with this option when it is set to true. Default value is false. This option can be used only when 'mirror-disks' is provided. |
| **is-autobalance-eligible** | | boolean optional | When set to 'true', the aggregate is included in Auto Balance aggregate processing. The default value is false, meaning that the aggregate is included in Auto Balance Aggregate processing. |
| **is-mirrored** | | boolean optional | Specifies that the new aggregate be mirrored (have two plexes). If set to true, then the indicated disks will be split across the two plexes. By default, the new aggregate will not be mirrored. This option cannot be used when a specific list of disks is supplied with either the 'disks' or 'mirror-disks' options. |
| **is-snaplock** | | boolean optional | Specifies the creation of a SnapLock aggregate. By default, is-snaplock is not specified. When is-snaplock is "true" the type of snaplock aggregate is determined in the following way - 1> If snaplock-type is set, create the type specified in snaplock-type (see snaplock-type for more details) 2> Otherwise, create a Snaplock enterprise aggregate if a Snaplock enterprise license has been installed. 3> Otherwise, create a Snaplock compliance aggregate. ESERVICENOTLICENSED is returned if the required Snaplock Compliance or Enterprise license is not installed. EONTAPI_EWORMNOCLOCK is returned if SnapLock Compliance Clock is not running. If you need to create a snaplock aggregate, the suggested method is to specify snaplock-type as "compliance" or "enterprise" and not specify is-snaplock at all. If you want to create a non-snaplock aggregate, the suggested method is to specify neither snaplock-type nor is-snaplock. |
| **language-code** | | string optional | Specifies the language to use for the volume via a language code. The default language is the one used by the filer's root volume.<br><br>For the full list of available language codes, see 'volume-create'. |
| **mirror-disks** | | disk-info[] optional | List of mirror disks to use. It must contain the same number of disks specified in 'disks'. This option cannot be used when 'is-mirrored' option is set to true. |
| **nodes** | | node-name[] optional | Target node to create aggregate. If no node name is provided, aggregate will be created on the local node. If one node name is provided, aggregate(striped or not_striped based on the striping input) will be created on that node.When multiple nodes are specified, striped aggregate will be created across multiple nodes. |
| **pre-check** | | boolean optional | Only check for the warnings without actually creating the aggregate. This option cannot be used when "simulate" is specified. Default value is false. |
| **raid-size** | | integer optional | Specifies the maximum number of disks in each RAID group in the aggregate. The maximum value for this parameter is 28. The default value is platform- dependent. The valid range of values is also platform-dependent, but never wider than [2..28]. |
| **raid-type** | | string optional | Specifies the type of RAID groups to use in the new aggregate. Possible values: raid4, raid_dp, raid_tec. The default value is raid4 on most platforms. |
| **requested-uuid** | | string optional | If this field is set, the aggr will use this value for its uuid if possible. |
| **rpm** | | integer optional | Rotational speed of disks in revolutions per minute. Possible values are: 5400, 7200, 10000, and 15000. This option is needed only when disks with different rotational speeds are connected to the filer. It is not allowed if a list of disks to use is specified through the "disks" parameter. |
| | | | Specifies to return the list of disks getting used to create the new |

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|---|---|---|---|
| **simulate** | | boolean optional | aggregate. If set to "true", new aggregate won't be created but returns the disks that would be automatically selected for the creation of the aggregate. By default, simulate option is set to false. |
| **snaplock-type** | | string optional | Specifies the type of Snaplock aggregate to be created. Possible values - "compliance", "enterprise" or "non-snaplock". ESERVICENOTLICENSED is returned if the necessary Snaplock compliance or enterprise license has not been installed. EINVALIDINPUTERROR is returned if snaplock-type has an illegal value. EONTAPI_EWORMNOCLOCK is returned if SnapLock Compliance Clock is not running. |
| **so-aggr** | | boolean optional | Specifies creation of an unmirrored aggregate during Switchover. |
| **spare-pool** | | string optional | Specifies the spare pool from which to select spare disks to use in creation of a new aggregate. This option is not allowed if a list of disks specified through the "disks" parameter. This option cannot be used when "is-mirrored" is set to true. Possible values:<br>• "Pool0" - Disks associated with spare Pool0.<br>• "Pool1" - Disks associated with spare Pool1. |
| **striping** | | striping-type optional | Specifies the striping information about new aggregate. The only allowed values are "striped" and "not_striped". Default value is "not_striped". "striped" value creates striped aggregate on node. This attribute is not allowed in unclustered environments. EINVALIDINPUTERROR is returned if value is other than "striped" and "not_striped". EOP_CLUSTER_ATTR_DISALLOWED is returned if this attribute is used in unclustered environments. EOP_DISALLOWED_ON_CFO_AGGR is returned if this attribute is set to "striped" when aggregate being created with 'cfo' HA policy. |
| **type** | | string optional | The type of the aggregate. Possible values: aggr - "aggr" (aggregate contains flexible volumes) If not specified, the default is "aggr." |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-capacity** | | integer optional | Estimated aggregate capacity (in bytes). This is returned only if simulate option is set to true. Range : [0..2^64-1]. |
| **bad-disks** | | disk-info[] optional | List of disks that were not added. This is only returned if there are bad disks. |
| **nonzeroed-disks** | | integer optional | Number of disks that need to be zeroed before being added. This is only returned if there are non-zeroed disks. |
| **pre-check-results** | | warning-code[] optional | Result of the pre-check for possible warnings. Possible warning codes are:<br>• E_WARN_EXCEEDS_HALF_CLUSTER_SIZE<br>• E_WARN_DISK_DOWNSIZE<br>• E_WARN_LOW_SPARE<br>• E_WARN_NEEDS_PARTITIONING<br>• E_WARN_UNUSED_SPARE_PARTITIONS<br>• ECANT_USE_ALL_DISKS |
| **selected-disks** | | aggr-simulate-disk-info[] optional | List of disks that would be used for the creation of the new aggregate. This is only returned if the simulate option is set to true. |
| **selected-disks-for-shared-pool** | | aggr-simulate-disk-info[] optional | List of disks that would be added to a storage pool to grow the aggregate. This is only returned if the simulate option is set to true. |
| **selected-mirror-disks** | | aggr-simulate-disk-info[] optional | List of mirror disks that would be used for the creation of the new aggregate. This is only returned if both the simulate option and the is-mirrored option are set to true. |

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|---|---|---|---|
| **simulation-result** | | aggregate-simulate-layout-info optional | Layout of disks selected for creation of the aggregate. This is returned only if simulate option is set to true. |
| **warning-message** | | string optional | Warning message returned during aggregate creation. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **ECANT_USE_ALL_DISKS** | |
| **ENO_POOL_EXISTS** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ESERVICENOTLICENSED** | |
| **EOP_CLUSTER_ATTR_DISALLOWED** | |
| **EOP_DISALLOWED_ON_CFO_AGGR** | |
| **EAGGR_TOO_LARGE** | |
| **EAGGR_TOO_LARGE_SYSTEM_LIMIT** | |
| **EDISKTYPEWRONGFORSNAPLOCK** | |
| **EDISKTYPEWRONGFORVOL** | |
| **ENOT_A_AZCS_DISK** | |
| **ENO_AZCS_DISKS** | |
| **EONTAPI_EWORMNOCLOCK** | |
| **ESYNCMIRROR_BAD_CONFIG** | |
| **ESYNCMIRROR_NO_PLATFORM** | |
| **ESAME_DISK_CARRIER** | |
| **EFAILED_DISK_IN_CARRIER** | |
| **ENOTORIGDISKOWNER** | |
| **ENOTDISKOWNER** | |
| **EARRAYLUNUNSUPPORTED** | |
| **E_CFT_PRECOMMIT_PHASE** | |
| **E_CFT_QUERY_FAIL** | |
| **EDISK_BAD_DISK_ID** | |
| **EDISK_NOT_SPARE_DISK** | |
| **EDISK_DISK_IS_OFFLINE** | |
| **EDISK_DISK_ALREADY_IN_USE** | |
| **EDISK_NOT_DISKS_SIZE** | |
| **EDISK_NOT_ENOUGH_DISKS** | |
| **EDISK_NO_DISKS_MATCHING_TYPE** | |
| **EDISK_NO_DISKS_MATCHING_RPM** | |
| **EDISK_NO_DISKS_MATCHING_IF_SPEED** | |
| **EDISK_NOT_A_BLOCK_DISK** | |
| **EDISK_NOT_A_ZONED_DISK** | |
| **EDISK_INCORRECT_DISKCOUNT** | |
| **EDISK_NOT_SAME_POOLS** | |
| **EDISK_POOL_ISOLATION_VIOLATION** | |
| **EDISK_DISK_RPM_MISMATCH** | |
| **EDISK_DISK_IF_SPEED_MISMATCH** | |
| **EDISKTYPEWRONGFORSNAPLOCK** | |
| **EDISK_DISK_DR_HOME_MISMATCH** | |
| **ENOT_ALLOWED_WITH_SPARES_LOW_OPTION** | |
| **EDISKTOOSMALL** | |

| | |
|---|---|
| **ENOT_POOL0_DISKS** | |
| **EWRONG_POOL_SO_AGGR** | |
| **ENOT_SUPPORTED_PARAM_SIZE** | |

# aggr-destroy

[top]

Destroys the specified aggregate or plex. If an aggregate is specified, all plexes in the aggregate are destroyed. If a plex is specified, only that plex is destroyed, leaving an unmirrored aggregate containing the remaining plex. The disks in the destroyed object become spare disks. Only offline aggregates and plexes can be destroyed. Note: Offline aggregates will be destroyed even if they contain one or more flexible volumes, which should not typically be the case. From cluster interface only aggregates are supported and plexes are not supported.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name of the existing aggregate or plex to be destroyed, using the following format: [/vol/][] UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. |
| **plex** | | string optional | Name of a particular plex to destroy. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUME_HAS_VFILER_STORAGE** | |
| **E_CFT_PRECOMMIT_PHASE** | |
| **E_CFT_QUERY_FAIL** | |

# aggr-efficiency-cumulated-get

[top]

Display the cumulated efficiency ratio for the specified aggregates

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregates** | | string[] optional | List of the aggregates to calculate cumulated efficiency. |
| **nodes** | | string[] optional | List of nodes to calculate cumulated efficiency. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **aggr-efficiency-cumulated-info** | | aggr-efficiency-cumulated-info optional | Aggregate Storage Efficiency Information |

| Errno | Description |
|---|---|
| **ESENOTFOUNDNODE** | |
| **ESENOTFOUNDCLUSTER** | |

# aggr-efficiency-get-iter

[top]

Display the all Flash optimized aggregates and their storage efficiency.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-efficiency-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aggr-efficiency-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-efficiency object. All aggr-efficiency objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-efficiency-info[] optional | The list of attributes of aggr-efficiency objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr-efficiency objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-get-filer-info

[top]

Get information on what possibilities and parameters exist for aggregates on a given filer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string | Name of the node (filer) |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **allowed-raidtypes** | | raidtype-info[] | List of RAID types allowed for aggregates on this filer. |
| **checksum-types** | | string | Checksum types supported by this filer. The possible values:<br>• "zoned" - if all aggregates are Fixed VBN (this value is no longer supported),<br>• "block" - if all aggregates are Block Appended,<br>• "mixed" - if aggregates are mixed (Fixed VBN, Block Appended and Advanced Zoned),<br>• "none" - if no aggregates have zoned or advanced_zoned checksum (azcs) or block checksums,<br>• "advanced_zoned" - if all aggregates have Advanced Zoned Checksum scheme. |

| | | | |
|---|---|---|---|
| **default-raidtype** | | string | Default type of RAID used to protect against disk failure in aggregates on this filer. Possible values: "raid0", "raid4", "raid_dp", "raid_tec", "mixed_raid_type". |
| **default-raidtype-config** | | default-raidtype-config-info[] optional | List of the RAID type parameters for each disk size and disk type supported on this filer. |
| **disk-types** | | string | Sector sizes of disks supported by this filer. Possible values: "512", "520", "4096", "mixed", "none". "512" if all disks are 512 BPS, "520" if all disks are 520 BPS, "4096" if all disks are 4096 BPS, "mixed" if disks are mixed 512, 520 and 4096 BPS, "none" if no disks have 512 or 520 or 4096 BPS. |
| **max-named-disks-per-request** | | integer | The maximum number of named disks which can be specified to 'storage aggregate add', 'storage aggregate create', or 'storage aggregate mirror' operation. Disk addition process may fail if the specified number of named disk is more than this limit. This value is the maximum number of disk entries which can be specified in 'disks' or 'mirror-disks' argument of 'aggr-create' and 'aggr-add' api. Range : [0..2^31-1]. |
| **min-aggr-disk-count** | | min-aggr-disk-count-info[] optional | Information about the minimum number of disks required in an aggregate. |
| **raidgroup-size** | | raidgroup-size-info[] | List of the RAID group sizing parameters for each RAID type supported on this filer. |
| **root-volume** | | string | Current root volume on the filer. |
| **snapshots-max** | | integer | Maximum number of snapshots available per aggregate on the filer. Range : [0..2^31-1]. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-get-iter

[top]

Iterate over a list of aggregate objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-attributes optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aggr-attributes optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-attributes[] optional | The list of attributes of aggr objects. |
| | | string | Tag for the next call. Not present when there are no more aggr objects |

| | | | |
|---|---|---|---|
| **next-tag** | | optional | to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## aggr-get-root-name

[top]

Return the name of the "root" volume on the filer.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **root-volume** | | string | Name of the root volume for the filer. |

| Vfiler-enabled |
|---|
| **Yes** |

## aggr-list-info

[top]

Get aggregate status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | The aggregate name or UUID to get status for. See the synopsis for name/UUID format. If not supplied, get status of all aggregates owned by the local node. |
| **filter-attrs** | | filter-attrs-info optional | This input is used as a discriminant when status is required for one or more aggregates. This option will be ignored when an aggregate name is specified. If no argument is supplied, default value is NULL. If this is NULL or all of its elements are not supplied, then this filter has no effect and the behavior is the same as described in the 'aggregate' input description. |
| **verbose** | | boolean optional | If set to "true", detailed volume and plex information (including all the RAID group and disk information) is returned. If not supplied or set to "false", this extra information is not returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **aggregates** | | aggr-info[] | List of aggregates and their status. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ELOWMEMORY** | |
| **ENODENOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# aggr-mediascrub-list-info

[top]

Get the status of media scrubbing on the named aggregate, plex, or RAID group. Status includes percentage complete and the media scrub's status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of an existing aggregate, plex, or RAID group, using the following format: [/vol/][][] If no name is given, then status is generated for all RAID groups currently being media-scrubbed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **mediascrub-details** | | mediascrub-detail-info[] | List of RAID groups and their media scrub status. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-mirror

[top]

Turns an unmirrored aggregate into a mirrored aggregate by adding a plex to it. The plex is either newly formed from disks chosen from a spare pool or, if the "victim-aggregate" option is specified, taken from another existing unmirrored aggregate. The named aggregate must currently be unmirrored. Disks may be specified explicitly using the "mirror-disks" list option in the same way as with the "aggr-create" and "aggr-add" commands. The number of disks indicated must match the number present in the existing aggregate. If disks are not specified explicitly, then disks are automatically selected to match those in the aggregate's existing plex.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name of the existing aggregate to be mirrored. UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. |
| **allow-mixed-rpm** | | boolean optional | Disks in an aggregate are normally required to have the same RPM. This behavior is overridden with this option when it is set to true. Default value is false. |
| **allow-same-carrier** | | boolean optional | Using two disks from one carrier that houses multiple disks in one RAID group is not desirable. If that happens, Data ONTAP initiates a series of disk copy operations to correct that situation. Sometimes, selection of available spare disks makes it impossible to avoid placing two disks from one carrier in one RAID group. Setting this option to true allows placing two disks from one carrier in one RAID group. This option has an effect only when disks to be used are specified in 'disks'. This option is ignored when 'disk-count' is used. |
| **force** | | boolean optional | Force the mirroring operation through, past the normal roadblocks that would otherwise cause it to be aborted. For example, disks in a plex are not normally permitted to span spare pools. Also, the victim cannot normally be accepted when it is owned by one or more vfilers. All these safety-driven behaviors are overridden when this option is set to true. This is a deprecated parameter. Use the allow-mixed-rpm and ignore-pool-checks parameters instead. |
| **ignore-pool-checks** | | boolean optional | Disks in a plex are normally required to come from the same spare pool. Similarly, disks in different plexes of a mirrored aggregate are required to come from different spare pools. This behavior is overridden with this option when it is set to true. Default value is false. |

| | | | |
|---|---|---|---|
| **mirror-disks** | | disk-info[] optional | Specific list of mirror disks to add. This list must match the number of disks present on the existing aggregate. The specified disks are not permitted to span disk pools unless overridden with the "force-spare-pool" option. |
| **override-vfiler-ownership** | | boolean optional | The victim aggregate cannot normally be accepted when it is owned by one or more vfilers. This option may be set to true in order to override that restriction. The option is ignored if 'victim-aggregate' is not specified. |
| **pre-check** | | boolean optional | Only check for the warnings without actually mirroring the aggregate. Default value is false. |
| **simulate** | | boolean optional | Simulates the addition of a new plex to an existing aggregate. If set to "true", new plex won't be added but returns the disks that would be automatically selected for the creation of the new plex. By default, simulate option is set to false. |
| **victim-aggregate** | | string optional | The "victim" aggregate to cannibalize in order to mirror the named aggregate. The "victim-aggregate" must have been previously joined with the aggregate to be mirrored and then split from it. The resulting mirrored aggregate is otherwise identical to the original aggregate before the operation. The "victim-aggregate" (and all its volumes) is effec- tively destroyed. "victim-aggregate" (and all its volumes) must be offline. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-capacity** | | integer optional | Estimated increase in aggregate capacity (in bytes). This is returned only if simulate option is set to true. Range : [0..2^64-1]. |
| **bad-disks** | | disk-info[] optional | List of disks that were not added. This is only returned if there are bad disks. |
| **nonzeroed-disks** | | integer optional | Number of disks that need to be zeroed before being added. This is only returned if there are non-zeroed disks. |
| **pre-check-results** | | warning-code[] optional | Result of the pre-check for possible warnings.<br>• E_WARN_DISK_DOWNSIZE<br>• E_WARN_LOW_SPARE<br>• E_WARN_NEEDS_PARTITIONING<br>• E_WARN_UNUSED_SPARE_PARTITIONS<br>• ECANT_USE_ALL_DISKS |
| **selected-disks** | | aggr-simulate-disk-info[] optional | List of disks that would be used to create the new plex of an existing aggregate. This is only returned if the simulate option is set to true. |
| **selected-disks-for-shared-pool** | | aggr-simulate-disk-info[] optional | List of disks that would be partitioned as part of mirroring an existing aggregate. This is only returned if the simulate option is set to true. |
| **selected-mirror-disks** | | aggr-simulate-disk-info[] optional | This is a dummy output needed to make aggr mirror disk list processing similar to aggr create and aggr add. |
| **simulation-result** | | aggregate-simulate-layout-info optional | Layout of disks selected for mirroring the existing aggregate. This is returned only if simulate option is set to true. |
| **warning-message** | | string optional | Warning message returned during aggr mirror. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEDISKSIZEINVALID** | |
| | |

| | |
|---|---|
| **ESYNCMIRROR_BAD_CONFIG** | |
| **ESYNCMIRROR_NO_PLATFORM** | |
| **ESAME_DISK_CARRIER** | |
| **EFAILED_DISK_IN_CARRIER** | |
| **ENOTORIGDISKOWNER** | |
| **ENOTDISKOWNER** | |
| **ESYNCMIRROR_JOIN_DISKTYPE_MISMATCH** | |
| **ESYNCMIRROR_JOIN_CKSUMTYPE_MISMATCH** | |
| **ESYNCMIRROR_JOIN_RAIDTYPE_MISMATCH** | |
| **EARRAYLUNUNSUPPORTED** | |
| **E_CFT_PRECOMMIT_PHASE** | |
| **E_CFT_QUERY_FAIL** | |
| **EDISKTYPEWRONGFORSNAPLOCK** | |
| **EDISK_BAD_DISK_ID** | |
| **EDISK_NOT_SPARE_DISK** | |
| **EDISK_DISK_IS_OFFLINE** | |
| **EDISK_DISK_ALREADY_IN_USE** | |
| **EDISK_INCORRECT_DISKCOUNT** | |
| **EDISK_NOT_A_BLOCK_DISK** | |
| **EDISK_NOT_A_ZONED_DISK** | |
| **EDISK_NO_ZONED_DISKS** | |
| **EDISK_NOT_DISKS_SIZE** | |
| **EDISK_DISK_RPM_MISMATCH** | |
| **EDISK_NOT_ENOUGH_DISKS** | |
| **EDISK_NO_DISKS_MATCHING_TYPE** | |
| **EDISK_NO_DISKS_MATCHING_RPM** | |
| **EDISK_NO_DISKS_MATCHING_IF_SPEED** | |
| **EJOIN_NO_COMMON_SNAPSHOT** | |
| **EJOIN_SNAP_CURRENTLY_INVALID** | |
| **EJOIN_CONFIG_MISMATCH** | |
| **EJOIN_WAFL_INCONSISTENT** | |
| **EJOIN_CKSUM_STATE_MISMATCH** | |
| **EJOIN_LOCAL_ID_MISMATCH** | |
| **EDISK_NOT_SAME_POOLS** | |
| **ECKSUM_ZONED_CKSUM_INITIALIZING_PHASE1** | |
| **EDISK_DISK_IF_SPEED_MISMATCH** | |
| **ESNAPSHOT_CANT_INCREASE_SNAP_RESERVE** | |
| **EDISK_DISK_DR_HOME_MISMATCH** | |

# aggr-modify-raid-type

[top]

Modify the RAID type for the given aggregate to the specified "raid-type". This API can also selectively change the RAID type of specific raid groups in the aggregate based on the specified "disk-type". The change remains effective even if the filer is rebooted. This API does not support modifying options of a striped aggregate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name or UUID of the aggregate whose option is to be set. See the synopsis for name/UUID format and restrictions. |
| | | | Type of disks to use : ATA, BSAS, FCAL, FSAS, LUN, SAS, SSD, SSD_NVM, |

| | | | |
|---|---|---|---|
| **disk-type** | | string optional | or VMDISK. This option is required if we want to change the raid type of raid groups created out of the specified disks only. Otherwise, if this is not specified then the raid type for all raid groups in the aggregate would change. |
| **raid-type** | | string | possible values: "raid4","raid_dp","raid_tec" The type of RAID group used for this aggregate. The "raid4" setting provides one parity disk per RAID group, while "raid_dp" provides two. Changing this option immediately changes the RAID group type for the RAID groups in the aggregate. When upgrading RAID groups from "raid4" to "raid_dp", each RAID group begins a reconstruction onto a spare disk allocated for the second "dparity" parity disk. Similarly, when upgrading RAID groups from "raid_dp" to "raid_tec", each RAID group begins a reconstruction onto a spare disk allocated for the third "tparity" parity disk. |
| **simulate** | | boolean optional | Simulates modifying the raid type of the aggregate. If set to "true", raid type will not be changed but, any possible warnings will be returned back. Default value is "false". |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **pre-check-results** | | warning-code[] optional | Warnings from pre checking of raid type modification. Possible warning codes are:<br>• E_WARN_LOW_SPARE |
| **simulation-result** | | modify-raid-type-simulate-info optional | Results from simulation of raid type modification. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EMIXED_RAIDTYPE_AGGR_NOT_HYBRID** | |
| **EMIN_DISK_FOR_UPGRADE_TO_RAIDTP** | |
| **EGROUPTYPE_ALREADY_RAIDTP** | |
| **EGROUPTYPE_ALREADY_RAIDDP** | |
| **EGROUPTYPE_ALREADY_RAID4** | |
| **EMIXED_TREE_MISSING_DISKTYPE** | |
| **EGROUP_NOT_FOUND_DISKTYPE** | |

# aggr-object-store-attach

[top]

Attach an object store to an aggregate

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name of the Aggregate |
| **allow-flexgroup** | | boolean optional | Allow Existing FlexGroup Constituents in the Aggregate on Attach |
| **check-only** | | boolean optional | Validate But Do Not Attach |
| **object-store-name** | | string | Object Store Configuration Name |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ELOWMEMORY** | |
| **ENODENOTFOUND** | |
| **E_AGGREGATE_ALREADY_FABRIC_POOL** | |
| **E_AGGREGATE_OBJ_STORE_CAPABILITY_CHECK_FAILED** | |
| **E_AGGREGATE_OBJ_STORE_CAPABILITY_NOT_ENABLED** | |
| **E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_HYBRID_AGGR** | |
| **E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_HYBRID_ENABLED_AGGR** | |
| **E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_NON_SSD** | |
| **E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_MIRRORED_AGGR** | |
| **E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_SNAPLOCK_COMPLIANCE_AGGR** | |
| **E_AGGREGATE_ECV_UNSUPPORTED_ADD_OBJ_STORE_TO_SNAPLOCK_ENTERPRISE_AGGR** | |
| **E_AGGREGATE_ECV_UNSUPPORTED_ADD_OBJ_STORE_TO_SNAPLOCK_COMPLIANCE_AGGR** | |
| **E_AGGREGATE_OBJ_STORE_FABRICPOOL_PVR_LICENSE_DOESNT_EXIST** | |
| **E_AGGREGATE_OBJ_STORE_FABRICPOOL_PVR_LICENSE_INCORRECT** | |
| **E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_ROOT_AGGR** | |
| **E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_ADB_AGGR** | |
| **E_AGGREGATE_OBJ_STORE_INCOMPATIBLE_GUARANTEE** | |
| **E_AGGREGATE_OBJ_STORE_INCOMPATIBLE_VOLUME_TYPE_FLEXGROUP** | |
| **E_AGGREGATE_OBJ_STORE_INCOMPATIBLE_VOLUME_TYPE_IV** | |
| **E_AGGREGATE_OBJ_STORE_MIN_TPT_CHECK_FAILED** | |
| **E_VSERVERDR_CANNOT_CONVERT_TO_FABRIC_POOL** | |
| **E_AGGREGATE_CANNOT_ATTACH_OBJ_STORE_TO_DISK_TYPE** | |
| **E_OBJSTORE_CLIENT_OPERATION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_SERVER_ERROR** | |
| **E_OBJSTORE_CLIENT_CONNECTION_ERROR** | |
| **E_OBJSTORE_CLIENT_INTERNAL_ERROR** | |
| **E_OBJSTORE_CLIENT_ACCESS_DENIED** | |
| **E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED** | |
| **E_OBJSTORE_CLIENT_DNS_NOT_FOUND** | |
| **E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_NO_SUCH_BUCKET** | |
| **E_OBJSTORE_CLIENT_INTER_CLUSTER_LIF_NOT_CONFIGURED** | |
| **E_OBJSTORE_CLIENT_SERVER_CERTIFICATE_VERIFY_FAILED** | |
| **E_OBJSTORE_CLIENT_STORE_INACCESSIBLE** | |
| **E_OBJSTORE_CLIENT_TLS** | |
| **E_OBJSTORE_CLIENT_OTHER** | |
| **E_OBJSTORE_CLIENT_IPV4_INTER_CLUSTER_LIF_NOT_CONFIGURED** | |
| **E_OBJSTORE_CLIENT_SERVER_IPV4_NOT_FOUND** | |

# aggr-object-store-config-create

[top]

Create an object store configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-key** | | string optional | Access key ID for AWS_S3, SGWS and ONTAP_S3 provider types |
| | | | Authentication used to access the object store. Supported values are: |

| | | | |
|---|---|---|---|
| **auth-type** | | string optional | • 'key' - Access keys provided by admin<br>• 'CAP' - Access keys and session token retrieved from the C2S Access Portal (CAP)<br>• 'EC2-IAM' - In Cloud Volumes ONTAP access keys and session token retrieved from the EC2 instance metadata for the IAM role associated with EC2 instance<br>• 'GCP-SA' - In Cloud Volumes ONTAP session token retrieved from the GCP instance metadata for the Service Account associated with GCP instance<br>• 'Azure-MSI' - In Cloud Volumes ONTAP session token retrieved from the Azure Managed Service Identity (MSI) associated with the instance |
| **azure-account** | | string optional | Azure account |
| **azure-private-key** | | string optional | Azure access key |
| **azure-sas-token** | | string optional | Azure Account Shared Access Signature token |
| **cap-url** | | string optional | URL to request temporary credentials for a C2S account. |
| **check-only** | | boolean optional | Do not create a config. Only check that create could succeed. |
| **ignore-warning-codes** | | integer[] optional | Input list with warning codes which can be ignored. |
| **ipspace** | | string optional | IPspace to use in order to reach the object store. |
| **is-certificate-validation-enabled** | | boolean optional | Is SSL/TLS certificate validation enabled. The default value is 'true'. |
| **object-store-name** | | string | Name for the object store configuration to be created. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. |
| **port** | | integer optional | Port number of the object store |
| **provider-type** | | string | Type of object store provider. Allowed values are:<br>• 'AWS_S3' - AWS S3<br>• 'SGWS' - StorageGRID Webscale<br>• 'Azure_Cloud' - Microsoft Azure Cloud<br>• 'IBM_COS' - IBM Cloud Object Storage<br>• 'AliCloud' - Alibaba Cloud Object Storage Service<br>• 'GoogleCloud' - Google Cloud Storage<br>• 'ONTAP_S3' - ONTAP S3 |
| **s3-name** | | string | Data bucket/container name |
| **secret-password** | | string optional | Secret access key for AWS_S3, SGWS and ONTAP_S3 provider types |
| **server** | | string | Fully qualified domain name of the object store |
| **ssl-enabled** | | boolean optional | SSL/HTTPS enabled or not. The default value is 'true'. |
| **url-style** | | object-store-url-style optional | URL style used to access S3 bucket. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **confirm-warning-** | | integer[] | Output list with warning codes which have to be confirmed. |

| | | | |
|---|---|---|---|
| **codes** | | optional | |
| **confirm-warning-texts** | | string[]<br>optional | Output list with warning texts which have to be confirmed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ELOWMEMORY** | |
| **ENODENOTFOUND** | |
| **E_OBJSTORE_CLIENT_OPERATION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_SERVER_ERROR** | |
| **E_OBJSTORE_CLIENT_CONNECTION_ERROR** | |
| **E_OBJSTORE_CLIENT_INTERNAL_ERROR** | |
| **E_OBJSTORE_CLIENT_ACCESS_DENIED** | |
| **E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED** | |
| **E_OBJSTORE_CLIENT_DNS_NOT_FOUND** | |
| **E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_NO_SUCH_BUCKET** | |
| **E_OBJSTORE_CLIENT_INTER_CLUSTER_LIF_NOT_CONFIGURED** | |
| **E_OBJSTORE_CLIENT_SERVER_CERTIFICATE_VERIFY_FAILED** | |
| **E_OBJSTORE_CLIENT_INVALID_BUCKET_NAME** | |
| **E_OBJSTORE_CLIENT_STORE_INACCESSIBLE** | |
| **E_OBJSTORE_CLIENT_TLS** | |
| **E_OBJSTORE_CLIENT_OTHER** | |
| **E_AGGREGATE_OBJ_STORE_CREATION_NOT_ALLOWED** | |
| **E_AGGREGATE_OBJ_STORE_SERVER_NAME_INVALID** | |
| **E_AGGREGATE_OBJECT_STORE_AVAILABILITY_CHECK_FAILED** | |
| **E_AGGREGATE_OBJ_STORE_MAX_LIMIT_REACHED** | |
| **E_AGGREGATE_OBJ_STORE_CREATION_NOT_ALLOWED_SDOT** | |
| **E_AGGREGATE_OBJ_STORE_AZURE_INVALID_FIELDS** | |
| **E_AGGREGATE_OBJ_STORE_NON_AZURE_INVALID_FIELDS** | |
| **E_AGGREGATE_OBJ_STORE_IP_AZURE_ACCOUNT_S3_NAME_NOT_UNIQUE** | |
| **E_AGGREGATE_OBJ_STORE_AZURE_PROVIDER_NOT_ALLOWED** | |
| **E_AGGREGATE_OBJ_STORE_S3_COMPATIBLE_CAPABILITY_CHECK_FAILED** | |
| **E_AGGREGATE_OBJ_STORE_S3_COMPATIBLE_CAPABILITY_NOT_ENABLED** | |
| **E_AGGREGATE_OBJ_STORE_FABRICPOOL_PVR_LICENSE_DOESNT_EXIST** | |
| **E_AGGREGATE_OBJ_STORE_FABRICPOOL_PVR_LICENSE_INCORRECT** | |
| **E_AGGREGATE_OBJ_STORE_SERVER_TYPE_MISMATCH** | |
| **E_AGGREGATE_OBJ_STORE_CERTIFICATE_VALIDATION_MUST_BE_ENABLED** | |
| **E_AGGREGATE_OBJ_STORE_CERTIFICATE_VALIDATION_INAPPLICABLE** | |
| **E_AGGREGATE_OBJ_STORE_CERTIFICATE_VALIDATION_WARNING** | |
| **E_AGGREGATE_OBJ_STORE_DISABLING_CERTIFICATE_VALIDATION_NOT_ALLOWED** | |
| **E_AGGREGATE_OBJ_STORE_URL_STYLE_INVALID** | |
| **E_OBJSTORE_CLIENT_IPV4_INTER_CLUSTER_LIF_NOT_CONFIGURED** | |
| **E_OBJSTORE_CLIENT_SERVER_IPV4_NOT_FOUND** | |

# aggr-object-store-config-delete

[top]

Delete an object store configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **object-store-name** | | string | Name for the object store configuration to be created. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ELOWMEMORY** | |
| **ENODENOTFOUND** | |

# aggr-object-store-config-get

[top]

Get the attributes of an object store configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-object-store-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **object-store-name** | | string | Name for the object store configuration to be created. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | aggr-object-store-config-info | The attributes of the aggr. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# aggr-object-store-config-get-iter

[top]

Iterate over a list of object store configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-object-store-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| | | | |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aggr-object-store-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-object-store-config-info[] optional | The list of attributes of aggr objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-object-store-config-modify

[top]

Modify an existing object store configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-key** | | string optional | Access key ID for AWS_S3, SGWS and ONTAP_S3 provider types |
| **auth-type** | | string optional | Authentication used to access the object store. Supported values are:<br>• 'key' - Access keys provided by admin<br>• 'CAP' - Access keys and session token retrieved from the C2S Access Portal (CAP)<br>• 'EC2-IAM' - In Cloud Volumes ONTAP access keys and session token retrieved from the EC2 instance metadata for the IAM role associated with EC2 instance<br>• 'GCP-SA' - In Cloud Volumes ONTAP session token retrieved from the GCP instance metadata for the Service Account associated with GCP instance<br>• 'Azure-MSI' - In Cloud Volumes ONTAP session token retrieved from the Azure Managed Service Identity (MSI) associated with the instance |
| **azure-account** | | string optional | Azure account |
| **azure-private-key** | | string optional | Azure access key |
| **azure-sas-token** | | string optional | Azure Account Shared Access Signature token |
| **cap-url** | | string optional | URL to request temporary credentials for a C2S account. |

| | | | |
|---|---|---|---|
| **check-only** | | boolean optional | Do not create a config. Only check that create could succeed. |
| **ignore-warning-codes** | | integer[] optional | Input list with warning codes which can be ignored. |
| **ipspace** | | string optional | IPspace to use in order to reach the object store. |
| **is-certificate-validation-enabled** | | boolean optional | Is SSL/TLS certificate validation enabled. The default value is 'true'. |
| **new-object-store-name** | | string optional | New object store configuration name |
| **object-store-name** | | string | Name for the object store configuration to be created. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. |
| **port** | | integer optional | Port number of the object store |
| **secret-password** | | string optional | Secret access key for AWS_S3, SGWS and ONTAP_S3 provider types |
| **server** | | string optional | Fully qualified domain name of the object store |
| **ssl-enabled** | | boolean optional | SSL/HTTPS enabled or not. The default value is 'true'. |
| **url-style** | | object-store-url-style optional | URL style used to access S3 bucket. |
| **use-iam-role** | | boolean optional | Use IAM role for AWS Cloud Volumes ONTAP |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **confirm-warning-codes** | | integer[] optional | Output list with warning codes which have to be confirmed. |
| **confirm-warning-texts** | | string[] optional | Output list with warning texts which have to be confirmed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ELOWMEMORY** | |
| **ENODENOTFOUND** | |
| **E_OBJSTORE_CLIENT_OPERATION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_SERVER_ERROR** | |
| **E_OBJSTORE_CLIENT_CONNECTION_ERROR** | |
| **E_OBJSTORE_CLIENT_INTERNAL_ERROR** | |
| **E_OBJSTORE_CLIENT_ACCESS_DENIED** | |
| **E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED** | |
| **E_OBJSTORE_CLIENT_DNS_NOT_FOUND** | |
| **E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_NO_SUCH_BUCKET** | |
| **E_OBJSTORE_CLIENT_INTER_CLUSTER_LIF_NOT_CONFIGURED** | |
| **E_OBJSTORE_CLIENT_SERVER_CERTIFICATE_VERIFY_FAILED** | |
| **E_OBJSTORE_CLIENT_STORE_INACCESSIBLE** | |

| | |
|---|---|
| **E_OBJSTORE_CLIENT_TLS** | |
| **E_OBJSTORE_CLIENT_OTHER** | |
| **E_AGGREGATE_OBJ_STORE_SERVER_NAME_INVALID** | |
| **E_AGGREGATE_OBJECT_STORE_AVAILABILITY_CHECK_FAILED** | |
| **E_AGGREGATE_OBJ_STORE_AZURE_INVALID_FIELDS** | |
| **E_AGGREGATE_OBJ_STORE_NON_AZURE_INVALID_FIELDS** | |
| **E_AGGREGATE_OBJ_STORE_IP_AZURE_ACCOUNT_S3_NAME_NOT_UNIQUE** | |
| **E_AGGREGATE_OBJ_STORE_SERVER_TYPE_MISMATCH** | |
| **E_AGGREGATE_OBJ_STORE_CERTIFICATE_VALIDATION_MUST_BE_ENABLED** | |
| **E_AGGREGATE_OBJ_STORE_CERTIFICATE_VALIDATION_INAPPLICABLE** | |
| **E_AGGREGATE_OBJ_STORE_CERTIFICATE_VALIDATION_WARNING** | |
| **E_AGGREGATE_OBJ_STORE_DISABLING_CERTIFICATE_VALIDATION_NOT_ALLOWED** | |
| **E_AGGREGATE_OBJ_STORE_URL_STYLE_INVALID** | |
| **E_OBJSTORE_CLIENT_IPV4_INTER_CLUSTER_LIF_NOT_CONFIGURED** | |
| **E_OBJSTORE_CLIENT_SERVER_IPV4_NOT_FOUND** | |

# aggr-object-store-config-provider-list

[top]

Returns a list of supported object store providers.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **available-provider-status** | | string[] optional | Indicates status (enabled or disabled) of available object store providers |
| **available-providers** | | string[] optional | List of all available object store providers including those that can be enabled |
| **supported-providers** | | string[] optional | List of supported object store providers that are enabled |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# aggr-object-store-get-iter

[top]

Display a list of aggregates which object stores are attached to.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | object-store-information optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | object-store-information optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-object-store object. All aggr-object-store objects matching this query up to 'max-records' will be returned. |
| **tag** | | string | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' |

| | | | |
|---|---|---|---|
| | | optional | obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | object-store-information[] optional | The list of attributes of aggr-object-store objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr-object-store objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-object-store-get-resync-status-iter

[top]

Display a list of cloud mirrored FabricPools and their mirror object store resync related info. This information is only available when the aggregate is online.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-object-store-resync-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aggr-object-store-resync-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-object-store object. All aggr-object-store objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-object-store-resync-info[] optional | The list of attributes of aggr-object-store objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr-object-store objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-object-store-mirror

[top]

Attaches a second object store to a FabricPool aggregate to create a mirror

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name of the Aggregate |
| **object-store-name** | | string | Object Store Configuration Name |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ENODENOTFOUND** | |
| **E_AGGREGATE_CLOUD_MIRROR_ECV_INVALID** | |
| **E_AGGREGATE_NOT_FABRIC_POOL** | |
| **E_AGGREGATE_ALREADY_CLOUD_MIRRORED_FABRIC_POOL** | |
| **E_AGGREGATE_OBJ_STORE_CAPABILITY_CHECK_FAILED** | |
| **E_AGGREGATE_OBJ_STORE_CAPABILITY_NOT_ENABLED** | |
| **E_OBJSTORE_ALREADY_ATTACHED_TO_FABRICPOOL** | |
| **E_OBJSTORE_UNMIRRORED_CLEANING_UP_IN_PROGRESS** | |
| **E_OBJSTORE_CLIENT_OPERATION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_SERVER_ERROR** | |
| **E_OBJSTORE_CLIENT_CONNECTION_ERROR** | |
| **E_OBJSTORE_CLIENT_INTERNAL_ERROR** | |
| **E_OBJSTORE_CLIENT_ACCESS_DENIED** | |
| **E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED** | |
| **E_OBJSTORE_CLIENT_DNS_NOT_FOUND** | |
| **E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_NO_SUCH_BUCKET** | |
| **E_OBJSTORE_CLIENT_INTER_CLUSTER_LIF_NOT_CONFIGURED** | |
| **E_OBJSTORE_CLIENT_SERVER_CERTIFICATE_VERIFY_FAILED** | |
| **E_MIRROR_AGGREGATE_UNMIRROR_IN_PROGRESS** | |

# aggr-object-store-modify

[top]

Modify object store specific parameters.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name of the aggregate. |
| **force-tiering-on-metrocluster** | | boolean optional | Force tiering on the primary object store, for FabricPool in a MetroCluster configuration. |
| **migrate-threshold** | | integer optional | Minimum Aggregate Space Threshold |
| **mirror-type** | | string optional | Object store mirror type. |
| **object-store-name** | | string | Name of the object store configuration attached to the aggregate. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| | |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **E_AGGREGATE_OBJ_STORE_CAPABILITY_CHECK_FAILED** | |
| **E_AGGREGATE_OBJ_STORE_CAPABILITY_NOT_ENABLED** | |
| **E_AGGREGATE_OBJ_STORE_BIN_SIZE_LIMIT_INVALID** | |
| **E_AGGREGATE_OBJ_STORE_BAD_UNRECLAIM_THRESHOLD** | |
| **E_CAPABILITY_NOT_CLUSTERWIDE** | |
| **E_AGGREGATE_FABRICPOOL_NOT_CLOUDMIRRORED** | |
| **E_AGGREGATE_OBJ_STORE_NOT_IN_SYNC** | |
| **E_AGGREGATE_FAILED_TO_SWAP_MIRROR_TYPE** | |
| **E_AGGREGATE_OBJ_STORE_MODIFY_MIRROR_NOT_ALLOWED** | |
| **E_AGGREGATE_CAPABILITY_NOT_ENABLED_ON_MCC** | |
| **E_AGGREGATE_FP_CLOUD_MIRRORED_IN_MCC** | |
| **E_AGGREGATE_FP_MCC_NOT_CONFIGURED** | |
| **E_AGGREGATE_FAILED_TO_FORCE_TIER_ON_MCC** | |

# aggr-object-store-profiler-abort

[top]

Abort the object store profiler

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Node on Which the Profiler Should Run |
| **object-store-name** | | string | Object Store Configuration Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# aggr-object-store-profiler-get-iter

[top]

Get object store profiler status

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-object-store-profiler-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aggr-object-store-profiler-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-object-store-profiler object. All aggr-object-store-profiler objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-object-store-profiler-info[] optional | The list of attributes of aggr-object-store-profiler objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr-object-store-profiler objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-object-store-profiler-start

[top]

Start the object store profiler to measure latency and throughput

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Node on Which the Profiler Should Run |
| **object-store-name** | | string | Object Store Configuration Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# aggr-object-store-unmirror

[top]

Remove the second object store from a mirrored FabricPool

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name of the Aggregate |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ENODENOTFOUND** | |
| **E_AGGREGATE_CLOUD_MIRROR_ECV_INVALID** | |
| **E_AGGREGATE_NOT_FABRIC_POOL** | |
| **E_AGGREGATE_NOT_CLOUD_MIRRORED_FABRIC_POOL** | |
| **E_AGGREGATE_PRIMARY_OBJ_STORE_UNAVAILABLE** | |
| **E_AGGREGATE_OBJ_STORE_CAPABILITY_CHECK_FAILED** | |
| **E_AGGREGATE_OBJ_STORE_CAPABILITY_NOT_ENABLED** | |
| **E_OBJSTORE_UNMIRROR_CLEAN_UP_ALREADY_IN_PROGRESS** | |
| **E_OBJSTORE_CLIENT_OPERATION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_SERVER_ERROR** | |

| | |
|---|---|
| **E_OBJSTORE_CLIENT_CONNECTION_ERROR** | |
| **E_OBJSTORE_CLIENT_INTERNAL_ERROR** | |
| **E_OBJSTORE_CLIENT_ACCESS_DENIED** | |
| **E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED** | |
| **E_OBJSTORE_CLIENT_DNS_NOT_FOUND** | |
| **E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_NO_SUCH_BUCKET** | |
| **E_OBJSTORE_CLIENT_INTER_CLUSTER_LIF_NOT_CONFIGURED** | |
| **E_OBJSTORE_CLIENT_SERVER_CERTIFICATE_VERIFY_FAILED** | |
| **E_UNMIRROR_AGGREGATE_DELETED_CLEAN_UP_IN_PROGRESS** | |
| **E_UNMIRROR_AGGREGATE_MIRROR_IN_PROGRESS** | |
| **E_AGGREGATE_UNMIRROR_TRY_AGAIN** | |

# aggr-object-store-vol-btuuids-get-iter

[top]

Display a list of volume buftree UUIDs in a FabricPool aggregate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | object-store-vol-btuuids-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | object-store-vol-btuuids-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-object-store-vol-btuuids object. All aggr-object-store-vol-btuuids objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | object-store-vol-btuuids-info[] optional | The list of attributes of aggr-object-store-vol-btuuids objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr-object-store-vol-btuuids objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-offline

[top]

Take the specified aggregate or plex offline. The operation takes effect before the API returns. Except in maintenance mode, the current root aggregate may not be taken offline. An aggregate marked to become the root aggregate cannot be taken offline. An aggregate containing one or more flexible volumes cannot be taken offline; its contained volumes must first be destroyed. A number of operations being performed on the given aggregate can prevent this operation from succeeding, either at all or for various lengths of time. If such operations are found, the system waits up to one second for them to finish. If they don't, the command is aborted. A check is also made for files in the aggregate opened by internal Data ONTAP processes. The command is aborted if any are found.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name of the existing aggregate or plex to offline, using the following format: [[/vol]/][] UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. If the aggregate hosts any online volumes, then the offline request will fail unless the optional "unmount-volumes" argument (see below) appears and is set to TRUE. If we've been cleared to unmount any such online volumes hosted by the aggregate, the caller may also specify the number of seconds to wait should any of those volumes have active CIFS shares through the optional "cifs-delay-seconds" argument (see below). If a plex name is specified, the plex must be part of a mirrored aggregate, and both plexes must be online. Prior to offlining a plex, the system will flush all internally-buffered data associated with the plex and create a snapshot that is written out to both plexes. The snapshot allows for efficient resynchronization when the plex is subsequently brought back online. For ontap-cluster, plexinfo is being deprecated in lieu of the plex parameter. |
| **cifs-delay-seconds** | | integer optional | The number of seconds to wait before offlining any volumes that are hosted in the given aggregate that have active CIFS shares (if any). A value of 0 means that all such volumes are to be offlined immediately with no warning. CIFS users can lose data if they aren't given a chance to terminate applications gracefully. By default, "cifs-delay-seconds" is 0. NOTE: This argument may ONLY appear if the "unmount-volumes" argument (see above) also appears and is set to "TRUE". |
| **cloning-disks** | | boolean optional | The aggregate is being taken offline to initiate disk cloning for fast resync. The offline operation with this flag set is only allowed on mirrored aggregate which has a failed plex. Default value of "cloning-disks" is "false". |
| **force-offline** | | boolean optional | An aggregate cannot normally be brought offline if it contains a system volume. This behavior is overridden when this option is set "true". Forcing the aggregate offline might impact cross cluster replication. By default "force-offline" is "false". |
| **plex** | | string optional | Name of a particular plex to offline. If no plex is specified, then the aggregate will be taken offline. If a plex is specified, the plex must be part of a mirrored aggregate, and both plexes must be online. Prior to offlining a plex, the system will flush all internally-buffered data associated with the plex and create a snapshot that is written out to both plexes. The snapshot allows for efficient resynchronization when the plex is subsequently brought back online. |
| **unmount-volumes** | | boolean optional | If set to "TRUE", this option specifies that all of the volumes hosted by the given aggregate are to be unmounted before the offline operation is executed. By default, the system will reject any attempt to offline an aggregate that hosts one or more online volumes. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEBUSY** | |

# aggr-online

[top]

Bring the specified aggregate or plex online. This command takes effect immediately. All volumes on the aggregate are brought to whatever state they were in before the aggregate was restricted or taken offline. If there are CIFS shares associated with the any of the aggregate's volumes that were also onlined, they are enabled.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name of the existing aggregate or plex to online, using the following format: [/vol/][] UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. If an aggregate is specified, it must currently be offline, restricted, or foreign (consisting of disks moved from another filer, and never having been brought online on the current filer). If the aggregate is foreign, it will be made native before being brought online on the current filer. Aggregates that aren't foreign are termed "native". If the aggregate is inconsistent but has not lost data, it is advisable to run WAFL_check or wafliron (or do a "snapmirror initialize" in case of a replica aggregate) prior to bringing it online. Bringing an inconsistent aggregate online increases the risk of further file system corruption. If the aggregate is inconsistent and has experienced possible loss of data, it can't be brought online unless WAFL_check or wafliron (or snapmirror initialize) is run on it. If a plex is specified, it must be part of an online mirrored aggregate. The system initiates resynchro- nization of the plex as part of online processing. For ontap-cluster, plexinfo is being deprecated in lieu of the plex parameter. |
| **force-online** | | boolean optional | An aggregate can not normally be brought online under the following conditions: 1. It has only 1 plex that is offline and not up-to-date. 2. It is an unmirrored or CFO aggregate that has been switched over to its DR partner as part of an MCC configuration. This behavior is overridden when this option is set "true". By default, "force-online" is "false". |
| **keep-same-uuid** | | boolean optional | Keep existing foreign raidtree id (aggregate uuid). Normally when a foreign raidtree is onlined, the raidtree rtid (aggregate uuid) is changed to guarantee uniqueness. The behavior is overridden when this option is set "true." By default, "keep-same-uuid" is "false." |
| **plex** | | string optional | Name of a particular plex to online. If no plex is specified, then the aggregate will be onlined. If a plex is specified, it must be part of an online mirrored aggregate. The system initiates resynchro- nization of the plex as part of online processing. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ESYNCMIRROR_NO_PLATFORM** | |
| **EVOL_ONLINE_LICENSE_CHECK_PENDING** | |

# aggr-options-list-info

[top]

Get the options that have been set for the specified aggregate. This API does not support listing options of striped aggregate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name or UUID of the aggregate whose options to retrieve. See the synopsis for name/UUID format and restrictions. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **options** | | aggr-option-info[] | List of options set for this aggregate. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |

# aggr-relocation

[top]

Aggregate Relocation

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-list** | | string[] | List of aggregate names. |
| **destination-node-name** | | string | Name of destination node where aggregates are to be relocated. |
| **is-ndo-controller-upgrade** | | boolean optional | Relocation of aggregates as part of controller upgrade. Aggregate relocation will not change home ownership of the aggregates while relocating as part of controller upgrade. Default: false |
| **is-override-destination-checks** | | boolean optional | Override checks done on destination node. This option could be used to force a relocation of aggregates even if the destination has outstanding issues. Note that this could make the relocation dangerous or disruptive. Default: false |
| **is-override-vetoes** | | boolean optional | Override veto checks for relocating an aggregate. Initiating aggregate relocation with vetoes overridden will result in relocation proceeding even if the node detects outstanding issues that would make aggregate relocation dangerous or disruptive. Default: false |
| **is-relocate-to-higher-version** | | boolean optional | Relocate to a node running higher major Data ONTAP version. If an aggregate is relocated to this destination then that aggregate cannot be relocated back to the source node till the source is also upgraded to the same or higher Data ONTAP version. This option is not required if the destination is running on higher minor version but the same major version. Default: false |
| **source-node-name** | | string | Name of the source node in which aggregate resides. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# aggr-relocation-status

[top]

Iterate over the list of aggregate relocation status

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-relocation-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | aggr- | |

| | | | |
|---|---|---|---|
| **query** | | relocation-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-relocation-info[] optional | The list of attributes of aggr objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-rename

[top]

Rename the specified aggregate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name or UUID of the aggregate to rename. See the synopsis for name/UUID format and restrictions. |
| **new-aggregate-name** | | string | The new name desired for the aggregate. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |

# aggr-restrict

[top]

Restrict the specified aggregate. An aggregate with one or more flexible volumes cannot be restricted; all of its contained volumes must first be destroyed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name or UUID of the aggregate to restrict. See the synopsis for name/UUID format and restrictions. |
| **cifs-delay-seconds** | | integer optional | The number of seconds to wait before restricting any volumes that are hosted in the given aggregate that have active CIFS shares (if any). A value of 0 means that all such volumes are to be offlined immediately with no warning. CIFS users can lose data if they aren't given a chance to terminate applications gracefully. By default, "cifs-delay-seconds" is 0. NOTE: This argument may ONLY appear if the "unmount-volumes" argument (see above) also appears and is set to "true". |
| | | | If set to "TRUE", this option specifies that all of the volumes hosted by the |

| | | | |
|---|---|---|---|
| **unmount-volumes** | | boolean optional | given aggregate are to be unmounted before the restrict operation is executed. By default, the system will reject any attempt to restrict an aggregate that hosts one or more online volumes. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |

# aggr-resync-options-get

[top]

Get aggregate resynchronization options for a node in the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-resync-options-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | string | Name of the node for which the resynchronization option is defined |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | aggr-resync-options-info | The attributes of the aggr. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# aggr-resync-options-get-iter

[top]

Get aggregate resynchronization options for each node in the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-resync-options-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aggr-resync-options-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-resync-options-info[] optional | The list of attributes of aggr objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-resync-options-set

[top]

Modify aggregate resynchronization options for a node in the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **max-concurrent-resyncs-allowed** | **[1..200]** | integer optional | The number of aggregates, owned by the specified node, that are allowed to resync at a time |
| **node** | | string | Name of the node for which the resynchronization option is defined |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# aggr-scrub-list-info

[top]

Get the status of parity scrubbing on the named aggregate. Status includes percentage complete and the scrub's suspended status (if appropriate). If an aggregate or node is not given, then status is generated for all RAID groups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name or UUID of the entity to show scrubbing status for. See the synopsis for name/UUID format and restrictions. |
| **node** | | string optional | Name of the node. |
| **verbose** | | boolean optional | If set to "true", this operation will be verbose. If not supplied or set to false, normal output levels will be used. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **scrub-details** | | scrub-detail-info[] optional | List of RAID groups and their scrub status. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-scrub-resume

[top]

Resume parity scrubbing on the named aggregate, plex, or RAID group. If an aggregate or node is not given, then resume parity scrubbing on all RAID groups for which it has been suspended. Use "aggr-scrub-list-info" to check scrubbing status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name or UUID of the entity for which scrubbing is to resume. See the synopsis for name/UUID format and restrictions. |
| **node** | | string optional | Name of node. |
| **plex** | | string optional | If provided, this specifies the plex name. ex. plex0 Must be used in conjunction with aggregate input. |
| **raidgroup** | | string optional | If provided, this specifies the RAID group. ex. rg2 Must be used in conjunction with aggregate and plex inputs. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-scrub-start

[top]

Start parity scrubbing on the named aggregate, plex, or RAID group. Parity scrubbing compares the data disks to the parity disk in a RAID group, correcting the parity disk's contents as necessary. If an aggregate or node is not given, then parity scrubbing is started on all online aggregates. If an aggregate name is given, scrubbing is started on all RAID groups in the aggregate. If a plex name is given, scrubbing is started on all RAID groups contained in the plex. If a RAID group name is given, scrubbing is started only on that group. Use "aggr-scrub-list-info" to check scrubbing status. If a node is given, scrubbing is started on all raid groups on that node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name or UUID of the entity for which scrubbing is to start. See the synopsis for name/UUID format and restrictions. |
| **node** | | string optional | Name of node. |
| **plex** | | string optional | If provided, this specifies the plex name. ex. plex0 Must be used in conjunction with aggregate input. |
| **raidgroup** | | string optional | If provided, this specifies the RAID group. ex. rg2 Must be used in conjunction with aggregate and plex inputs. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-scrub-stop

[top]

Stop parity scrubbing on the named aggregate, plex, or RAID group. If an aggregate or node is not given, scrubbing will stop on all RAID groups currently being scrubbed. Use "aggr-scrub-list-info" to check scrubbing status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name or UUID of the entity for which scrubbing is to stop. See the synopsis for name/UUID format and restrictions. |
| **node** | | string optional | Name of node. |
| **plex** | | string optional | If provided, this specifies the plex name. ex. plex0 Must be used in conjunction with aggregate input. |
| **raidgroup** | | string optional | If provided, this specifies the RAID group. ex. rg2 Must be used in conjunction with aggregate and plex inputs. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-scrub-suspend

[top]

Suspend parity scrubbing on the named aggregate, plex, RAID group, or node. If an aggregate or node is not given, suspend scrubbing on all RAID groups currently being scrubbed. Use "aggr-scrub-list-info" to check scrubbing status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name or UUID of the entity for which scrubbing is to suspend. See the synopsis for name/UUID format and restrictions. |
| **node** | | string optional | Name of node. |
| **plex** | | string optional | If provided, this specifies the plex name. ex. plex0 Must be used in conjunction with aggregate input. |
| **raidgroup** | | string optional | If provided, this specifies the RAID group. ex. rg2 Must be used in conjunction with aggregate and plex inputs. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-set-option

[top]

Set the specified option for the given aggregate to "option-value". The change remains effective even if the filer is rebooted. Some options have values that are numbers, and some have values that are "on" (also expressible as "yes", "true", or "1" ) or "off" (also expressible as "no", "false", or "0"). A mixture of uppercase and lowercase characters may be used when typing an option's value. Note that the "root" option is special in that it doesn't have a corresponding value. This API does not support modifying options of striped aggregate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name or UUID of the aggregate whose option to be set. See the synopsis for name/UUID format and restrictions. |
| | | | Option name. Possible values:<br><br>"free_space_realloc" (value: "on" \| "off" \| "no_redirect")<br>Setting this option to "on" enables free space reallocation (continuous segment cleaning) on a block checksum aggregate. Possible values : on, off, no_redirect "on" : Free space reallocation enabled with automatically starting the redirect scanner "off": Free space reallocate disabled "no_redirect": Free space reallocation enabled without running the redirect |

scanner The default value for this option is "off"

"fs_size_fixed" (value: "on" | "off")
Setting this option to "on" causes the file system to remain the same size (and not grow) when the mirror is broken on a SnapMirrored aggregate or when a "storage aggregate add" is performed on it. This option is automatically set to be "on" when an aggregate becomes SnapMirrored. This option allows an embedded aggregate to be SnapMirrored back to the source without needing to add disks to the source aggregate. If the aggregate size is larger than the file system size, turning off this option forces the file system to grow to the size of the aggregate. This option is not supported when the request is sent to the Admin Vserver LIF.

"ha_policy" (value: "cfo" | "sfo")
This option is used to change the HA policy of given aggregate and restricted to clustered environments. It is not allowed in unclustered environments. Changing the HA policy of an aggregate from SFO to CFO is allowed only in Maintenance mode. HA policy can not be changed if: 1. aggregate is striped. 2. aggregate contains node volumes. 3. aggregate is root. 4. aggregate is partner aggregate during takeover i.e. when it is not home to local node. EOP_CLUSTER_ATTR_DISALLOWED is returned if this option is used in unclustered environments.
EOP_DISALLOWED_ON_STRIPED_AGGR is returned if this option is used with striped aggregate. EOP_DISALLOWED_ON_AGGR_WITH_NODE_VOLS is returned if this option is used on aggregate which contains node volumes. EOP_DISALLOWED_ON_ROOT_AGGR is returned if this option is used on root aggregate. EOP_DISALLOWED_ON_NOT_HOME_AGGR is returned if this option is used on partner aggregate during takeover.

"ignore_inconsistent" (value: "on" | "off")
This command can only be used in maintenance mode. If this option is set to "on", then the root aggregate may be brought online when booting even if it is marked as inconsistent. The user is cautioned that bringing it online prior to running WAFL_check or wafliron may result in further file system inconsistency. This option is not supported when the request is sent to the Admin Vserver LIF.

"max_write_alloc_blocks" (value: value: < number >)
The maximum number of blocks used for write allocation. Some sequential read workloads may benefit from increasing this value. Default value is 0 which uses the controller-wide default value of 64. The default is optimal for most users. The controller-wide default can be adjusted with the bootarg "wafl-max-write-alloc-blocks"

"striping" (value: "striped" | "not_striped")
This option sets the striping information of given aggregate. It is restricted to clustered environments and not allowed in unclustered environments. When set to true, it marks given aggregate as member of stripe. This option is not allowed if given aggregate is of 'cfo' HA policy.
EOP_CLUSTER_ATTR_DISALLOWED is returned if this option is used in unclustered environments. EOP_DISALLOWED_ON_CFO_AGGR is returned if given aggregate is of 'cfo' HA policy. This option is not supported when the request is sent to the Admin Vserver LIF.

"nosnap" (value: "on" | "off")
Setting this option to "on" disables automatic snapshots on the aggregate.

"raid_cv" (value: "on" | "off")
Setting this option to "off" disables block or advanced_zoned checksum (azcs) protection on the aggregate. The default is "on". The user is cautioned that turning off this option exposes the filesystem(s) contained in the aggregate to inconsistency that could be caused by a misbehaving hardware component in the system.

| | | | |
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| **option-name** | | string | "raid_lost_write" (value: "on" \| "off")<br>Setting this option to "off" disables RAID Lost Write protection on the aggregate. The default is "on". The user is cautioned that turning off this option may expose the filesystem(s) contained in the aggregate to data loss and data corruption. The option should not be disabled, unless directed to do so by support personnel.<br><br>"raidsize" (value: < number >>)<br>The maximum size of a RAID group within the aggregate. Changing this option doesn't cause existing RAID groups to grow or shrink. Rather, it only affects whether more disks will be added to the last existing RAID group in the future, and how large new RAID groups will be.<br><br>"cache_raid_group_size" (value: < number >>)<br>The current maximum size of a SSD RAID group within the hybrid aggregate. This option can only be modified for hybrid aggregate. Changing this option doesn't cause existing RAID groups to grow or shrink. Rather, it only affects whether more disks will be added to the existing SSD RAID group in the future, and how large new SSD RAID groups will be.<br><br>"raidtype" (value: "raid4" \| "raid_dp" \| "raid_tec" \| "raid0")<br>The type of RAID group used for this aggregate. The "raid4" setting provides one parity disk per RAID group, while "raid_dp" provides two and "raid_tec" provides three. Changing this option immediately changes the RAID group type for all RAID groups in the aggregate. When upgrading RAID groups from "raid4" to "raid_dp", each RAID group begins a reconstruction onto a spare disk allocated for the second "dparity" parity disk. Simlarly, when upgrading RAID groups from "raid_dp" to "raid_tec", each RAID group begins a reconstruction onto a spare disk allocated for the third "tparity" parity disk.<br><br>"resyncsnaptime" (value: < number >)<br>Sets the mirror resynchronization snapshot frequency to be the given number of minutes. The default value is 60 (minutes).<br><br>"root" (value: < none >)<br>The specified aggregate is to become the root aggregate for the filer on the next reboot. This option can be used only in maintenance mode and on only one aggregate at any given time. The existing root aggregate will become a non-root aggregate after the reboot. Until the system is rebooted, the original aggregate will continue to show root as an option, and the new root aggregate will show diskroot as an option. In general, the aggregate that has the diskroot option is the one that becomes the root aggregate following the next reboot. The only way to remove the root status of an aggregate is to set it on another aggregate. In clustered environments, this option is not allowed with aggregates with 'sfo' HA policy as root has to be an aggregate with 'cfo' HA policy. EOP_DISALLOWED_ON_SFO_AGGR is returned if given aggregate is of 'sfo' HA policy.<br><br>"snapmirrored" (value : "off")<br>If SnapMirror is enabled, the filer auto- matically sets this option to "on". Set this option to "off" with the "snapmirror" command if SnapMirror should no longer be used to update the mirror. After setting this option to "off", the mirror becomes a regular writable aggregate, and all its volumes are restored to whatever state they were last in. Note that it is not possible to set this option directly through this interface. Rather, it is automatically changed as a side effect of running the appropriate "snapmirror" commands. This option is not supported when the request is sent to the Admin Vserver LIF.<br><br>"snapshot_autodelete" (value: "on" \| "off")<br>Setting this option to "off" disables automatic snapshot deletion on the aggregate. |

"thorough_scrub" (value: "on" | "off")
Setting this option to "on" enables thorough scrub on a block checksum aggregate. That means that a scrub will initialize any zeroed checksum entries that it finds. If there are any checksum entries to be initialized, scrub will run slower than normal.

"percent_snapshot_space" (value: < number >)
Percentage of total blocks in the aggregate reserved for snapshots.

"nearly_full_threshold" (value: < number >)
Threshold of used space as a percentage of aggregate size for which to emit aggregate nearly full warning. The default value is 95%. The maximum value for this option is 99%. It must be less than the full_threshold. Setting this threshold to 0 disables the alert.

"full_threshold" (value: < number >)
Threshold of used space as a percentage of aggregate size for which to emit aggregate full warning. The default value is 98%. The maximum value for this option is 100%. It must be greater than the nearly_full_threshold. Setting this threshold to 0 disables the alert.

"is_flash_pool_caching_enabled" (value: "true" | "false")
Setting this option to "false" will disable the caching on the Flash Pool while setting "true" will enable the caching again on the Flash Pool. Changing this option will have no effect on individual caching policies associated with the volumes under this Flash Pool.

"hybrid_enabled" (value: "true" | "false")
Setting this option to "true" would mark the aggregate as hybrid_enabled. That means the aggregate can contain a mix of SSDs and HDDs(Hard Disk Drives, e.g., SAS, SATA, and/or FC). The operation can be forced by using the hybrid_enabled_force option for the aggregates having flexvols which cannot be write cached. EAGGR_CANT_UNDO_HYBRID is returned when we are trying to set the option hybrid_enabled to false on an aggregate that already contains a mix of HDDs and SSDs. EAGGR_HYBRID is returned when we are trying to set option hybrid_enabled to true on an aggregate which is already hybrid. EOP_DISALLOWED_WORM_HYBRID_AGGR is returned when we are trying to set option hybrid_enabled to true on an snaplock aggregate. ERAID_HYA_SUPPORT_DISABLED is returned when the partner node in HA pair is running a version of Data ONTAP which does not support hybrid aggregates. EOP_DISALLOWED_ON_SSD_AGGR is returned if this option is used on aggregates created out of SSD disks. EOP_DISALLOWED_HYA_ON_RAID0_AGGR is returned if this option is used on raid0 aggregates. EOP_DISALLOWED_HYA_ON_ZONED_AGGR is returned if this option is used on aggregates with zoned checksums. EOP_DISALLOWED_HYA_ON_LUNS_AGGR is returned if this option used on aggregates created out of LUNs. EOP_DISALLOWED_ON_COMPOSITE_AGGR is returned if this option is used on composite aggregates.

"hybrid_enabled_force" (value: "true" | "false")
Setting this option to "true" would mark the aggregate as hybrid_enabled. That means the aggregate can contain a mix of SSDs and HDDs(Hard Disk Drives, e.g., SAS, SATA, and/or FC). This option is used for force marking of aggregates having flexvols which cannot be write cached as hybrid enabled. FlexVols in the aggregate marked as hybrid enabled using this option which cannot participate in write-caching only have read-caching enabled. All other flexvols in the aggregate can participate in both read and write caching. EAGGR_CANT_UNDO_HYBRID is returned when we are trying to set the option hybrid_enabled_force to false on an aggregate that already contains a mix of HDDs and SSDs. EAGGR_HYBRID is returned when we are trying to set option hybrid_enabled_force to true on an aggregate which is already hybrid.
EOP_DISALLOWED_WORM_HYBRID_AGGR is returned when we are trying

| | | | |
|---|---|---|---|
| | | | to set option hybrid_enabled_force to true on an snaplock aggregate. ERAID_HYA_SUPPORT_DISABLED is returned when the partner node in HA pair is running a version of Data ONTAP which does not support hybrid aggregates. EOP_DISALLOWED_ON_SSD_AGGR is returned if this option is used on aggregates created out of SSD disks. EOP_DISALLOWED_HYA_ON_RAID0_AGGR is returned if this option is used on raid0 aggregates. EOP_DISALLOWED_HYA_ON_ZONED_AGGR is returned if this option is used on aggregates with zoned checksums. EOP_DISALLOWED_ON_COMPOSITE_AGGR is returned if this option is used on composite aggregates.<br><br>"mirror_resync_priority" (value: "low" \| "medium" \| "high")<br>Modifying this option changes the ordering of resynchronization of mirrored aggregates on a node. By default all data aggregates have a "low" priority. Changing it to "high" or "medium" would mean that the aggregate will be resynchronized before lower priority aggregates. The "storage aggregate resynchronization options" CLI command, or the aggr-resync-options-set ZAPI, can be used to set the number of aggregates that can be resynchronized concurrently on a node.<br><br>"enable_cold_data_reporting" (value: "true" \| "false")<br>Setting this option to "true" would enable inactive data reporting on the specified aggregate. Setting this option to "false" would disable inactive data reporting. This option can only be set on non-FabricPool aggregates which are FabricPool compatible. |
| **option-value** | | string | The value to set the named option. It may be the NULL/empty value only in the case of the "root" option. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAGGR_CANT_UNDO_HYBRID** | |
| **EAGGR_HYBRID** | |
| **ERAID_HYA_SUPPORT_DISABLED** | |
| **EOP_CLUSTER_ATTR_DISALLOWED** | |
| **EOP_DISALLOWED_ON_CFO_AGGR** | |
| **EOP_DISALLOWED_ON_SFO_AGGR** | |
| **EOP_DISALLOWED_ON_STRIPED_AGGR** | |
| **EOP_DISALLOWED_ON_AGGR_WITH_NODE_VOLS** | |
| **EOP_DISALLOWED_ON_ROOT_AGGR** | |
| **EOP_DISALLOWED_ON_NOT_HOME_AGGR** | |
| **EOP_DISALLOWED_WORM_HYBRID_AGGR** | |
| **EOP_DISALLOWED_ON_SSD_AGGR** | |
| **EOP_DISALLOWED_HYA_ON_RAID0_AGGR** | |
| **EOP_DISALLOWED_HYA_ON_ZONED_AGGR** | |
| **EOP_DISALLOWED_HYA_ON_LUNS_AGGR** | |
| **ECIFS_HAVE_MIRRORED_LOCKS** | |
| **EAGGR_CANT_WRITE_CACHE_INCOMPATIBLE_FS** | |
| **EAGGR_CANT_WRITE_CACHE_FLEXVOLS** | |
| **ERAID_HYA_PLATFORM_NOT_SUPPORTED** | |
| **ECACHE_SIZE_AGGR_NOT_HYBRID** | |
| **EOP_DISALLOWED_ON_COMPOSITE_AGGR** | |

# aggr-space-get-iter

[top]

Display a list of aggregates and a breakup of their used space. This information is only available when the aggregate is online. Some fields are expensive to compute, and if the system is under load, the information may not be returned. Best practice would be to only request the fields needed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | space-information optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | space-information optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-space object. All aggr-space objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | space-information[] optional | The list of attributes of aggr-space objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr-space objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-space-list-info

[top]

Show the space usage of the aggregate on a per flexible volume basis. This API is deprecated in Data ONTAP 8.2 and later. Use the aggr-space-info attributes in the aggr-list-info API for details related to aggregate space usage. Use volume-space-list-info and volume-footprint-list-info APIs for details related to volume space usage.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | The aggregate to get the space information for. If not specified the space information for all aggregates is obtained. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **aggregates** | | aggr-space-info[] | Various counts describing space usage in the aggregate. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-spare-get-iter

[top]

Iterate over a list of spare disks

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-spare-disk-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 2000 |
| **query** | | aggr-spare-disk-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-spare-disk-info[] optional | The list of attributes of aggr objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-split

[top]

Remove the specified plex from a mirrored aggregate and create a new unmirrored aggregate with the specified name that contains the plex. The original mirrored aggregate thus becomes unmirrored. The plex to be split from the original aggregate must be functional (not partial), but it can otherwise be inactive, resyncing, or out-of-date. "Aggr split" can therefore be used to gain access to a plex that isn't up to date with respect to its partner plex if its partner plex is currently failed. If the plex is offline at the time of the split, the resulting aggregate will be offline. Otherwise, the resulting aggregate will be in the same online/offline/restricted state as the original aggregate. A split mirror can be joined back together via the "victim-aggregate" option to "aggr-mirror".

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name of the plex to split out of its aggregate, using the following format: [/vol/][][] |
| **new-aggr-name** | | string | Name of the new aggregate to create from the split plex. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEDOESNOTEXIST** | |

# aggr-status-get-iter

[top]

Aggregate enumeration ZAPI. Get status and topology information about one or more aggregates from RAID subsystem.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 2000 |
| **query** | | aggr-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-status-info[] optional | The list of attributes of aggr objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-verify-list-info

[top]

Get the status of RAID mirror verification on the named aggregate. Status includes percentage complete and whether it's currently suspended.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of an existing aggregate. If no name is given, then mirror verification status is generated for all aggregates currently being verified. UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | verify- | |

| | | | |
|---|---|---|---|
| **verify-details** | | detail-info[] optional | List of aggregates and their mirror verification status. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |

# aggr-verify-resume

[top]

Resume RAID mirror verification on the named aggregate. If no name is given, then resume mirror verification on all aggregates that have been suspended.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of the existing aggregate for which mirror verification is to resume. UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-verify-start

[top]

Start RAID mirror verification on the named aggregate. Verification compares the data in both plexes of a mirrored aggregate. In the default case, any blocks that differ are logged and no changes are made. The fix-plex option is used to fix any mismatches. It specifies which plex to fix. If no name is given, then mirror verification is started on all online aggregates. Use the "aggr-verify-list-info" API to check mirror verification status. If the fix-plex option is used, then a name must be specified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of the mirrored aggregate to verify. UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. |
| **fix-plex** | | integer optional | If provided, this specifies the plex to fix in case the two plexes do not match. The default is to log any discrepancies instead of fixing them. |
| **log-only** | | boolean optional | If provided, and if the value is "true", then simply log any discrepancies instead of fixing them. The default value is "true". If log-only is "false", then the fix-plex option must also be specified. If log-only is "true" and fix-plex is also specified, then the log-only option will be ignored. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-verify-stop

[top]

Stop RAID mirror verification on the named aggregate. If no name is given, stop mirror verification on all aggregates currently being verified.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **aggregate** | | string optional | Name of the aggregate for which we are to stop mirror verification. UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## aggr-verify-suspend

[top]

Suspend RAID mirror verification on the named aggregate. If no name is given, suspend mirror verification on all aggregates currently being verified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of the aggregate for which we are to suspend mirror verification. UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## Element definition: **aggr-attributes**

[top]

Attributes of an aggregate. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-64bit-upgrade-attributes** | | aggr-64bit-upgrade-attributes optional | Information related to 64-bit upgrade. After 64-bit upgrade completes, this information is no longer available. |
| **aggr-fs-attributes** | | aggr-fs-attributes optional | This field contains file system related information about the aggregate. This information will not be returned for a striped aggregate. |
| **aggr-inode-attributes** | | aggr-inode-attributes optional | This field contains inode related information about the aggregate. This information will not be returned for a striped aggregate. |
| **aggr-ownership-attributes** | | aggr-ownership-attributes optional | This field contains ownership related information about the aggregate. This information will not be returned for a striped aggregate. |
| **aggr-performance-attributes** | | aggr-performance-attributes optional | This field contains performance related informtaion about the aggregate. |
| **aggr-raid-** | | aggr-raid- | |

| | | | |
|---|---|---|---|
| **attributes** | | attributes optional | This field contains RAID specific information of the aggregate |
| **aggr-snaplock-attributes** | | aggr-snaplock-attributes optional | This field contains snaplock specific information of the aggregate |
| **aggr-snapmirror-attributes** | | aggr-snapmirror-attributes optional | This field contains snapMirror specific information of the aggregate This information will not be returned for a striped aggregate. |
| **aggr-snapshot-attributes** | | aggr-snapshot-attributes optional | This field contains snapshot specific information of the aggregate. This information will not be returned for a striped aggregate. |
| **aggr-space-attributes** | | aggr-space-attributes optional | This field contains space specific information of the aggregate |
| **aggr-striping-attributes** | | aggr-striping-attributes optional | This field contains striping specific information of the aggregate This information is returned only if aggregate is striped. |
| **aggr-volume-count-attributes** | | aggr-volume-count-attributes optional | This field contains various counts information of volume in the aggregate. |
| **aggr-wafliron-attributes** | | aggr-wafliron-attributes optional | This field contains wafliron specific information of the aggregate |
| **aggregate-name** | | string optional | Name of the aggregate. |
| **aggregate-uuid** | | string optional | Aggregate's Universal Unique IDentifier. UUIDs are 16-byte quantities that are typically displayed as having five hexadecimal fields separated by hyphens. For example: d2da3566-da53-11d7-a841-000100000529 |
| **autobalance-available-threshold-percent** | **[0..99]** | integer optional | The threshold when an aggregate is considered balanced by the Auto Balance Aggregate feature. |
| **autobalance-state** | | autobalance-aggregate-state optional | The state of the aggregate being balanced. Possible values:<br>• "disabled" - Auto Balance Aggregate is disabled,<br>• "balanced" - Auto Balance Aggregate has determined that the aggregate is below the high-watermark.<br>• "unbalanced" - Auto Balance Aggregate has detected that the aggregate is over the high-watermark but has not initiated any jobs to bring it below the high-watermark.,<br>• "ineligible" - Ineligible<br>The states excluded, balanced and unbalanced are available only when Auto Balance Aggregate is enabled. |
| **autobalance-state-change-counter** | | integer optional | The number of times an aggregate has been transitioned from balanced to unbalanced and vice-versa. |
| **autobalance-unbalanced-threshold-percent** | **[1..100]** | integer optional | The threshold when an aggregate is considered unbalanced by the Auto Balance Aggregate feature. |
| | | | |

| | | | |
|---|---|---|---|
| **inactive-data-reporting-start-timestamp** | | integer optional | Timestamp at which inactive data reporting was enabled on the aggregate. The time value is in seconds since January 1, 1970. Range : [0..2^32-1]. |
| **is-autobalance-eligible** | | boolean optional | When set to 'true', the aggregate is included in Auto Balance aggregate processing. When set to 'false' the aggregate is excluded from Auto Balance Aggregate processing. |
| **is-cft-precommit** | | boolean optional | When set to 'true', the aggregate is a 7-mode transitioned aggregate in pre-commit phase. |
| **is-inactive-data-reporting-enabled** | | boolean optional | "true" if the inactive data reporting is enabled on an aggregate, "false" otherwise. |
| **is-object-store-attach-eligible** | | boolean optional | When set to 'true', the aggregate is is eligible to have an object store attached to it. |
| **is-transition-out-of-space** | | boolean optional | When set to 'true', the aggregate is a 7-mode transitioned aggregate that is not yet committed on C-mode, and is currently out of space. |
| **nodes** | | node-name[] optional | List of node names. If aggregate-name is also specified, then the matching aggregate on given nodes is returned. If not, all aggregates on specified nodes are returned. If this element is omitted when the request is sent to the Admin Vserver LIF, then all matching aggregates in the cluster are returned. |
| **striping-type** | | string optional | Specifies the striping information about the aggregate. Possible values are "not_striped", "striped", and "unknown" |

# Element definition: **aggr-autobalance-aggregate-state**

[top]

State related to each aggregate monitored by Auto Balance Aggregate. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of the aggregate.<br><br>Attributes: key, non-creatable, non-modifiable |
| **autobalance-threshold** | | size optional | Threshold used by AutoBalance aggregate to determine if an aggregate is eligible for balancing, in bytes.<br><br>Attributes: non-creatable, non-modifiable |
| **incoming-volume-size** | | size optional | Size of volumes that are moving towards the aggregate, in bytes.<br><br>Attributes: non-creatable, non-modifiable |
| **is-balanceable** | | boolean optional | Indicates if the aggregate should be balanced.<br><br>Attributes: non-creatable, non-modifiable |
| **is-considered-for-balance** | | boolean optional | Indicates if the aggregate should be considered for balancing. |

| | | | |
|---|---|---|---|
| | | | Attributes: non-creatable, non-modifiable |
| **is-hybrid** | | boolean optional | Is a hybrid aggregate.<br><br>Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node the aggregate resides on.<br><br>Attributes: key, non-creatable, non-modifiable |
| **outgoing-volume-size** | | size optional | Size of volumes that are moving away from the aggregate, in bytes.<br><br>Attributes: non-creatable, non-modifiable |
| **raidtype** | | raid-type optional | RAID type of the aggregate.<br><br>Attributes: non-creatable, non-modifiable |
| **total-size** | | size optional | Total size of the aggregate in bytes.<br><br>Attributes: non-creatable, non-modifiable |
| **used-size** | | size optional | Used size of the aggregate in bytes.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-autobalance-config**

[top]

Configuration of Auto Balance Aggregate When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **available-threshold-percent** | **[0..99]** | integer optional | When Auto Balance Aggregate identifies an aggregate that needs to be balanced, it will attempt to identify other target aggregates it can move volumes to. An aggregate will only be considered as a target if its projected space usage after the move is still under this percentage. Auto Balance Aggregate will attempt to move volumes from an unbalanced aggregate until it is under this percentage. The default value is 40%.<br><br>Attributes: non-creatable, modifiable |
| **hold-duration-after-move** | | time-interval optional | This value represents the number of seconds that need to have elapsed since the volume was last moved before it will be considered a movable candidate again. The default value is 48 hours.<br><br>Attributes: non-creatable, modifiable |
| **is-enabled** | | boolean optional | 'true' if Auto Balance Aggregate is enabled. 'false' if Auto Balance Aggregate is disabled.<br><br>Attributes: non-creatable, modifiable |
| **move-mode** | | string | For all modes, Auto Balance Aggregate will identify the volume moves that will help to balance space usage across the aggregates. The mode dictates what Auto Balance Aggregate will do with the suggested moves. In 'recommend' mode, the suggested moves will be displayed, but no further action will be taken .In 'auto' mode, Auto Balance Aggregate will trigger moves to start. The default mode is 'recommend'. |

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|---|---|---|---|
| | | optional | Attributes: non-creatable, modifiable Possible values:<br><br>• "auto" ,<br>• "recommend" |
| **state-polling-interval** | | time-interval optional | Polling period, in seconds, used by Auto Balance Aggregate to update volume and aggregate state. The default value is 3600 seconds.<br><br>Attributes: non-creatable, modifiable |
| **unbalanced-threshold-percent** | **[1..100]** | integer optional | This percentage will indicate the space used threshold that will cause Auto Balance Aggregate to consider this aggregate as unbalanced. The default value is 60%.<br><br>Attributes: non-creatable, modifiable |
| **volume-activity-threshold** | **[0..2^32-1]** | integer optional | The threshold, in number of operations per second preformed on a volume (read/write/internal), that will disqualify the volume from being a candidate to be moved by Auto Balance Aggregate. The default value is 100 operations per second.<br><br>Attributes: non-creatable, modifiable |
| **volume-inactive-delay-threshold** | | time-interval optional | This value represents a duration in seconds and designates the amount of time that has to elapse after a volume has exceeded the volume-activity-threshold before it can be considered a movable volume by Auto Balance Aggregate. The default value is 24 hours.<br><br>Attributes: non-creatable, modifiable |

# Element definition: **aggr-autobalance-notification**

[top]

Notifications for nodes that need to be balanced. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **notifying-node** | | node-name optional | The node that contains the aggregate which is considered a candidate for Auto Balance Aggregate.<br><br>Attributes: key, required-for-create, non-modifiable |

# Element definition: **aggr-autobalance-volume-state**

[top]

The state related to each volume monitored by Auto Balance Aggregate. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a

value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | The aggregate that contains the volume.<br><br>Attributes: non-creatable, non-modifiable |
| **dsid** | **[0..2^64-1]** | integer optional | The dsid of the volume.<br><br>Attributes: key, non-creatable, non-modifiable |
| **is-volume-moving** | | boolean optional | Indicates if volume is currently moving.<br><br>Attributes: non-creatable, non-modifiable |
| **is-volume-quiesced** | | boolean optional | Indicates if volume is currently quiesced.<br><br>Attributes: non-creatable, non-modifiable |
| **last-time-threshold-exceeded** | | datetime optional | Timestamp related to when we exceeded the threshold of operations for the volume.<br><br>Attributes: non-creatable, non-modifiable |
| **last-time-was-placed** | | datetime optional | Timestamp related to when the volume was last moved.<br><br>Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | The node the volume resides on.<br><br>Attributes: key, non-creatable, non-modifiable |
| **volume-name** | | string optional | The name of the volume.<br><br>Attributes: non-creatable, non-modifiable |
| **volume-total-size** | | size optional | Total size of the volume, in bytes.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-cumulated-info**

[top]

Aggregate Storage Efficiency Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-efficiency-cumulated-additional-details-info** | | aggr-efficiency-cumulated-additional-details-info | Additional details related to storage efficiency in the given aggregates. |
| **aggr-efficiency-cumulated-aggr-info** | | aggr-efficiency-cumulated-aggr-info | Storage efficiency achieved at the aggregate level using techniques like data compaction. |

| | | | |
|---|---|---|---|
| | | optional | |
| **aggr-efficiency-cumulated-snapshot-and-flexclone-info** | | aggr-efficiency-cumulated-snapshot-and-flexclone-info | Aggregated information of storage efficiency of Snapshot copies and FlexClone volumes in the given aggregates. |
| **aggr-efficiency-cumulated-volume-info** | | aggr-efficiency-cumulated-volume-info optional | Aggregated information of storage efficiency achieved at the volume level using techniques like deduplication, compression, zero detection and FlexClones for files or LUNs. |
| **aggr-efficiency-total-cumulated-info** | | aggr-efficiency-total-cumulated-info optional | cumulated storage efficiency information from the given aggregates. |

# Element definition: **aggr-efficiency-info**

[top]

Aggregate Storage Efficiency Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-efficiency-additional-details-info** | | aggr-efficiency-additional-details-info optional | Additional details related to storage efficiency in this aggregate. |
| **aggr-efficiency-aggr-info** | | aggr-efficiency-aggr-info optional | Storage efficiency achieved at the aggregate level using techniques like data compaction. |
| **aggr-efficiency-cumulative-info** | | aggr-efficiency-cumulative-info optional | Cumulative storage efficiency information of an aggregate. |
| **aggr-efficiency-snapshot-and-flexclone-volume-info** | | aggr-efficiency-snapshot-and-flexclone-volume-info | Aggregated information of storage efficiency of Snapshots and FlexClone volumes in the aggregate. |
| **aggr-efficiency-volume-info** | | aggr-efficiency-volume-info optional | Aggregated information of storage efficiency achieved at the volume level using techniques like deduplication, compression, zero detection and FlexClones for files or LUNs. |
| **aggregate** | | string optional | Name of the aggregate. Attributes: key, non-creatable, non-modifiable |
| **node** | | string optional | Name of the node where the aggregate resides. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-info**

[top]

Aggregate status information.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-64bit-upgrade** | | aggr-64bit-upgrade-info optional | Information related to 64-bit upgrade. After 64-bit upgrade completes, this information is no longer available. |
| **aggregate-space-details** | | aggregate-space-info optional | Contains all size-related information for the aggr and its set of snapshots. |
| **azcs-read-optimization** | | string optional | Indicates if azcs read optimization is enabled and available on the aggreagte. This feature is supported only on Cloud ONTAP or FSx. Possible values: "on", "off"<br>• "on" : azcs read optimization is enabled and available<br>• "off" : azcs read optimization is disabled.<br>The default value is "on" |
| **azcs-read-optimization-enabled** | | boolean optional | Is azcs read optimizaion enabled for the aggregate in SDOT ? |
| **block-type** | | string | The indirect block format that the aggregate can have. The default is 64_bit. With a 64_bit block-type creation of aggregates that can be larger than 16TB is allowed. Possible values: 64_bit |
| **cache-raid-group-size** | | integer | Current maximum cache RAID group size of hybrid aggregate. Range : [1..28]. RAID group size is the maximum number of disks that can be added to a RAID group. This information will only be returned for hybrid aggregate i.e. for the aggregates whose "is-hybrid" field is set to true. |
| **checksum-status** | | string | Checksum status. Possible values: "active", "off", "reverting", "none", "unknown", "initializing", "reinitializing", "reinitialized", "upgrading_phase1", "upgrading_phase2" |
| **checksum-style** | | string | Checksum style. The possible values:<br>• "advanced_zoned" - advanced_zoned checksum (azcs),<br>• "block" - block,<br>• "mixed" - mixed,<br>• "none" - none,<br>• "unknown" - unknown<br>• "wafl" - wafl,<br>• "zoned" - zoned (this value is no longer supported). |
| **creation-timestamp** | | integer optional | Timestamp of aggregate creation. Range : [0..2^32-1]. |
| **disk-count** | | integer | Number of disks in the aggregate. Range: [0..2^31-1]. |
| **dr-home-dblade-id** | | string optional | Dblade ID of the DR (disaster recovery) node to which this aggregate's disks have been administratively assigned. This is the UUID equivalent of dr-home-id. |
| **dr-home-id** | **[0..2^32-1]** | integer optional | NVRAM ID of the DR (disaster recovery) node to which this aggregate's disks have been administratively assigned. This information is derived from the sanown information for an aggregate's disks. See 'disk-sanown-detail-info' |
| **dr-home-name** | | string optional | Name of the DR node to which this aggregate's disks have been administratively assigned. |
| **drive-protection-enabled** | | boolean | Indicates the aggregate is entirely composed of self-encrypting drives with data protection enabled. |
| **effective-disk-type** | | string optional | Effective type of disks in aggregate: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, VMDISK, unknown. For hybrid aggregate this represents effective disk type of HDD raidgroups. |
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|---|---|---|---|
| **encrypt-with-aggr-key** | | boolean optional | If true, returns aggregates supporting encryption with NAE (NetApp Aggregate Encryption). |
| **files-private-used** | | integer | Number of system (not user-visible) files used. Range: [0..2^64-1]. |
| **files-total** | | integer | Total count of user-visible files. Range: [0..2^64-1]. |
| **files-used** | | integer | Number of user-visible files used. Range: [0..2^64-1]. |
| **free-space-realloc** | | string optional | Indicate if free space reallocation (continuous segment cleaning) is enabled on a specific aggregate. Possible values: on, off, no_redirect "on" (Free space reallocation enabled with automatically starting the redirect scanner) "off" (Free space reallocation disabled) "no_redirect" (Free space reallocation enabled without running the redirect scanner) The default value for this option is "off" |
| **fsid** | | integer optional | Aggregate's File System IDentifier. Range: [0..2^32-1] |
| **ha-policy** | | ha-policy-type optional | Aggregate's HA policy. Possible return values: "cfo", "sfo", "none" |
| **has-local-root** | | boolean | Whether the aggregate contains the local root volume. |
| **has-partner-root** | | boolean | Whether the aggregate contains the partner's root volume. |
| **home-dblade-id** | | string optional | Dblade ID of the node to which this aggregate's disks have been administratively assigned. This is the UUID equivalent of home-id. |
| **home-id** | | integer optional | NVRAM ID of the node to which this aggregate's disks have been administratively assigned. This information is derived from the sanown information for an aggregate's disks. See 'disk-sanown-detail-info' Range : [0..2^32-1]. |
| **home-name** | | string optional | Name of the node to which this aggregate's disks have been administratively assigned. |
| **hybrid-cache-tier-disk-count** | | integer optional | Disk count of hybrid cache tier if hybrid config. This information will only be returned for hybrid aggregate i.e. for the aggregates whose "is-hybrid" field is set to true. |
| **hybrid-cache-tier-raid-type** | | string optional | Raid type for hybrid cache tier if hybrid config. This information will only be returned for hybrid aggregate i.e. for the aggregates whose "is-hybrid" field is set to true. |
| **inactive-data-reporting-start-timestamp** | | integer optional | Timestamp at which inactive data reporting was enabled on the aggregate. The time value is in seconds since January 1, 1970. Range : [0..2^32-1]. |
| **inodefile-private-capacity** | | integer | Number of inodes that can currently be stored on disk for system (not user-visible) files. This number will dynamically increase as more system files are created. Range: [0..2^64-1]. |
| **inodefile-public-capacity** | | integer | Number of inodes that can currently be stored on disk for user-visible files. This number will dynamically increase as more user-visible files are created. Range: [0..2^64-1]. |
| **inofile-version** | | integer | The inofile-version of the aggregate. Range: [0..2^32-1]. |
| **is-checksum-enabled** | | boolean | Is checksumming enabled for the aggregate? |
| **is-composite** | | boolean optional | If true, aggregate currently contains two tiers of storage. |
| **is-fabricpool-mirrored** | | boolean optional | If true, aggregate currently contains two copies of the capacity tier. |
| **is-hybrid** | | boolean optional | If true, aggregate currently contains both SSD and non-SSD RAID groups. |
| **is-hybrid-** | | boolean | If true, aggregate is eligible to contain both SSD and non-SSD RAID |

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|---|---|---|---|
| **enabled** | | optional | groups. |
| **is-inconsistent** | | boolean | Whether or not the aggregate is inconsistent. |
| **is-mirrored** | | boolean optional | If true, aggregate is mirrored. |
| **is-nve-capable** | | boolean optional | If true, the aggregate is capable of supporting NVE. |
| **is-root-aggregate** | | boolean | Whether this is a root aggregate. This differs from has-local-root and has-partner-root by evaluating true when the aggregate may contain a root volume for any node. The has-local-root and has-partner-root fields only evaluate true when the aggregate contains the active root for the specified node. The is-root-aggregate field will still evaluate true for an offline root aggregate. The has-local-root and has-partner-root fields will evaluate false, since the aggregate has no mounted filesystem. |
| **is-snaplock** | | boolean | Whether or not it's a SnapLock aggregate. |
| **is-transition-out-of-space** | | boolean | Whether this is a 7-to-C transitioned aggregate that is not yet committed on C-mode, and is currently out of space. |
| **is-transitioned-aggregate** | | boolean | Whether this is a 7-to-C transitioned aggregate that is not yet committed on C-mode. |
| **licensed-plex-capacity** | | integer optional | This field represents the sum of the raw sizes of all non-parity disks in an aggregate. This is not necessarily the final capacity licensed for the aggregate. The license manager may double this for a mirrored aggregate or ignore it for a root aggregate. Range : [0..2^64-1] |
| **max-write-alloc-blocks** | | integer optional | The maximum number of blocks used for write allocation. Some sequential read workloads may benefit from increasing this value. Default value is 0 which uses the controller-wide default value of 64. The default is optimal for most users. The controller-wide default can be adjusted with the bootarg "wafl-max-write-alloc-blocks" |
| **mirror-status** | | string | Aggregate's mirror status. Possible values: invalid, uninitialized, needs CP count check, CP count check in progress, unmirrored, mirrored, mirror degraded, mirror resynchronizing, failed, limbo, and . |
| **mount-state** | | string optional | [not settable, always] This field shows the volume's mount state. Possible values: "unmounted", "online", "frozen", "destroying", "creating", "mounting", "unmounting", "inconsistent", "reverted", "quiescing", "quiesced", "iron_restricted" |
| **name** | | string | Aggregate name. |
| **owner-id** | | integer optional | NVRAM ID of node which currently owns this aggregate's disks. Normally, home-id matches owner-id. But these may be changed by SFO takeover to match the takeover node, and restored by SFO giveback to match home-id. CFO takeover and giveback do not affect owner-id. This information is derived from the sanown information for an aggregate's disks. See 'disk-sanown-detail-info' Range : [0..2^32-1]. |
| **owner-name** | | string optional | Name of node which currently owns this aggregate's disks. Normally, home-name matches owner-name. But these may be changed by SFO takeover to match the takeover node, and restored by SFO giveback to match home-name. CFO takeover and giveback do not affect owner-name. |
| **plex-count** | | integer | Number of plexes in the aggregate. This value tells us the size of the returned "plex" array. Range: [0..2^31-1]. |
| **plexes** | | plex-info[] | List of plexes in the aggregate. |
| **primary-checksum-style** | | string optional | Checksum type of primary tier. |
| **primary-disk-class** | | string optional | Diskclass of primary tier. |
| **primary-** | | integer | Disk count of primary tier. For non-hybrid aggregate config, signifies |

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| **disk-count** | | optional | the total disk count. For hybrid config excludes cache-tier count. |
| **primary-raid-type** | | string optional | Raid type for primary tier. |
| **raid-lost-write-state** | | string optional | State of the RAID Lost Write feature for an aggregate. The possible values are:<br>• "aborted" - The RAID Lost Write scrub is no longer running and was aborted on all RAID groups in this aggregate, possibly due to an error.<br>• "illegal" - The aggregate contains RAID groups with RAID Lost Write disabled and other RAID groups with RAID Lost Write enabled. This is an invalid state.<br>• "inoperative" - The RAID Lost Write scrub is allowed on the aggregate, but it cannot start because the system-wide RAID Lost Write option "raid.lost_write.enable" is set to "off".<br>• "off" - RAID Lost Write protection and scrub are disabled on this aggregate.<br>• "on" - The aggregate is RAID Lost Write protected and that the RAID Lost Write scrub completed successfully on all RAID groups in this aggregate.<br>• "partial" - The RAID Lost Write scrub completed successfully on some of the RAID groups in this aggregate, but was aborted on at least one of the RAID groups.<br>• "unknown" - The RAID Lost Write scrub status could not be determined.<br>• "upgrade_partial" - The RAID Lost Write scrub is still in progress on some of the RAID groups in this aggregate and was aborted on at least one of the RAID groups.<br>• "upgrading" - The RAID Lost Write scrub is still not completed or not yet started on at least one of the RAID groups in this aggregate. |
| **raid-size** | | integer | Current RAID group size. Range : [0..2^31-1]. |
| **raid-status** | | string | RAID status. Possible values: "copying", "degraded", "foreign", "growing", "hybrid", "hybrid_enabled", "initializing", "invalid", "ironing", "mirror degraded", "mirrored", "mixed_raid_type", "needs check", "normal", "noparity", "out-of-date", "parity uninit'd", "partial", "raid0", "raid4", "raid_dp", "raid_tec", "reconstruct", "resyncing", "tier_unavailable", "verifying". These values may appear by themselves or in combination separated by commas (e.g., "mixed_raid_type, hybrid, normal"). An aggregate could be of only one of the following RAID types:<br>• "raid0" - All the raid groups in the aggregate are of type raid0,<br>• "raid4" - All the raid groups in the aggregate are of type raid4,<br>• "raid_dp" - All the raid groups in the aggregate are of type raid_dp,<br>• "raid_tec" - All the raid groups in the aggregate are of type raid_tec,<br>• "mixed_raid_type" - This aggregate contains RAID groups of different RAID types (raid0, raid4, raid_dp, raid_tec). |
| **size-available** | | integer | Available bytes in the aggregate. Range: [0..2^64-1]. |
| **size-percentage-used** | | integer optional | Percentage of aggregate used. This value is not returned if the aggregate is unusable (i.e., it's offline). Range : [0..100]. |
| **size-total** | | integer | Aggregate total usable size in bytes, not including WAFL reserve and aggregate snapshot reserve. If the aggregate is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]. |
| **size-used** | | integer | Aggregate bytes used. This value is not returned if the aggregate is unusable (i.e., it's offline). Range: [0..2^64-1]. |

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|---|---|---|---|
| **snaplock-type** | | string optional | The type of the snaplock aggregate. Possible values - "compliance" or "enterprise" or "non-snaplock" |
| **state** | | string | Aggregate state. The possible values: "creating", "destroying", "failed", "frozen", "inconsistent", "iron_restricted", "mounting", "offline", "online", "partial", "quiesced", "quiescing", "restricted", "reverted", "unknown", "unmounted", "unmounting". |
| **striping** | | striping-type optional | Specifies the striping information about the aggregate. Possible values are "striped", "not_striped" and "unknown" In unclustered environments, all aggregates are not striped. In clustered environments, aggregates can be either striped or not striped. When striping information is not known, "unknown" will be returned. |
| **type** | | string | The type of aggregate. Possible values: aggr "aggr" (for aggregates that can contain flexible volumes) |
| **uses-data-partitions** | | boolean optional | If true, aggregate is using data partitions. |
| **uses-root-partitions** | | boolean optional | If true, aggregate is using root partitions. |
| **uses-shared-disks** | | boolean optional | If true, aggregate is using shared disks. |
| **uuid** | | string | Aggregate's Universal Unique IDentifier. UUIDs are 16-byte quantities that are typically displayed as having five hexadecimal fields separated by hyphens. For example: d2da3566-da53-11d7-a841-000100000529 |
| **volume-count** | | integer | Number of volumes in the aggregate. Range: [0..2^31-1]. |
| **volume-count-collective** | | integer optional | Number of striped volume constituents in the aggregate which also represent a collective striped volume. This field is for internal use only. Range: [0..2^31-1]. |
| **volume-count-mirrors** | | mirror-count-info optional | Various counts information for mirror volumes in the aggregate. This information is returned only when the aggregate contains mirror volumes. |
| **volume-count-not-online** | | integer optional | When present, this field indicates the number of volumes that are not online (offline and restricted volumes).<br><br>Range: [0..2^31-1] |
| **volume-count-quiesced** | | integer optional | When present, this field indicates the number of quiesced online volumes.<br><br>Range: [0..2^31-1] |
| **volume-count-striped** | | integer optional | Number of striped volume constituents in the aggregate. These volumes are also reported in the full volume-count value. This field is for internal use only. Range: [0..2^31-1]. |
| **volumes** | | contained-volume-info[] | List of volumes contained the aggregate. |
| **wafl-reserve-percent** | | integer optional | Percent of aggr raw capacity that WAFL reserves Range: [0..100]. |
| **wafliron** | | aggr-wafliron-info optional | Information related to wafliron, the online WAFL file system check/repair tool. This information is returned only when wafliron specific information is available. |

# Element definition: **aggr-object-store-config-info**

[top]

Object Store Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the

caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **access-key** | | string optional | Access key ID for AWS_S3, SGWS and ONTAP_S3 provider types Attributes: optional-for-create, modifiable |
| **auth-type** | | string optional | Authentication used to access the object store. Supported values are:<br>• 'key' - Access keys provided by admin<br>• 'CAP' - Access keys and session token retrieved from the C2S Access Portal (CAP)<br>• 'EC2-IAM' - In Cloud Volumes ONTAP access keys and session token retrieved from the EC2 instance metadata for the IAM role associated with EC2 instance<br>• 'GCP-SA' - In Cloud Volumes ONTAP session token retrieved from the GCP instance metadata for the Service Account associated with GCP instance<br>• 'Azure-MSI' - In Cloud Volumes ONTAP session token retrieved from the Azure Managed Service Identity (MSI) associated with the instance<br>Attributes: optional-for-create, modifiable |
| **azure-account** | | string optional | Azure account Attributes: optional-for-create, non-modifiable |
| **cap-url** | | string optional | URL to request temporary credentials for a C2S account. Attributes: optional-for-create, modifiable |
| **ipspace** | | string optional | IPspace to use in order to reach the object store. Attributes: optional-for-create, modifiable |
| **is-certificate-validation-enabled** | | boolean optional | Is SSL/TLS certificate validation enabled. The default value is 'true'. Attributes: optional-for-create, modifiable |
| **license-used-percent** | **[0..2^32-1]** | integer optional | Percentage of the object store's total licensed capacity used by this config. This field is not returned in MetroCluster configurations or for Cloud Volumes ONTAP. Attributes: non-creatable, non-modifiable |
| **object-store-name** | | string optional | Name for the object store configuration to be created. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. Attributes: key, required-for-create, non-modifiable |
| **object-store-uuid** | | string optional | UUID of the object store configuration Attributes: non-creatable, non-modifiable |
| **port** | **[0..65535]** | integer optional | Port number of the object store Attributes: optional-for-create, modifiable |
| **provider-type** | | string optional | Type of object store provider. Allowed values are:<br>• 'AWS_S3' - AWS S3<br>• 'SGWS' - StorageGRID Webscale<br>• 'Azure_Cloud' - Microsoft Azure Cloud<br>• 'IBM_COS' - IBM Cloud Object Storage<br>• 'AliCloud' - Alibaba Cloud Object Storage Service<br>• 'GoogleCloud' - Google Cloud Storage<br>• 'ONTAP_S3' - ONTAP S3<br>Attributes: required-for-create, non-modifiable |
| | | string | Data bucket/container name Attributes: required-for-create, non- |

| | | | |
|---|---|---|---|
| **s3-name** | | optional | modifiable |
| **server** | | string optional | Fully qualified domain name of the object store Attributes: required-for-create, modifiable |
| **ssl-enabled** | | boolean optional | SSL/HTTPS enabled or not. The default value is 'true'. Attributes: optional-for-create, modifiable |
| **used-space** | **[0..2^63-1]** | integer optional | Capacity used in the object store by this config. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-object-store-profiler-info**

[top]

Object Store Profiler Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | Name of the node where the profiler ran. Attributes: key, non-creatable, non-modifiable |
| **object-name-prefix** | | string optional | Object name prefix. Attributes: non-creatable, non-modifiable |
| **object-store-name** | | string optional | Name for the object store configuration profiled. Attributes: non-creatable, non-modifiable |
| **op-count** | **[0..2^64-1]** | integer optional | Number of operations performed. Attributes: non-creatable, non-modifiable |
| **op-failed** | **[0..2^64-1]** | integer optional | Number of operations that failed. Attributes: non-creatable, non-modifiable |
| **op-latency-average** | **[0..2^64-1]** | integer optional | Average latency for operation in milliseconds. Attributes: non-creatable, non-modifiable |
| **op-latency-maximum** | **[0..2^64-1]** | integer optional | Maximum latency for operation in milliseconds. Attributes: non-creatable, non-modifiable |
| **op-latency-minimum** | **[0..2^64-1]** | integer optional | Minimum latency for operation in milliseconds. Attributes: non-creatable, non-modifiable |
| **op-name** | | string optional | Operation name - PUT/GET. Attributes: non-creatable, non-modifiable |
| **op-size** | **[0..2^63-1]** | integer optional | Size of operation. Attributes: non-creatable, non-modifiable |
| **op-throughput** | **[0..2^63-1]** | integer optional | Throughput per second for the operation. Attributes: non-creatable, non-modifiable |
| **profiler-status** | | string optional | Profiler status. Attributes: non-creatable, non-modifiable |
| **start-time** | | string optional | Profiler start time. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-object-store-resync-info**

[top]

Object store mirror resync info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of the aggregate. Attributes: key, non-creatable, non-modifiable |
| **mirror-object-store-name** | | string optional | This field represents the name of the mirror object store used by the FabricPool. Attributes: non-creatable, non-modifiable |
| **primary-object-store-name** | | string optional | This field represents the name of the primary object store used by the FabricPool. Attributes: non-creatable, non-modifiable |
| **resync-progress** | **[0..100]** | integer optional | This field identifies the resync progress (as a percentage) of the mirror object store from the primary object store of a FabricPool. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-option-info**

[top]

Option key and value. The possible values are described in the "aggr-set-option" API below.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Option key. |
| **value** | | string | Option value. |

# Element definition: **aggr-relocation-info**

[top]

Aggregate Information When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Aggregate Name Attributes: non-creatable, non-modifiable |
| **destination** | | string optional | Destination for Relocation Attributes: non-creatable, non-modifiable |
| | | | Aggregates Relocation Status Attributes: non-creatable, non-modifiable Possible values include:<br>• Done |

| | | | |
|---|---|---|---|
| **relocation-status** | | string optional | • Failed<br>• In progress<br>• Not attempted yet<br>• Failed: Migration of the aggregate failed<br>• Failed: Node is being shut down<br>• Failed: Aggregate does not have SFO HA policy<br>• Failed: Aggregate is in failed or limbo state.<br>• Failed to offline the aggregate<br>• Failed: Aggregate is being given back or relocated<br>• Failed: Operation was vetoed<br>• No aggregates to relocate<br>• Performing relocation veto checks<br>• check EMS logs<br>• Failed: Node cannot communicate with the destination node<br>• Failed: Destination node did not online the aggregate on time<br>• Failed: Destination node failed to online the aggregate. Check EMS logs on destination node<br>• Failed: Destination cannot receive the aggregate<br>• Failed: Aggregate is restricted<br>• Failed: Aggregate does not have disks<br>• Operation was aborted<br>• Failed: Aggregate is foreign<br>• Failed: Aggregate is offline<br>• Failed: Mirrored aggregate does not have both plexes online<br>• Aborted. Failed to disable background disk firmware updates on the source node.<br>• Aborted. Failed to disable background disk firmware updates on the destination node.<br>• Deferred. Background disk firmware update is in progress on source node.<br>• Deferred. Background disk firmware update is in progress on destination node.<br>• Failed. Migration of a non-SSD aggregate to an All-Flash Optimized destination node is not allowed. |
| **source-node** | | string optional | Name of the source node in which aggregate resides Attributes: key, non-creatable, non-modifiable |

# Element definition: **aggr-resync-options-info**

[top]

Aggregate resynchronization options info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **max-concurrent-resyncs-allowed** | **[1..200]** | integer optional | The number of aggregates, owned by the specified node, that are allowed to resync at a time Attributes: non-creatable, modifiable |
| **node** | | string optional | Name of the node for which the resynchronization option is defined Attributes: key, non-creatable, non-modifiable |

# Element definition: **aggr-simulate-disk-info**

[top]

Information for each disk selected during the simulation of aggregate provisioning operations.

| Name | Range | Type | Description |
|---|---|---|---|
| **added-to-new-raid-group** | | boolean optional | Indicates whether disk will be added to new or existing raid group. True if the disk will be added to new raid group. False if the disk will be added to existing raid group. |
| **checksum-type** | | string optional | Checksum type of the raidgroup to which this disk will be added.<br><br>Possible values:<br><br>• "zoned checksum" - (this value is no longer supported)<br>• "wafl checksum"<br>• "block checksum"<br>• "advanced_zoned checksum" |
| **disk-type** | | string optional | Disk type.<br><br>Possible values:<br><br>• "ATA"<br>• "BSAS"<br>• "FCAL"<br>• "LUN"<br>• "MSATA"<br>• "SAS"<br>• "SSD"<br>• "SSD_NVM"<br>• "FSAS"<br>• "VMDISK"<br>• "unknown" |
| **eff-disk-type** | | string optional | Effective Disk type.<br><br>Possible values:<br><br>• "LUN"<br>• "MSATA"<br>• "SAS"<br>• "SSD"<br>• "FSAS"<br>• "VMDISK"<br>• "unknown" |
| **file-system-size** | | integer optional | File system size of disk (in bytes). Range : [0..2^64-1]. |
| **is-disk-shared** | | boolean optional | Indicates whether the disk is a partitioned disk or a physical disk. True if the disk is a partitioned disk. False if the disk is a physical disk. |
| **name** | | string | Name of a member disk. |
| **physical-size** | | integer optional | Raw size of disk (in bytes). Range : [0..2^64-1]. |
| **position** | | string optional | Position of disk within raid group.<br><br>Possible values:<br><br>• "tparity"<br>• "dparity"<br>• "parity"<br>• "data" |

| | | | |
|---|---|---|---|
| **raid-group-number** | | integer optional | Raid group number to which this disk will be added. |
| **raid-type** | | string optional | Raid type of the raidgroup to which this disk will be added.<br><br>Possible values:<br><br>• "raid0"<br>• "raid4"<br>• "raid_dp"<br>• "raid_tec" |
| **syncmirror-pool** | | integer optional | SyncMirror pool 0 or 1. Range : [0..1]. |

# Element definition: **aggr-space-info**

[top]

List of aggregates and their space usage information.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-name** | | string | Name of the aggregate. |
| **size-asis-used** | | integer | Space used by A-SIS metafiles. Range : [0..2^64-1] |
| **size-bssm-nvlog-used** | | integer optional | Space used by bi-directional Synchronous SnapMirror for NVLOG files. This element will be returned only if the value is not zero. Range : [0..2^64-1] |
| **size-free** | | integer | Total free space in the aggregate Range : [0..2^64-1] |
| **size-image-backup-used** | | integer | Space used by Image Backup metafiles. Range : [0..2^64-1] |
| **size-metadata** | | integer | Total space used by aggregates metadata. Range : [0..2^64-1] |
| **size-nominal** | | integer | Total space contained in the aggreate minus the wafl reserve space. Range : [0..2^64-1] |
| **size-snap-used** | | integer | Space used by aggregate snapshots. Range : [0..2^64-1] |
| **size-used** | | integer | The total used space in the aggregate except the space used by snapshots. Range : [0..2^64-1] |
| **size-volume-allocated** | | integer | Total space allocated to volumes in the aggregate. Range : [0..2^64-1] |
| **size-volume-used** | | integer | Total space used by volumes in the aggregate. Range : [0..2^64-1] |
| **volume-count** | | integer | Count of online virtual volumes in the aggregate. Range : [0..2^64-1] |
| **volumes** | | volume-space-info[] | List of flexible volumes and their allocated space information. |

# Element definition: **aggr-spare-disk-info**

[top]

Spare disk Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the

caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **checksum-style** | | string optional | An indication of the checksum types that this disk is capable of supporting. Each possible return value represents one or more checksum types. Attributes: non-creatable, non-modifiable Possible values:<br>• "advanced_zoned" - Supports advanced zoned checksum,<br>• "block" - Supports block checksum,<br>• "none" - No checksum support,<br>• "zoned_advanced_zoned" - Supports zoned and advanced zoned checksums |
| **disk** | | string optional | Name of the spare disk. Attributes: non-creatable, non-modifiable |
| **disk-class** | | string optional | Disk class. Disks are grouped into classes based on their performance characteristics. Disks with the same 'disk-class' value are compatible for use in the same aggregate. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown disk class.,<br>• "capacity" - Capacity-oriented, near-line disk types. Includes disk types BSAS, FSAS and ATA.,<br>• "performance" - Performance-oriented, enterprise class disk types. Includes disk types SAS and FCAL.,<br>• "archive" - Archive class SATA disks in multi-disk carrier storage shelves. Includes disk type MSATA.,<br>• "solid_state" - Solid-state drives. Includes disk type SSD, SSD-CAP and SSD-NVM.,<br>• "array" - Logical storage devices backed by storage arrays and used by Data ONTAP as disks. Includes disk type LUN.,<br>• "virtual" - Virtual disks that are formatted and managed by the hypervisor. Includes disk type VMDISK.,<br>• "data_center" - Data center grade solid-state drives. Includes the disktype SSD-DC,<br>• "virtual_lun" - Virtual LUNs that is used in the ONTAP Select shared HA,<br>• "virtual_lunssd" - Virtual LUNs of type SSDs that is used in the ONTAP Select shared HA |
| **disk-rpm** | **[0..2^32-1]** | integer optional | Rotational speed in revolutions per minute. Possible values are: 5400, 7200, 10000, and 15000. Omitted if information is unavailable, or if the rpm does not apply to this 'disk-type'. Attributes: non-creatable, non-modifiable |
| **disk-type** | | string | Disk interface type Attributes: non-creatable, non-modifiable Possible values:<br>• "ata" - Advanced Technology Attachment,<br>• "bsas" - Bridged Serial Attached SCSI (bridged from SATA),<br>• "fcal" - Fibre Channel Arbitrated Loop,<br>• "fsas" - High-Capacity (Fat) Serial Attached SCSI,<br>• "lun" - SCSI Logical Unit Number (e.g. Array),<br>• "sas" - Serial Attached SCSI,<br>• "msata" - Multiple bridged SATA disks in a single carrier,<br>• "ssd" - Solid-State Disk, |

| | | | |
|---|---|---|---|
| | | optional | • "vmdisk" - Hypervisor Virtual Disk,<br>• "unknown" - unknown,<br>• "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_dc" - Data Center Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_cap" - High Capacity Solid-State Disk,<br>• "vmlun" - Hypervisor Virtual LUN,<br>• "vmlun_ssd" - Hypervisor Virtual SSD LUN,<br>• "ssd_zns" - Zoned Namespaces Solid-State Disk |
| **effective-disk-rpm** | **[0..2^32-1]** | integer optional | Effective rotational speed in revolutions per minute. Disks can report different actual 'rpm', but have the same 'effective-disk-rpm'. Disks with the same 'effective-disk-rpm' are compatible for use within the same aggregate. Omitted if information is unavailable, or excluded by 'desired-attributes'. Attributes: non-creatable, non-modifiable |
| **effective-disk-type** | | string optional | Effective disk interface type. Disk can report different physical 'disk-type', but the same 'effective-disk-type'. Disk with the same 'effective-disk-type' are compatible for use within the same aggregate. Attributes: non-creatable, non-modifiable Possible values:<br>• "ata" - Advanced Technology Attachment,<br>• "bsas" - Bridged Serial Attached SCSI (bridged from SATA),<br>• "fcal" - Fibre Channel Arbitrated Loop,<br>• "fsas" - High-Capacity (Fat) Serial Attached SCSI,<br>• "lun" - SCSI Logical Unit Number (e.g. Array),<br>• "sas" - Serial Attached SCSI,<br>• "msata" - Multiple bridged SATA disks in a single carrier,<br>• "ssd" - Solid-State Disk,<br>• "vmdisk" - Hypervisor Virtual Disk,<br>• "unknown" - unknown,<br>• "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_dc" - Data Center Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_cap" - High Capacity Solid-State Disk,<br>• "vmlun" - Hypervisor Virtual LUN,<br>• "vmlun_ssd" - Hypervisor Virtual SSD LUN,<br>• "ssd_zns" - Zoned Namespaces Solid-State Disk |
| **is-disk-left-behind** | | boolean optional | True if disk is was left behind during giveback/switchback. Attributes: non-creatable, non-modifiable |
| **is-disk-shared** | | boolean optional | True if disk is a shared disk. Attributes: non-creatable, non-modifiable |
| **is-disk-zeroed** | | boolean optional | True if disk is pre-zeroed. Attributes: non-creatable, non-modifiable |
| **is-disk-zeroing** | | boolean optional | True if disk is in process of being zeroed. Attributes: non-creatable, non-modifiable |
| **is-sparecore** | | boolean optional | True if disk is a sparecore disk. Attributes: non-creatable, non-modifiable |
| **local-usable-data-size** | **[0..2^63-1]** | integer optional | Usable spare capacity in bytes present in the data partition of this disk. This field is omitted<br>• If this disk is not a partitioned disk.<br>• If none of the data partitions are assigned to the current node.<br>• If none of the data partitions are spare.<br>If the disk is a root-data1-data2 partitioned disk, both data partitions are assigned to the current node and are spare then this field is sum of usable capacity from both the data partitions. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **local-usable-data-size-blks** | **[0..2^64-1]** | integer optional | Usable spare capacity in number of 4K blocks present in the data partition of this disk. This field is omitted<br><br>• If this disk is not a partitioned disk.<br>• If none of the data partitions are assigned to the current node.<br>• If none of the data partitions are spare.<br><br>If the disk is a root-data1-data2 partitioned disk, both data partitions are assigned to the current node and are spare then this field is sum of usable capacity from both the data partitions. Attributes: non-creatable, non-modifiable |
| **local-usable-data1-size** | **[0..2^63-1]** | integer optional | Usable spare capacity in bytes present in the first data partition of this disk. This field is omitted<br><br>• If this disk is not a root-data1-data2 partitioned disk.<br>• If first data partition is not assigned to the current node.<br>• If first data partition is not spare.<br><br>Attributes: non-creatable, non-modifiable |
| **local-usable-data1-size-blks** | **[0..2^64-1]** | integer optional | Usable spare capacity in number of 4K blocks present in the first data partition of this disk. This field is omitted<br><br>• If this disk is not a root-data1-data2 partitioned disk.<br>• If first data partition is not assigned to the current node.<br>• If first data partition is not spare.<br><br>Attributes: non-creatable, non-modifiable |
| **local-usable-data2-size** | **[0..2^63-1]** | integer optional | Usable spare capacity in bytes present in the second data partition of this disk. This field is omitted<br><br>• If this disk is not a root-data1-data2 partitioned disk.<br>• If second data partition is not assigned to the current node.<br>• If second data partition is not spare.<br><br>Attributes: non-creatable, non-modifiable |
| **local-usable-data2-size-blks** | **[0..2^64-1]** | integer optional | Usable spare capacity in number of 4K blocks present in the second data partition of this disk. This field is omitted<br><br>• If this disk is not a root-data1-data2 partitioned disk.<br>• If second data partition is not assigned to the current node.<br>• If second data partition is not spare.<br><br>Attributes: non-creatable, non-modifiable |
| **local-usable-root-size** | **[0..2^63-1]** | integer optional | Usable spare capacity in bytes present in the root partition of this disk. This field is omitted<br><br>• If this disk is not a partitioned disk.<br>• If root partition is not assigned to the current node<br>• If root partition is not spare<br><br>Attributes: non-creatable, non-modifiable |
| **local-usable-root-size-blks** | **[0..2^64-1]** | integer optional | Usable spare capacity in number of 4K blocks present in the root partition of this disk. This field is omitted<br><br>• If this disk is not a partitioned disk.<br>• If root partition is not assigned to the current node<br>• If root partition is not spare<br><br>Attributes: non-creatable, non-modifiable |
| **original-owner** | | string optional | Node for which the spare information is returned. Attributes: key, non-creatable, non-modifiable |
| | | | Industry standard disk type. Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **standard-disk-type** | | standarddisktype optional | • "sata" - SATA, Serial Advanced Technology Attachment,<br>• "fc" - FC, Fibre Channel,<br>• "nl_sas" - NL-SAS, Near Line SAS,<br>• "lun" - LUN, SCSI Logical Unit Number (e.g. Array),<br>• "sas" - SAS, Serial Attached SCSI,<br>• "scsi" - SCSI, Small Computer System Interface,<br>• "ssd" - SSD, Solid-State Disk,<br>• "vm_disk" - VM Disk, Hypervisor Virtual Disk,<br>• "unknown" - Unknown Disk Type,<br>• "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_dc" - DC SSD, Data Center Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_cap" - CAP SSD, High Capacity Solid-State Disk,<br>• "vm_lun" - VM LUN, Hypervisor Virtual LUN,<br>• "vm_lun_ssd" - VM SSD LUN, Hypervisor Virtual SSD LUN,<br>• "ssd_zns" - SDF SSD, Non-Volatile Memory Express Solid-State Disk |
| **syncmirror-pool** | | string optional | SyncMirror Pool to which disk is assigned Attributes: non-creatable, non-modifiable |
| **total-size** | **[0..2^63-1]** | integer optional | Total raw capacity of this disk in bytes Attributes: non-creatable, non-modifiable |
| **usable-size** | **[0..2^63-1]** | integer optional | Total usable capacity of this disk in bytes Attributes: non-creatable, non-modifiable |
| **usable-size-blks** | **[0..2^64-1]** | integer optional | Total usable capacity of this disk in number of 4K blocks Attributes: non-creatable, non-modifiable |
| **zeroing-percent** | **[0..100]** | integer optional | If 'is-disk-zeroing' is true, this field indicates the percentage of zeroing that has completed. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-status-info**

[top]

Aggregate Status & Topology Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-cksumstyle** | | string optional | Checksum Style of Aggregate. Attributes: non-creatable, non-modifiable |
| **aggr-plex-list** | | aggr-plex-info[] optional | Information about the Plex |
| **aggr-raid-status** | | string optional | RAID Status of Aggregate. Attributes: non-creatable, non-modifiable |
| **aggr-raid-type** | | string optional | RAID Type of Aggregate. Attributes: non-creatable, non-modifiable |
| **aggr-wafl-status** | | string optional | WAFL Status of Aggregate. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **aggregate** | | string optional | Name of the aggregate. Attributes: key, non-creatable, non-modifiable |
| **aggregate-uuid** | | string optional | Aggregate's Universal Unique IDentifier. Attributes: non-creatable, non-modifiable |
| **is-mirror-verifying** | | boolean optional | True if mirror verification is in progress Attributes: non-creatable, non-modifiable |
| **mirror-verification-pct-with-precision** | | string optional | This field indicates the percentage of mirror verification that has completed, rounded down to two decimal places. Attributes: non-creatable, non-modifiable |
| **mirror-verification-percent** | **[0..100]** | integer optional | This field indicates the percentage of mirror verification that has completed. Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Node hosting the aggregate. Attributes: non-creatable, non-modifiable |

# Element definition: **aggregate-simulate-layout-info**

[top]

Aggregate Layout

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-capacity** | | size[] optional | Estimated Aggregate Usable Capacity Attributes: non-creatable, non-modifiable |
| **checksum-types** | | checksum-style[] optional | Checksum Type of the RAID Groups to Which Selected Disks Belong Attributes: non-creatable, non-modifiable |
| **disk-physical-sizes** | | size[] optional | Physical Raw Size of Selected Disks Attributes: non-creatable, non-modifiable |
| **disk-positions** | | disk-position-type[] optional | Position of Selected Disks within the RAID Groups Attributes: non-creatable, non-modifiable |
| **disk-sizes** | | size[] optional | FileSystem Size of Selected Disks Attributes: non-creatable, non-modifiable |
| **disk-types** | | disktype[] optional | Disk Type of Selected Disks Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "ata" - Advanced Technology Attachment,<br>• "bsas" - Bridged Serial Attached SCSI (bridged from SATA),<br>• "fcal" - Fibre Channel Arbitrated Loop,<br>• "fsas" - High-Capacity (Fat) Serial Attached SCSI,<br>• "lun" - SCSI Logical Unit Number (e.g. Array),<br>• "msata" - Multiple bridged SATA disks in a single carrier,<br>• "sas" - Serial Attached SCSI,<br>• "ssd" - Solid-State Disk,<br>• "vmdisk" - Hypervisor Virtual Disk,<br>• "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_dc" - Data Center based Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_cap" - High Capacity Solid-State Disk,<br>• "vmlun" - Hypervisor Virtual LUN,<br>• "vmlun_ssd" - Hypervisor Virtual SSD LUN,<br>• "ssd_zns" - Zoned Namespaces Solid-State Disk |
| **disks** | | disk-name[] optional | List of Selected Disks for Aggregate Create Simulation Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **eff-disk-types** | | disktype[] optional | Effective Disk Type of Selected Disks Attributes: non-creatable, non-modifiable Possible values:<br>• "ata" - Advanced Technology Attachment,<br>• "bsas" - Bridged Serial Attached SCSI (bridged from SATA),<br>• "fcal" - Fibre Channel Arbitrated Loop,<br>• "fsas" - High-Capacity (Fat) Serial Attached SCSI,<br>• "lun" - SCSI Logical Unit Number (e.g. Array),<br>• "msata" - Multiple bridged SATA disks in a single carrier,<br>• "sas" - Serial Attached SCSI,<br>• "ssd" - Solid-State Disk,<br>• "vmdisk" - Hypervisor Virtual Disk,<br>• "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_dc" - Data Center based Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_cap" - High Capacity Solid-State Disk,<br>• "vmlun" - Hypervisor Virtual LUN,<br>• "vmlun_ssd" - Hypervisor Virtual SSD LUN,<br>• "ssd_zns" - Zoned Namespaces Solid-State Disk |
| **raid-types** | | raid-type[] optional | RAID Type of the RAID Groups to Which Selected Disks Belong Attributes: non-creatable, non-modifiable |
| **raidgroups** | | string[] optional | RAID Groups to Which Selected Disks Belong Attributes: non-creatable, non-modifiable |

# Element definition: **autobalance-aggregate-state**

[top]

Auto Balance Aggregate state Possible values:

- "disabled" - Auto Balance Aggregate is disabled,
- "balanced" - Auto Balance Aggregate has determined that the aggregate is below the high-watermark.,
- "unbalanced" - Auto Balance Aggregate has detected that the aggregate is over the high-watermark but has not initiated any jobs to bring it below the high-watermark.,
- "ineligible" - Ineligible

[none]

# Element definition: **default-raidtype-config-info**

[top]

Default RAID type for each disk size and disk type supported on this filer.

| Name | Range | Type | Description |
|---|---|---|---|
| **default-raid-type** | | string optional | Name of the RAID type allowed on this filer. Possible values: raid0, raid4, raid_dp and raid_tec. |
| **disk-type** | | string optional | Name of the Disk type present on this controller. Possible values include FCAL, ATA, LUN, SAS, SSD, SSD_NVM, BSAS, FSAS, MSATA and VMDISK. |
| **maximum-disk-capacity** | | size optional | Maximum capacity (in TiB) of the disk for which the raid types are specified. This appears only for SATA family disks of size less than or equal to 4TiB. If this field is not present in output then there is no restriction on maximum disk capacity for given disk type. This will appear for SATA family disks and when the default RAID type is raid_dp. |
| **minimum-disk-** | | size | Minimum capacity (in TiB) of the disk for which the raid types are specified. This appears only for SATA family disks of size greater than 4TiB. If this field is not present in output then there is no restriction on minimum disk capacity for given |

| | | | |
|---|---|---|---|
| **capacity** | | optional | disk type. This will appear for SATA family disks and when the default RAID type is raid_tec. |

## Element definition: **disk-info**

[top]

Information for each disk in the plex.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of a member disk. |
| **vbn-end** | **[0..2^64-1].** | integer optional | VBN end value of a disk. |
| **vbn-start** | **[0..2^64-1].** | integer optional | VBN start value of a disk. |

## Element definition: **filter-attrs-info**

[top]

List of filters based on attributes of an aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **all** | | boolean optional | If true, returns all aggregates owned by the local node and also taken over by the local node. Default is false. |
| **is-cfo** | | boolean optional | If true, returns aggregates with 'cfo' HA policy which includes local and taken over aggregates. Default is false. |
| **is-dr-auxiliary** | | boolean optional | If true, returns aggregates taken over by the local node but owned by the partner of DR (disaster recovery) partner (i.e. auxiliary partner). Default is false. |
| **is-dr-partner** | | boolean optional | If true, returns aggregates taken over by the local node but owned by the DR (disaster recovery) partner. Default is false. |
| **is-local** | | boolean optional | If true, returns aggregates owned by the local node. It includes taken over aggregates with 'sfo' policy. Default is false. |
| **is-partner** | | boolean optional | If true, returns aggregates taken over by the local node but owned by the partner. Default is false. |
| **is-sfo** | | boolean optional | If true, returns aggregates with 'sfo' HA policy which includes local and taken over aggregates. Default is false. |

## Element definition: **ha-policy-type**

[top]

HA Policy of aggregate. It can be controller failover or storage failover or unspecified. Allowed values are:

- "cfo": Controller FailOver
- "sfo": Storage FailOver
- "none": Unspecified

[none]

[top]

# Element definition: **mediascrub-detail-info**

Information about media scrubbing.

| Name | Range | Type | Description |
|---|---|---|---|
| **mediascrub-status** | | string | Possible values are "suspended", "disabled" and "enabled" "suspended": Media scrub is enabled but temporarily paused because another task is running or it is in the idle cycle of its periodic run. It will resume automatically when the task is done or the idle cycle ends. "disabled": Media scrub feature is turned off. "enabled": Media scrub feature is active. |
| **percentage-complete** | | integer optional | Media scrubbing percentage complete. Range: [0..100]. |
| **raid-group** | | string | Name of the RAID group. |

# Element definition: **min-aggr-disk-count-info**

[top]

Minimum number of disks required in an aggregate of a specific RAID type.

| Name | Range | Type | Description |
|---|---|---|---|
| **minimum-disk-count** | | integer | Minimum disk count for the aggregate. Range : [1..7] Possible values:<br>• 1 for raid-type raid0<br>• 3 for raid-type raid4<br>• 5 for raid-type raid_dp<br>• 7 for raid-type raid_tec |
| **raid-type** | | string | Name of the RAID type allowed on this filer. Possible values: raid0, raid4, raid_dp, raid_tec. |

# Element definition: **modify-raid-type-simulate-info**

[top]

Simulation Result

| Name | Range | Type | Description |
|---|---|---|---|
| **warning-codes** | | warning-code[] optional | Warning Codes from Simulation of Raid Type Modification Attributes: non-creatable, modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **object-store-information**

[top]

Object Store info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of the aggregate. Attributes: key, non-creatable, non-modifiable |
| **aggregate-uuid** | | string optional | UUID of the aggregate. Attributes: non-creatable, non-modifiable |
| **bin-uuid** | | string optional | UUID of the capacity tier bin associated with the aggregate. Attributes: non-creatable, modifiable |
| **force-tiering-on-metrocluster** | | boolean optional | Force tiering on the primary object store, for FabricPool in a MetroCluster configuration. Attributes: non-creatable, modifiable |
| **is-mirror-degraded** | | boolean optional | This field identifies if the mirror object store is in sync with the primary object store of a FabricPool. Attributes: non-creatable, non-modifiable |
| **license-used-percent** | **[0..2^32-1]** | integer optional | Percentage of the object store's total licensed capacity used by this aggregate. This field is not returned for ONTAP Cloud. Attributes: non-creatable, non-modifiable |
| **migrate-threshold** | **[0..100]** | integer optional | Minimum Aggregate Space Threshold Attributes: non-creatable, modifiable |
| **mirror-type** | | string optional | Object store mirror type. Attributes: non-creatable, modifiable Possible values:<br>• "primary" - object store is a primary object store,<br>• "mirror" - object store is a mirror object store |
| **object-store-availability** | | string optional | Availability of the object store. Attributes: non-creatable, non-modifiable Possible values:<br>• "unavailable" - Unavailable,<br>• "available" - Available |
| **object-store-name** | | string optional | Name of the object store configuration attached to the aggregate. Attributes: key, non-creatable, non-modifiable |
| **object-store-uuid** | | string optional | UUID of the object store configuration attached to the aggregate. Attributes: non-creatable, non-modifiable |
| **provider-type** | | string optional | Type of object store provider. Allowed values are:<br>• 'AWS_S3' - AWS S3<br>• 'SGWS' - StorageGRID Webscale<br>• 'Azure_Cloud' - Microsoft Azure Cloud<br>• 'ONTAP_S3' - ONTAP S3<br><br>Attributes: non-creatable, modifiable |
| **size-limit** | **[0..2^63-1]** | integer optional | The maximum amount of space in the object store the aggregate can use. Attributes: non-creatable, modifiable |
| **tiering-fullness-threshold** | **[0..100]** | integer optional | Percentage of space in the performance tier which must be used before data is tiered out to the capacity tier. Attributes: non-creatable, modifiable |
| **used-space** | **[0..2^63-1]** | integer optional | Capacity used in the object store by this aggregate. Attributes: non-creatable, modifiable |

# Element definition: **object-store-url-style**

[top]

path-style | virtual-hosted-style Possible values:

- "path_style" ,
- "virtual_hosted_style"

[none]

# Element definition: **object-store-vol-btuuids-info**

[top]

Object Store Volume Buftree UUIDs Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of the aggregate. Attributes: key, non-creatable, non-modifiable |
| **bin-uuid** | | string optional | UUID of the capacity tier bin associated with the aggregate. Attributes: non-creatable, non-modifiable |
| **buftree-uuid** | | string optional | Buftree UUID of the volume. Attributes: key, non-creatable, non-modifiable |
| **cookie** | **[0..2^32-1]** | integer optional | Token uniquifier for the entry. Attributes: key, non-creatable, non-modifiable |
| **object-store-name** | | string optional | Name of the object store configuration attached to the aggregate. Attributes: key, non-creatable, non-modifiable |
| **vol-uuid** | | string optional | UUID of the volume. Attributes: non-creatable, non-modifiable |

# Element definition: **raidgroup-size-info**

[top]

Default, minimum and maximum raidgroup size for each RAID type supported on this filer.

| Name | Range | Type | Description |
|---|---|---|---|
| **default-size** | | integer | Default size of a RAID group of this type in aggregates. Range : [6..16]. |
| **disktype** | | string optional | Name of the Disk type present on this controller. Possible values include FCAL, ATA, LUN, SAS, SSD, BSAS, FSAS, MSATA and VMDISK. |
| **maximum-disk-capacity** | | size optional | Maximum capacity (in TB) of the disk for which the raidgroup sizes are specified. This appears only for FSAS family disks of size less than or equal to 4TB. If this field is not present in output then there is no restriction on maximum disk capacity for this raidtype and disktype combination. |

| | | | |
|---|---|---|---|
| **maximum-size** | | integer | Maximum size of a RAID group of this type in aggregates. Range : [6..28]. |
| **minimum-disk-capacity** | | size optional | Minimum capacity (in TB) of the disk for which the raidgroup sizes are specified. This appears only for FSAS family disks of size greater than 4TB. If this field is not present in output then there is no restriction on minimum disk capacity for this raidtype and disktype combination. |
| **minimum-size** | | integer | Minimum size of a RAID group of this type in aggregates. Possible values: 2, 3, 5, 7. |
| **raidtype** | | string | Name of the RAID type allowed on this filer. Possible values: raid0, raid4, raid_dp, raid_tec. |

# Element definition: **raidtype-info**

[top]

RAID types allowed on this filer.

| Name | Range | Type | Description |
|---|---|---|---|
| **raidtype** | | string | Name of an allowed RAID type. Possible values: raid0, raid4, raid_dp, raid_tec. |

# Element definition: **scrub-detail-info**

[top]

Scrubbing information.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-suspended** | | boolean | Suspended state of the scrub on that RAID group. |
| **last-scrub-timestamp** | | integer optional | Time at which the last full scrub completed. If a scrub has never been performed, this value will not be returned. The time value is in seconds since January 1, 1970. Range : [0..2^31-1]. |
| **percentage-complete** | | integer optional | Scrubbing percentage complete. I scrubbing is not active, this value will not be returned. Range : [0..100]. |
| **raid-group** | | string | Name of the RAID group involved in the scrub. |

# Element definition: **space-information**

[top]

Space configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of the aggregate for which the space usage is requested. Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **aggregate-metadata** | **[0..2^63-1]** | integer optional | This field represents space used by filesystem metadata of the aggregate. Attributes: non-creatable, non-modifiable |
| **aggregate-metadata-percent** | **[0..2^32-1]** | integer optional | Aggregate Metadata Percent Attributes: non-creatable, non-modifiable |
| **aggregate-size** | **[0..2^63-1]** | integer optional | This field represents the size of the aggregate in bytes. Attributes: non-creatable, non-modifiable |
| **object-store-logical-used** | **[0..2^63-1]** | integer optional | This field represents the total logical amount of space used in the object store (in bytes). Attributes: non-creatable, non-modifiable |
| **object-store-logical-used-percent** | **[0..2^32-1]** | integer optional | Logical Used Percentage. Attributes: non-creatable, non-modifiable |
| **object-store-metadata** | **[0..2^63-1]** | integer optional | (DEPRECATED) - This field represents the space used by metadata in the object store (in bytes). Attributes: non-creatable, non-modifiable |
| **object-store-metadata-percent** | **[0..2^32-1]** | integer optional | (DEPRECATED) - Metadata Percent. Attributes: non-creatable, non-modifiable |
| **object-store-physical-used** | **[0..2^63-1]** | integer optional | This field represents the total amount of space used in the object store. Attributes: non-creatable, non-modifiable |
| **object-store-physical-used-percent** | **[0..2^32-1]** | integer optional | Used Percentage. Attributes: non-creatable, non-modifiable |
| **object-store-referenced-capacity** | **[0..2^63-1]** | integer optional | This field represents the logical space still referenced in the object store (in bytes). Attributes: non-creatable, non-modifiable |
| **object-store-referenced-capacity-percent** | **[0..2^32-1]** | integer optional | Referenced Capacity Percentage. Attributes: non-creatable, non-modifiable |
| **object-store-sis-space-saved** | **[0..2^63-1]** | integer optional | This field represents the space saved by storage efficiency in the object store. Attributes: non-creatable, non-modifiable |
| **object-store-sis-space-saved-percent** | **[0..2^32-1]** | integer optional | Storage efficiency saved percentage. Attributes: non-creatable, non-modifiable |
| **object-store-size** | **[0..2^63-1]** | integer optional | This field represents the size of the object store. Attributes: non-creatable, non-modifiable |
| **object-store-unreclaimed-space** | **[0..2^63-1]** | integer optional | (DEPRECATED) - This field represents the amount of space that is no longer referenced in the object store. This space has yet to be reclaimed. Attributes: non-creatable, non-modifiable |
| **object-store-unreclaimed-space-percent** | **[0..2^32-1]** | integer optional | (DEPRECATED)- Unreclaimed Space Percentage. Attributes: non-creatable, non-modifiable |
| **percent-snapshot-space** | **[0..100]** | integer optional | Space Reserved for Snapshot Copies Attributes: non-creatable, non-modifiable |
| **physical-used** | **[0..2^63-1]** | integer optional | This field represents physical used space in bytes. This differs from 'total-used' space by the space that is guaranteed for future writes. The value includes blocks in use by Snapshot copies. Attributes: non-creatable, non-modifiable |
| **physical-used-percent** | **[0..2^32-1]** | integer optional | Physical Used Percentage Attributes: non-creatable, non-modifiable |
| **snap-size-total** | **[0..2^63-1]** | integer optional | This field represents snapshot size in bytes. Attributes: non-creatable, non-modifiable |
| **snapshot-reserve-unusable** | **[0..2^63-1]** | integer optional | This field represents snapshot reserve that is not available in bytes. Attributes: non-creatable, non-modifiable |
| **snapshot-** | | | |

| | | | |
|---|---|---|---|
| **reserve-unusable-percent** | **[0..2^32-1]** | integer optional | Snapshot Reserve Unusable Percent Attributes: non-creatable, non-modifiable |
| **tier-name** | | string optional | This field represents the name of the performance or capacity tier. Attributes: non-creatable, non-modifiable |
| **total-provisioned-space** | **[0..2^63-1]** | integer optional | This field represents total provisioned space across all the volumes in the aggr. Attributes: non-creatable, non-modifiable |
| **total-provisioned-space-percent** | **[0..2^32-1]** | integer optional | This field represents percentage of total provisioned space across all the volumes against aggr's size. Attributes: non-creatable, non-modifiable |
| **used-including-snapshot-reserve** | **[0..2^63-1]** | integer optional | This field represents space used by the aggregate including the aggregate's Snapshot reserve in bytes. Attributes: non-creatable, non-modifiable |
| **used-including-snapshot-reserve-percent** | **[0..2^32-1]** | integer optional | Total Used Percent Attributes: non-creatable, non-modifiable |
| **volume-footprints** | **[0..2^63-1]** | integer optional | This field represents space used by the sum of all data and metadata of all volumes in the aggregate. Attributes: non-creatable, non-modifiable |
| **volume-footprints-percent** | **[0..2^32-1]** | integer optional | Volume Footprints Percent Attributes: non-creatable, non-modifiable |

# Element definition: **striping-type**

[top]

Striping information of aggregate. Allowed values are:

- "striped": Member of stripe.
- "not_striped": Not member of stripe.
- "unknown": Not known.

[none]

# Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

# Element definition: **verify-detail-info**

[top]

Information about mirror verification.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-suspended** | | boolean | Is mirror verification suspended for this aggregate? |

| | | | |
|---|---|---|---|
| **name** | | string | Name of the aggregate. |
| **pct-with-precision** | | string optional | Mirror verification percentage complete floored to two decimal place. If verification isn't active, this value won't be returned. (e.g. "13.12") |
| **percentage-complete** | | integer optional | Mirror verification percentage complete. If verification isn't active, this value won't be returned. Range: [0..100]. |

## Element definition: **warning-code**

[top]

Warning codes for pre-check mode.

| Name | Range | Type | Description |
|---|---|---|---|
| **code** | **[0..2^64-1]** | integer | Warning code. |

## Element definition: **aggr-64bit-upgrade-attributes**

[top]

Information related to 64-bit upgrade.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-check-attributes** | | aggr-check-attributes optional | Information returned when upgrade-64bit-mode input in aggr-add API is "check". |
| **aggr-start-attributes** | | aggr-start-attributes optional | Information returned when upgrade-64bit-mode in aggr-add API is "grow_all", "grow_none", or "grow_reserved". |
| **aggr-status-attributes** | | aggr-status-attributes | Status information related to 64-bit upgrade. This information includes whether the 64-bit upgrade is in progress. |

## Element definition: **aggr-64bit-upgrade-info**

[top]

Information related to 64-bit upgrade.

| Name | Range | Type | Description |
|---|---|---|---|
| **check** | | aggr-64bit-upgrade-check-info optional | Information returned when upgrade-64bit-mode in aggr-add or aggr-64bit-upgrade-start is "check". |
| **start** | | aggr-64bit-upgrade-start-info optional | Information returned when upgrade-64bit-mode in aggr-add or aggr-64bit-upgrade-start is "grow_all", "grow_none", or "grow_reserved". |
| **status** | | aggr-64bit-upgrade-status-info | Status information related to 64-bit upgrade. This information includes the block format of the aggregate and the progress of the 64-bit upgrade scanner. |

## Element definition: **aggr-efficiency-additional-details-info**

[top]

Additional details related to storage efficiency in this aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **number-of-offline-volumes** | **[0..2^32-1]** | integer optional | Number of volumes that are offline in the aggregate. Attributes: non-creatable, non-modifiable |
| **number-of-sis-change-log-disabled-volumes** | **[0..2^32-1]** | integer optional | Number of volumes on which efficiency change log is disabled in the aggregate. Attributes: non-creatable, non-modifiable |
| **number-of-sis-disabled-volumes** | **[0..2^32-1]** | integer optional | Number of volumes on which volume efficiency is disabled in the aggregate. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-aggr-info**

[top]

Storage efficiency achieved at the aggregate level using techniques like data compaction.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-compaction-saved** | **[0..2^63-1]** | integer optional | The total disk space that is saved by data compaction and cross volume sharing at the aggregate level. Attributes: non-creatable, non-modifiable |
| **aggr-data-reduction-storage-efficiency-ratio** | | string optional | Storage efficiency ratio of the aggregate. Attributes: non-creatable, non-modifiable |
| **aggr-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used by the aggregate. Attributes: non-creatable, non-modifiable |
| **aggr-physical-used** | **[0..2^63-1]** | integer optional | This contains physical size used by the aggregate. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-cumulated-additional-details-info**

[top]

Additional details related to storage efficiency in the given aggregates.

| Name | Range | Type | Description |
|---|---|---|---|
| **number-of-offline-volumes** | **[0..2^32-1]** | integer optional | Number of volumes that are offline in the given aggregates. Attributes: non-creatable, non-modifiable |
| **number-of-sis-change-log-disabled-volumes** | **[0..2^32-1]** | integer optional | Number of volumes on which efficiency change log is disabled in the given aggregates. Attributes: non-creatable, non-modifiable |
| **number-of-sis-disabled-volumes** | **[0..2^32-1]** | integer optional | Number of volumes on which volume efficiency is disabled in the given aggregates. Attributes: non-creatable, non-modifiable |
| **number-of-skipped-aggregates** | **[0..2^32-1]** | integer optional | Number of Skipped aggregates. Attributes: non-creatable, non-modifiable |
| **skipped-aggregates** | | string[] optional | List of Aggregates skipped Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-cumulated-aggr-info**

[top]

Storage efficiency achieved at the aggregate level using techniques like data compaction.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-data-reduction-storage-efficiency-ratio** | | string optional | Storage efficiency ratio of the given aggregates. Attributes: non-creatable, non-modifiable |
| **aggr-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used by the given Aggregates. Attributes: non-creatable, non-modifiable |
| **aggr-physical-used** | **[0..2^63-1]** | integer optional | This contains physical size used by the given Aggregates. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-cumulated-snapshot-and-flexclone-info** [top]

Aggregated information of storage efficiency of Snapshot copies and FlexClone volumes in the given aggregates.

| Name | Range | Type | Description |
|---|---|---|---|
| **flexclone-volume-data-reduction-storage-efficiency-ratio** | | string optional | Flexclone volume data reduction efficiency ratio of the given aggregates. Attributes: non-creatable, non-modifiable |
| **flexclone-volume-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used by all FlexClone volumes residing in the given aggregates. Attributes: non-creatable, non-modifiable |
| **flexclone-volume-physical-used** | **[0..2^63-1]** | integer optional | This contains physical size used by all FlexClone volumes in the given aggregates. Attributes: non-creatable, non-modifiable |
| **snapshot-flexclone-volume-data-reduction-storage-efficiency-ratio** | | string optional | Snapshot and FlexClone volume storage efficiency ratio of the given aggregates. Attributes: non-creatable, non-modifiable |
| **snapshot-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used by all volume Snapshot copies residing in the given aggregates. Attributes: non-creatable, non-modifiable |
| **snapshot-physical-used** | **[0..2^63-1]** | integer optional | This contains physical size used by all volume Snapshot copies residing in the given aggregates. Attributes: non-creatable, non-modifiable |
| **snapshot-volume-data-reduction-storage-efficiency-ratio** | | string optional | Snapshot volume data reduction efficiency ratio of the given aggregates. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-cumulated-volume-info** [top]

Aggregated information of storage efficiency achieved at the volume level using techniques like deduplication, compression, zero detection and FlexClones for files or LUNs.

| Name | Range | Type | Description |
|---|---|---|---|
| **volume-compression-saved** | **[0..2^63-1]** | integer optional | The total disk space that is saved by compressing blocks by all volumes in the given aggregates. Attributes: non-creatable, non-modifiable |
| **volume-data-reduction-storage-efficiency-ratio** | | string optional | Storage efficiency ratio of all the volumes in the given aggregates. Attributes: non-creatable, non-modifiable |
| **volume-dedupe-zero-pattern-saved** | **[0..2^63-1]** | integer optional | The total disk space that is saved by volume Deduplication and pattern detection by all the volumes in the given aggregates. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **volume-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used by all the volumes in the given aggregates. Attributes: non-creatable, non-modifiable |
| **volume-physical-used** | **[0..2^63-1]** | integer optional | This contains physical size used by all volumes in the given aggregates. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-cumulative-info**

[top]

Cumulative storage efficiency information of an aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **total-data-reduction-efficiency-ratio-wo-snapshots** | | string optional | total data reduction efficiency ratio excluding snapshots copies. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-efficiency-ratio-wo-snapshots-flexclones** | | string optional | total data reduction efficiency ratio excluding snapshots copies and flexclones. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-logical-used-wo-snapshots** | **[0..2^63-1]** | integer optional | Total Data reduction logical used excluding snapshot copies in the aggregate. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-logical-used-wo-snapshots-flexclones** | **[0..2^63-1]** | integer optional | Total Data reduction logical used excluding snapshot copies and flexclones in the aggregate. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-physical-used-wo-snapshots** | **[0..2^63-1]** | integer optional | Total Data reduction physical used excluding snapshot copies in the aggregate. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-physical-used-wo-snapshots-flexclones** | **[0..2^63-1]** | integer optional | Total Data reduction physical used excluding snapshot copies and flexclones in the aggregate. Attributes: non-creatable, non-modifiable |
| **total-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used in the aggregate. This includes Volumes, Clones and Snapshots in the aggregate. The logical size is computed based on physical usage and savings obatained in the aggregate. Attributes: non-creatable, non-modifiable |
| **total-physical-used** | **[0..2^63-1]** | integer optional | This contains the physical size used by the aggregate. Attributes: non-creatable, non-modifiable |
| **total-storage-efficiency-ratio** | | string optional | Total storage efficiency ratio of the aggregate. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-snapshot-and-flexclone-volume-info**

[top]

Aggregated information of storage efficiency of Snapshots and FlexClone volumes in the aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **flexclone-volume-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used by all FlexClone volumes residing in the aggregate. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **flexclone-volume-physical-used** | **[0..2^63-1]** | integer optional | This contains physical size used by all FlexClone volumes in the aggregate. Attributes: non-creatable, non-modifiable |
| **snapshot-flexclone-volume-data-reduction-storage-efficiency-ratio** | | string optional | Snapshot and FlexClone volume storage efficiency ratio of the aggregate. Attributes: non-creatable, non-modifiable |
| **snapshot-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used by all Volume Snapshots residing in the aggregate. Attributes: non-creatable, non-modifiable |
| **snapshot-physical-used** | **[0..2^63-1]** | integer optional | This contains physical size used by all Volume Snapshots residing in the aggregate. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-total-cumulated-info**

[top]

cumulated storage efficiency information from the given aggregates.

| Name | Range | Type | Description |
|---|---|---|---|
| **total-data-reduction-efficiency-ratio-wo-snapshots** | | string optional | total data reduction efficiency ratio excluding snapshots copies. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-efficiency-ratio-wo-snapshots-flexclones** | | string optional | total data reduction efficiency ratio excluding snapshots copies and flexclones. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-logical-used-wo-snapshots** | **[0..2^63-1]** | integer optional | Total Data reduction logical used excluding snapshot copies in the aggregate. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-logical-used-wo-snapshots-flexclones** | **[0..2^63-1]** | integer optional | Total Data reduction logical used excluding snapshot copies and flexclones in the aggregate. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-physical-used-wo-snapshots** | **[0..2^63-1]** | integer optional | Total Data reduction physical used excluding snapshot copies in the aggregate. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-physical-used-wo-snapshots-flexclones** | **[0..2^63-1]** | integer optional | Total Data reduction physical used excluding snapshot copies and flexclones in the aggregate. Attributes: non-creatable, non-modifiable |
| **total-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used in the given aggregates. This includes volumes, clones and Snapshot copies in the given aggregates. The logical size is computed based on physical usage and savings obatained in the given aggregates. Attributes: non-creatable, non-modifiable |
| **total-physical-used** | **[0..2^63-1]** | integer optional | This contains the physical size used by the given aggregates. Attributes: non-creatable, non-modifiable |
| **total-storage-efficiency-ratio** | | string optional | Total storage efficiency ratio of the given aggregates. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-volume-info**

[top]

Aggregated information of storage efficiency achieved at the volume level using techniques like deduplication, compression, zero detection and FlexClones for files or LUNs.

| Name | Range | Type | Description |
|---|---|---|---|
| **volume-compression-saved** | **[0..2^63-1]** | integer optional | The total disk space that is saved by compressing blocks by all volumes in the aggregate. Attributes: non-creatable, non-modifiable |
| **volume-data-reduction-storage-efficiency-ratio** | | string optional | Storage efficiency ratio of all the volumes in the aggregate. Attributes: non-creatable, non-modifiable |
| **volume-efficiency-saved** | **[0..2^63-1]** | integer optional | The total disk space that is saved by deduplication and FlexClone for files or LUNs by all volumes in the aggregate. Attributes: non-creatable, non-modifiable |
| **volume-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used by all the volumes in the aggregate. Attributes: non-creatable, non-modifiable |
| **volume-physical-used** | **[0..2^63-1]** | integer optional | This contains physical size used by all volumes in the aggregate. Attributes: non-creatable, non-modifiable |
| **volume-vbn-zero-saved** | **[0..2^63-1]** | integer optional | The total disk space that is saved by inline zero pattern detection by all the volumes in the aggregate. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-fs-attributes**

[top]

File system specific information about the aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **block-type** | | string optional | The indirect block format that the aggregate can have. The default is 64_bit. With a 64_bit block-type creation of aggregates that can be larger than 16TB is allowed. Possible values: 64_bit |
| **fsid** | **[0..2^32-1]** | integer optional | Aggregate's File System Identifier. |
| **type** | | string optional | The type of aggregate. Possible values: aggr "aggr" (for aggregates that can contain flexible volumes) |

# Element definition: **aggr-inode-attributes**

[top]

A structure returning inode-related information for a given aggregate's Active File System (AFS).

| Name | Range | Type | Description |
|---|---|---|---|
| **files-private-used** | **[0..2^64-1]** | integer optional | [not settable, online-only] Number of system (not user-visible) files (inodes) used. If the referenced file system is restricted or offline, a value of 0 is returned. |
| **files-total** | **[0..2^64-1]** | integer optional | [settable, online-only] Total user-visible file (inode) count, i.e., maximum number of user-visible files (inodes) that this referenced file system can currently hold. If the referenced file system is restricted or offline, a value of 0 is returned. |
| | **[0..2^64-** | integer | [not settable, online-only] Number of user-visible files (inodes) used in the |

| | | | |
|---|---|---|---|
| **files-used** | **1]** | optional | referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. |
| **inodefile-private-capacity** | **[0..2^64-1]** | integer optional | [not settable, online-only] Number of inodes that can currently be stored on disk for system (not user-visible) files. This number will dynamically increase as more system files are created. |
| **inodefile-public-capacity** | **[0..2^64-1]** | integer optional | [not settable, online-only] Number of inodes that can currently be stored on disk for user-visible files. This number will dynamically increase as more user-visible files are created. |
| **inofile-version** | **[0..2^32-1]** | integer optional | [not settable, online-only] The inofile-version of the aggregate. If the referenced aggregate is restricted or offline, then a value of 0 is returned. |
| **maxfiles-available** | **[0..2^64-1]** | integer optional | [not settable, always] The count of the maximum number of user-visible files currently allowable on the referenced file system. |
| **maxfiles-possible** | **[0..2^64-1]** | integer optional | [not settable, always] The largest value to which the maxfiles-available parameter can be increased by reconfiguration, on the referenced file system. |
| **maxfiles-used** | **[0..2^64-1]** | integer optional | [not settable, online-only] The number of user-visible files currently in use on the referenced file system. |
| **percent-inode-used-capacity** | **[0..100]** | integer optional | [not settable, online-only] The percentage of disk space currently in use based on user-visible file (inode) count on the referenced file system. |

# Element definition: **aggr-ownership-attributes**

[top]

Ownership information about the aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | string optional | Name of the cluster which has the node that owns this aggregate. |
| **dr-home-id** | **[0..2^32-1]** | integer optional | NVRAM ID of the DR (disaster recovery) node to which this aggregate's disks have been administratively assigned. This information is derived from the sanown information for an aggregate's disks. See 'disk-sanown-detail-info' |
| **dr-home-name** | | string optional | Name of the DR node to which this aggregate's disks have been administratively assigned. |
| **home-id** | **[0..2^32-1]** | integer optional | NVRAM ID of the node to which this aggregate's disks have been administratively assigned. This information is derived from the sanown information for an aggregate's disks. See 'disk-sanown-detail-info' |
| **home-name** | | string optional | Name of the node to which this aggregate's disks have been administratively assigned. |
| **owner-id** | **[0..2^32-1]** | integer optional | NVRAM ID of node to which the aggregate ownership has been assigned. Normally, home-id matches owner-id. But these may be changed by SFO takeover to match the takeover node, and restored by SFO giveback to match home-id. CFO takeover and giveback do not affect owner-id. |
| **owner-name** | | string optional | Name of node to which the aggregate ownership has been assigned. Normally, home-name matches owner-name. But these may be changed by SFO takeover to match the takeover node, and restored by SFO giveback to match home-name. CFO takeover and giveback do not affect owner-name. |

# Element definition: **aggr-performance-attributes**

[top]

Performance specific attributes of the aggregate

| Name | Range | Type | Description |
|---|---|---|---|
| **free-space-realloc** | | string optional | Returns the free space reallocation state of the aggregate. Possible values : "on", "off", "no_redirect"<br>• "on" : Free space reallocation enabled with automatically starting the redirect scanner<br>• "off" : Free space reallocation disabled<br>• "no_redirect" : Free space reallocation enabled without running the redirect scanner<br>The default value is "off" |
| **max-write-alloc-blocks** | **[0..1152]** | integer optional | The maximum number of blocks used for write allocation. Some sequential read workloads may benefit from increasing this value. Default value is 0 which uses the controller-wide default value of 64. The default is optimal for most users. The controller-wide default can be adjusted with the bootarg "wafl-max-write-alloc-blocks" |
| **single-instance-data-logging** | | string optional | Indicates if Single Instance Data Logging is enabled on the aggregate. This feature is supported only on Cloud ONTAP. Possible values : "on", "off"<br>• "on" : Single Instance Data Logging enabled<br>• "off" : Single Instance Data Logging disabled<br>The default value is "off" |

# Element definition: **aggr-plex-info**

[top]

Information about the Plex

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-raidgroup-list** | | aggr-raidgroup-info[] optional | Information about the RAID Groups |
| **plex-is-online** | | boolean optional | True if plex is online. Attributes: non-creatable, non-modifiable |
| **plex-is-resyncing** | | boolean optional | True if plex is resyncing. Attributes: non-creatable, non-modifiable |
| **plex-name** | | string optional | Name of the plex. Attributes: key, non-creatable, non-modifiable |
| **plex-pool** | **[0..1]** | integer optional | SyncMirror Pool associated with the plex. Attributes: non-creatable, non-modifiable |
| **plex-resync-level** | **[0..1]** | integer optional | If plex-is-resyncing is true, this field indicates the resync level of the plex. Attributes: non-creatable, non-modifiable |
| **plex-resync-pct-with-precision** | | string optional | This field indicates percentage of resync that has completed, rounded down to two decimal places. Attributes: non-creatable, non-modifiable |
| **plex-resync-percent** | **[0..100]** | integer optional | This field indicates the percentage of resync that has completed. Attributes: non-creatable, non-modifiable |
| **plex-status** | | string optional | Status of the plex. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-raid-attributes**

[top]

RAID specific information of the aggregate

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-type** | | string optional | Type of aggregate. The possible values:<br>• "hdd" - aggregate consists of only HDDs,<br>• "hybrid" - aggregate consists of both HDDs and SSDs,<br>• "lun" - aggregate consists of only array LUNs,<br>• "ssd" - aggregate consists of only SSDs,<br>• "vmdisk" - aggregate consists of only VMDISKs. |
| **cache-raid-group-size** | **[1..28]** | integer optional | Current maximum cache RAID group size of hybrid aggregate. RAID group size is the maximum number of disks that can be added to a RAID group. This information will only be returned for a hybrid aggregate i.e. whose "is-hybrid" field is set to true. |
| **checksum-status** | | string optional | Checksum status. Possible values: "active", "initializing", "none", "off", "reinitialized", "reinitializing", "reverting", "unknown", "upgrading_phase1", "upgrading_phase2" This information will not be returned for a striped aggregate. |
| **checksum-style** | | string optional | Checksum style. The possible values:<br>• "advanced_zoned" - advanced_zoned checksum (azcs),<br>• "block" - block,<br>• "mixed" - mixed,<br>• "none" - none,<br>• "unknown" - unknown<br>• "wafl" - wafl,<br>• "zoned" - zoned (this value is no longer supported). |
| **disk-count** | **[0..2^32-1]** | integer optional | Number of disks in the aggregate. |
| **encrypt-with-aggr-key** | | boolean optional | If true, returns aggregates supporting encryption with NAE (NetApp Aggregate Encryption). |
| **ha-policy** | | string optional | Aggregate's HA policy. Possible return values: "cfo", "sfo", "none" |
| **has-local-root** | | boolean optional | Whether the aggregate contains the local root volume. This information will not be returned for a striped aggregate. Default value is false. |
| **has-partner-root** | | boolean optional | Whether the aggregate contains the partner's root volume. This information will not be returned for a striped aggregate. Default value is false. |
| **is-checksum-enabled** | | boolean optional | Is checksumming enabled for the aggregate? Default value is false. |
| **is-composite** | | boolean optional | If true, aggregate currently contains two tiers of storage. |
| **is-fabricpool-mirrored** | | boolean optional | If true, the aggregate has two external capacity tiers, which are mirrors, each containing a copy of the data. |
| **is-hybrid** | | boolean optional | If true, aggregate currently contains both SSD and non-SSD RAID groups. |
| **is-hybrid-enabled** | | boolean optional | If true, aggregate is eligible to contain both SSD and non-SSD RAID groups. |
| **is-inconsistent** | | boolean optional | Whether or not the aggregate is inconsistent. Default value is false. |
| **is-mirrored** | | boolean optional | If true, the aggregate is mirrored. Default value is false. |
| **is-nve-capable** | | boolean optional | If true, the aggregate is capable of supporting NVE. |
| | | | |

| | | | |
|---|---|---|---|
| **is-root-aggregate** | | boolean optional | Whether this is a root aggregate. Default value is false. This differs from has-local-root and has-partner-root by evaluating true when the aggregate may contain a root volume for any node. The has-local-root and has-partner-root fields only evaluate true when the aggregate contains the active root for the specified node. The is-root-aggregate field will still evaluate true for an offline root aggregate. The has-local-root and has-partner-root fields will evaluate false, since the aggregate has no mounted filesystem. |
| **mirror-status** | | string optional | Aggregate's mirror status. Possible values: "invalid", "uninitialized", "needs CP count check", "CP count check in progress", "unmirrored", "mirrored", "mirror degraded, "mirror resynchronizing", "failed", "limbo" and . This information will not be returned for a striped aggregate. |
| **mount-state** | | string optional | [not settable, always] This field shows the volume's mount state. Possible values: "creating", "destroying", "frozen", "inconsistent", "iron_restricted", "mounting", "online", "quiescing", "quiesced", "reverted", "unmounted", "unmounting" This information will not be returned for a striped aggregate. |
| **plex-count** | **[0..2^32-1]** | integer optional | Number of plexes in the aggregate. This value tells us the size of the returned "plex" array. |
| **plexes** | | plex-attributes[] optional | List of plexes in the aggregate |
| **raid-lost-write-state** | | string optional | State of the RAID Lost Write feature for an aggregate. The possible values are:<br>• "aborted" - The RAID Lost Write scrub is no longer running and was aborted on all RAID groups in this aggregate, possibly due to an error.<br>• "illegal" - The aggregate contains RAID groups with RAID Lost Write disabled and other RAID groups with RAID Lost Write enabled. This is an invalid state.<br>• "inoperative" - The RAID Lost Write scrub is allowed on the aggregate, but it cannot start because the system-wide RAID Lost Write option "raid.lost_write.enable" is set to "off".<br>• "off" - RAID Lost Write protection and scrub are disabled on this aggregate.<br>• "on" - The aggregate is RAID Lost Write protected and that the RAID Lost Write scrub completed successfully on all RAID groups in this aggregate.<br>• "partial" - The RAID Lost Write scrub completed successfully on some of the RAID groups in this aggregate, but was aborted on at least one of the RAID groups.<br>• "unknown" - The RAID Lost Write scrub status could not be determined.<br>• "upgrade_partial" - The RAID Lost Write scrub is still in progress on some of the RAID groups in this aggregate and was aborted on at least one of the RAID groups.<br>• "upgrading" - The RAID Lost Write scrub is still not completed or not yet started on at least one of the RAID groups in this aggregate. |
| **raid-size** | **[0..2^32-1]** | integer optional | Current RAID group size. This information will not be returned for a striped aggregate. |
| **raid-status** | | string optional | RAID status. Possible values: "copying", "degraded", "foreign", "growing", "hybrid", "hybrid_enabled", "initializing", "invalid", "ironing", "mirror degraded", "mixed_raid_type", "mirrored", "needs check", "normal", "noparity", "out-of-date", "parity uninit'd", "partial", "raid0", "raid4", "raid_dp", "raid_tec", "reconstruct", "resyncing", "verifying". These values may appear by themselves or in combination separated by commas (e.g., "mixed_raid_type, hybrid, normal"). For details on raid-type, refer description of element 'raid-type' below |
| | | | Possible values: |

| | | | |
|---|---|---|---|
| **raid-type** | | string optional | • "raid0" - All the raid groups in the aggregate are of type raid0,<br>• "raid4" - All the raid groups in the aggregate are of type raid4,<br>• "raid_dp" - All the raid groups in the aggregate are of type raid_dp,<br>• "raid_tec" - All the raid groups in the aggregate are of type raid_tec,<br>• "mixed_raid_type" - This aggregate contains RAID groups of different RAID types (raid0, raid4, raid_dp, raid_tec). |
| **state** | | string optional | Aggregate State Possible values:<br>• "creating" ,<br>• "destroying" ,<br>• "failed" ,<br>• "frozen" ,<br>• "inconsistent" ,<br>• "iron_restricted" ,<br>• "mounting" ,<br>• "online" ,<br>• "offline" ,<br>• "partial" ,<br>• "quiesced" ,<br>• "quiescing" ,<br>• "restricted" ,<br>• "reverted" ,<br>• "unknown" ,<br>• "unmounted" ,<br>• "unmounting" ,<br>• "relocating" |
| **uses-shared-disks** | | boolean optional | If true, aggregate is using shared disks. |

# Element definition: **aggr-snaplock-attributes**

[top]

Snaplock specific information of the aggregate

| Name | Range | Type | Description |
|---|---|---|---|
| **is-snaplock** | | boolean optional | Whether or not it's a SnapLock aggregate. |
| **snaplock-type** | | string optional | The type of the snaplock aggregate. Possible values - "compliance" or "enterprise" or "non-snaplock" |

# Element definition: **aggr-snapmirror-attributes**

[top]

SnapMirror specific information of the aggregate

| Name | Range | Type | Description |
|---|---|---|---|
| **dp-snapmirror-destinations** | **[0..2^31-1]** | integer optional | When present, this field indicates the number of data protection (dp) snapmirror destination volumes. |
| **ls-snapmirror-destinations** | **[0..2^31-1]** | integer optional | When present, this field indicates the number of load sharing (ls) snapmirror destination volumes. |
| | | | |

| | | | |
|---|---|---|---|
| **mv-snapmirror-destinations** | **[0..2^31-1]** | integer optional | When present, this field indicates the number of move snapmirror destination volumes that are created for volume move operations. |

## Element definition: **aggr-snapshot-attributes**

[top]

A structure returning consolidated size-related information for all snapshots of the given aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **files-total** | **[0..2^64-1]** | integer optional | [settable, online-only] Total file (inode) count, i.e., current maximum number of files (inodes) that this referenced file system can currently hold. If the referenced file system is restricted or offline, a value of 0 is returned. |
| **files-used** | **[0..2^64-1]** | integer optional | [not settable, online-only] Number of files (inodes) used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. |
| **inofile-version** | **[0..2^32-1]** | integer optional | [not settable, online-only] The inofile-version on the referenced file system. A value of 0 is returned if the referenced file system is restricted or offline. |
| **is-snapshot-auto-create-enabled** | | boolean optional | This option determines if auto snapshot is enabled on the aggregate. Default value is true. |
| **is-snapshot-auto-delete-enabled** | | boolean optional | This option determines if the snapshot auto delete is currently enabled for the aggregate. Default value is true. |
| **maxfiles-available** | **[0..2^64-1]** | integer optional | [not settable, always] The count of the maximum number of files allowable on the referenced file system. |
| **maxfiles-possible** | **[0..2^64-1]** | integer optional | [not settable, always] The largest value to which the maxfiles-available parameter can be increased by reconfiguration, on the referenced file system. |
| **maxfiles-used** | **[0..2^64-1]** | integer optional | [not settable, online-only] The count of the number of files currently in use on the referenced file system. |
| **percent-inode-used-capacity** | **[0..100]** | integer optional | [not settable, online-only] The percentage of disk space currently in use based on file (inode) count on the referenced file system. |
| **percent-used-capacity** | **[0..100]** | integer optional | [not settable, online-only] The percentage of disk space currently in use on the referenced file system. |
| **size-available** | **[0..2^64-1]** | integer optional | [not settable, online-only] Number of bytes still available in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. |
| **size-total** | **[0..2^64-1]** | integer optional | [not settable, online-only] Total size (in bytes) of the referenced file system. If the referenced file system is restricted or offline, a value 0 is returned. |
| **size-used** | **[0..2^64-1]** | integer optional | [not settable, online-only] Number of bytes used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. |
| **snapshot-reserve-percent** | **[0..100]** | integer optional | The percentage of aggregate disk space that has been set aside as reserve for snapshot usage. Default value is 0. |

## Element definition: **aggr-space-attributes**

[top]

A structure returning space-related information for a given aggregate's Active File System (AFS).

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-metadata** | | integer optional | This field is deprecated in Data ONTAP 8.3 and later. Use the aggregate-metadata field of aggr-space-get-iter instead. This field always returns 0. Range : [0..2^64-1] |
| **capacity-tier-used** | | integer optional | This field represents total capacity tier physical used space in bytes in a composite aggregate. Range : [0..2^64-1] |
| **data-compacted-count** | | integer optional | The total physical disk footprint of the compacted data blocks in the referenced file system. Range : [0..2^64-1] |
| **data-compaction-space-saved** | | integer optional | The total disk space saved due to Data Compaction in the referenced file system. Range : [0..2^64-1] |
| **data-compaction-space-saved-percent** | | integer optional | The percentage of the used space in the referenced file system that has been saved by Data Compaction. Range : [0..100] |
| **hybrid-cache-size-total** | **[0..2^64-1]** | integer optional | [not settable, online-only] Total cache size (in bytes) in a hybrid aggregate. If the referenced aggregate is restricted or offline, or if it is not a hybrid aggregate, a value of 0 is returned. |
| **percent-used-capacity** | **[0..100]** | integer optional | [not settable, online-only] The percentage of disk space currently in use on the referenced file system. |
| **performance-tier-inactive-user-data** | | integer optional | The amount of inactive user data in bytes. Range : [0..2^64-1] |
| **performance-tier-inactive-user-data-percent** | | integer optional | The percentage of the used space in the referenced file system that is inactive user data. Range : [0..100] |
| **physical-used** | | integer optional | This field represents physical used space in bytes. This differs from 'total-used' space by the space that is guaranteed for future writes. The value includes blocks in use by Snapshot copies. Range : [0..2^64-1] |
| **physical-used-percent** | | integer optional | This field represents physical used space in percent. Range : [0..2^64-1] |
| **sis-shared-count** | | integer optional | The total physical disk footprint of the shared data blocks in the referenced file system achived by data compation and cross-volume inline deduplication. Range : [0..2^64-1] |
| **sis-space-saved** | | integer optional | The total disk space saved due to Data Compaction and cross-volume inline deduplication in the referenced file system. Range : [0..2^64-1] |
| **sis-space-saved-percent** | | integer optional | The percentage of the used space in the referenced file system that has been saved by Data Compaction and cross-volume inline deduplication. Range : [0..100] |
| **size-available** | **[0..2^64-1]** | integer optional | [not settable, online-only] Number of bytes still available in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. |
| **size-total** | **[0..2^64-1]** | integer optional | [not settable, online-only] Total size (in bytes) of the referenced file system . If the referenced file system is restricted or offline, a value of 0 is returned. |
| **size-used** | **[0..2^64-1]** | integer optional | [not settable, online-only] Number of bytes used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. |
| **total-reserved-space** | **[0..2^64-1]** | integer optional | [not settable, online-only] The total disk space in bytes that is reserved on the referenced file system. The reserved space is already counted in the used space, so this element can be used to see what portion of the used space represents space reserved for future use. |
| **used-including-snapshot-reserve** | | integer optional | This field is deprecated in Data ONTAP 8.3 and later. Use the used-including-snapshot-reserve field of aggr-space-get-iter instead. This field always returns 0. Range : [0..2^64-1] |
| | | | |

| | | | |
|---|---|---|---|
| **volume-footprints** | | integer optional | This field is deprecated in Data ONTAP 8.3 and later. Use the volume-footprints field of aggr-space-get-iter instead. This field always returns 0. Range : [0..2^64-1] |

## Element definition: **aggr-striping-attributes**

[top]

Striping specific information of a striped aggregate This information will not be returned for the not-striped aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **member-count** | **[0..2^32-1]** | integer optional | Number of members in a striped aggregate. |

## Element definition: **aggr-volume-count-attributes**

[top]

WAFL volume count specific information of the aggregate

| Name | Range | Type | Description |
|---|---|---|---|
| **flexvol-count** | **[0..2^31-1]** | integer | Number of volumes in the aggregate. |
| **flexvol-count-collective** | **[0..2^31-1]** | integer optional | Number of striped volume constituents in the aggregate which also represent a collective striped volume. This field is for internal use only. |
| **flexvol-count-not-online** | **[0..2^31-1]** | integer optional | When present, this field indicates the number of volumes that are not online (offline and restricted volumes). |
| **flexvol-count-quiesced** | **[0..2^31-1]** | integer optional | When present, this field indicates the number of quiesced online volumes. |
| **flexvol-count-striped** | **[0..2^31-1]** | integer optional | Number of striped volume constituents in the aggregate. These volumes are also reported in the full volume-count value. This field is for internal use only. |

## Element definition: **aggr-wafliron-attributes**

[top]

WAFL-iron specific information of the aggregate

| Name | Range | Type | Description |
|---|---|---|---|
| **last-start-errno** | | integer optional | The error code of the last attempt to start wafliron on the specific aggregate. This field is present only if 'wafliron start' was previously attempted. |
| **last-start-error-info** | | string optional | The error information of the last attempt to start wafliron on the specific aggregate. This field is present only if 'wafliron start' was previously attempted. |
| **scan-percentage** | **[0..100]** | integer optional | When present, this field indicates the percentage of blocks that have been scanned in the specified aggregate. This field is present only when wafliron is running and its state is "starting" or "scanning". |
| | | | When wafliron is run, it goes through different stages/states. This field indicates the current state of wafliron on the specified aggregate. |

| | | | |
|---|---|---|---|
| **state** | | string optional | Possible values are:<br>"aborting" - wafliron is aborting.<br>"checking_lost_blocks" - wafliron is checking for lost blocks.<br>"checking_lost_inodes" - wafliron is checking link counts.<br>"finishing" - wafliron is cleaning up.<br>"not_running" - wafliron is not running on this aggregate.<br>"scanning" - wafliron is scanning inodes, and/or fixing file system inconsistencies.<br>"starting" - wafliron is starting, allocating, and/or in the initial mounting phase.<br>"unknown" - wafliron state could not be determined. |
| **summary-scan-percentage** | **[-1..100]** | integer optional | When present and the value is other than -1, this field indicates the percentage of summary blocks that have been scanned in the specified aggregate. This field is present only when wafliron is running and its state is "starting" or "scanning". |

# Element definition: **aggr-wafliron-info**

[top]

Information related to wafliron, the online WAFL file system check/repair tool.

| Name | Range | Type | Description |
|---|---|---|---|
| **last-start-errno** | | integer optional | The error code of the last attempt to start wafliron on the specific aggregate. This field is present only if 'wafliron start' was previously attempted. |
| **last-start-error-info** | | string optional | The error information of the last attempt to start wafliron on the specific aggregate. This field is present only if 'wafliron start' was previously attempted. |
| **scan-percentage** | | integer optional | When present, this field indicates the percentage of blocks that have been scanned in the specified aggregate. This field is present only when wafliron is running and its state is "starting" or "scanning".<br>Range: [0..100] |
| **state** | | string | When wafliron is run, it goes through different stages/states. This field indicates the current state of wafliron on the specified aggregate.<br>Possible values are:<br>"waiting_for_commit" - wafliron is finished on this volume but waiting for the changes to be committed or rejected.<br>"not_running" - wafliron is not running on this aggregate.<br>"starting" - wafliron is starting, allocating, and/or in the initial mounting phase.<br>"scanning" - wafliron is scanning inodes, and/or fixing file system inconsistencies.<br>"checking_lost_blocks" - wafliron is checking for lost blocks.<br>"checking_lost_inodes" - wafliron is checking link counts.<br>"finishing" - wafliron is cleaning up.<br>"aborting" - wafliron is aborting. |

| | | | |
|---|---|---|---|
| | | | "unknown" - wafliron state could not be determined. |
| **summary-scan-percentage** | | integer optional | When present and the value is other than -1, this field indicates the percentage of summary blocks that have been scanned in the specified aggregate. This field is present only when wafliron is running and its state is "starting" or "scanning".<br><br>Range: [-1..100] |

# Element definition: **aggregate-space-info**

[top]

A set of two structures returning size-related information for a given aggregate and its set of snapshots.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-space** | | fs-space-info | [not settable, online-only] A structure returning size-related information for a given aggregate. |
| **snapshot-space** | | snapshot-space-info | [not settable, online-only] A structure returning size-related information for a set of snapshots of the given aggregate. |

# Element definition: **checksum-style**

[top]

Checksum style of the aggregate.

The following are the possible values for checksum type and their meanings.

- 'none' - The data written to the aggregate is not protected by checksum.
- 'block' - Every block of data block has checksum written in the same block.
- 'azcs' - Disk is divided into zones of N blocks and the checksum is written in the middle of zone.
- 'wafl' - The checksum information is maintained in the filesystem layer.
- 'mixed' - This means we have both 'block' and 'zone' checksum styles.
- 'unknown' - The checksum style is unknown.

[none]

# Element definition: **contained-volume-info**

[top]

Information about a volume contained in the aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Volume name. |
| **vserver** | | string optional | Name of the vserver to which this volume belongs. This field is returned only when the request is sent to the Admin Vserver LIF. |

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

## Element definition: **disk-name**

[top]

Disk path name

[none]

## Element definition: **disk-position-type**

[top]

Disk position type of the aggregate.

The following are the possible values for disk position type of the aggregate and their meanings.

- 'copy' - The disk serves as the destination for sick disk copy.
- 'data' - The disk serves as a data disk in the aggregate.
- 'dparity' - The disk serves as a double parity disk.
- 'tparity' - The disk serves as a triple parity disk.
- 'orphan' - The disk is in the process of being removed from the aggregate.
- 'parity' - The disk serves as a single parity disk.
- 'pending' - The disk is in the process of being added to a RAID group or is in the process of being reconstructed or sick disk copy.
- 'present' - The disk is part of a RAID group in an aggregate.
- 'shared' - The disk is being used as a shared disk.

[none]

## Element definition: **disktype**

[top]

ATA | BSAS | FCAL | FSAS | LUN | MSATA | SAS | SSD | VMDISK | SSD-NVM | SSD-CAP | SSD-ZNS | VMLUN | VMLUN-SSD Possible values:

- "ata" - Advanced Technology Attachment,
- "bsas" - Bridged Serial Attached SCSI (bridged from SATA),
- "fcal" - Fibre Channel Arbitrated Loop,
- "fsas" - High-Capacity (Fat) Serial Attached SCSI,
- "lun" - SCSI Logical Unit Number (e.g. Array),
- "msata" - Multiple bridged SATA disks in a single carrier,
- "sas" - Serial Attached SCSI,
- "ssd" - Solid-State Disk,
- "vmdisk" - Hypervisor Virtual Disk,
- "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk,
- "ssd_dc" - Data Center based Non-Volatile Memory Express Solid-State Disk,
- "ssd_cap" - High Capacity Solid-State Disk,
- "vmlun" - Hypervisor Virtual LUN,
- "vmlun_ssd" - Hypervisor Virtual SSD LUN,
- "ssd_zns" - Zoned Namespaces Solid-State Disk

[none]

# Element definition: **mirror-count-info**

[top]

Various counts information for mirror volumes in the aggregate. This information is returned only when the aggregate contains mirror volumes. Currently, Vfiler owned mirror destination volumes are counted only if those volumes are online.

| Name | Range | Type | Description |
|---|---|---|---|
| **dp-qtree-snapmirror-destinations** | | integer optional | When present, this field indicates the number of data protection (dp) qtree snapmirror destination volumes.<br><br>Range: [0..2^31-1] |
| **dp-snapmirror-destinations** | | integer optional | When present, this field indicates the number of data protection (dp) snapmirror destination volumes.<br><br>Range: [0..2^31-1] |
| **ls-snapmirror-destinations** | | integer optional | When present, this field indicates the number of load sharing (ls) snapmirror destination volumes.<br><br>Range: [0..2^31-1] |
| **move-snapmirror-destinations** | | integer optional | When present, this field indicates the number of move snapmirror destination volumes that are created for volume move operations.<br><br>Range: [0..2^31-1] |

# Element definition: **plex-info**

[top]

Information for a plex.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-online** | | boolean | "true" if the plex is online, "false" otherwise. |
| **is-resyncing** | | boolean | "true" if the plex is currently resyncing, "false" otherwise. |
| **name** | | string | Plex name, e.g. /myvol/plex0 |
| **plex-resync-pct-with-precision** | | string optional | If the plex is currently being resynced, then the completion percentage floored to two decimal places. (e.g. "13.12") |
| **plex-status** | | string optional | Plex status. Possible values: "normal", "failed", "empty", "invalid", "uninitialized", "failed assimilation", "limbo", "active", "inactive", "resyncing", These values may appear by themselves or in combination separated by commas (e.g., "normal,active") |
| **pool** | **[0..1]** | integer optional | The pool to which the majority of disks in the plex belong. |
| **raid-groups** | | raid-group-info[] optional | List of all RAID groups in the plex. This appears only if the "verbose" parameter above is set to "true". |
| **resync-level** | **[0..1]** | integer optional | If the plex is currently being resynced, then the resync level. |
| **resyncing-percentage** | | integer optional | If the plex is currently being resynced, then the completion percentage. Range : [0..100]. |

# Element definition: **raid-type**

[top]

Raid type of the aggregate.

The following are the possible values for RAID type and their meanings.

- 'raid_tec' - The aggregate is composed of RAID groups that can handle triple disk failures (Triple Erasure Code).
- 'raid_dp' - The aggregate is composed of RAID groups that can handle double disk failures (double parity).
- 'raid4' - The aggregate is composed of RAID groups that can can handle a single non-SSD-ZNS disk failure (single parity).
- 'raid_ep' - The aggregate is composed of RAID groups that can can handle a single SSD-ZNS disk failure (single parity) and one or more block failures inside each SSD-ZNS disk.
- 'raid0' - The aggregate does not have parity protection.
- 'mixed_raid_type' - Cache tier in the aggregate has a different RAID type from the capacity tier.

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **standarddisktype**

[top]

SATA | FC | NL-SAS | LUN | SAS | SCSI | SSD | VM-DISK | NVMe-SSD | SSD-CAP | SSD-ZNS | VM-LUN | VM-LUN-SSDS Possible values:

- "sata" - SATA, Serial Advanced Technology Attachment,
- "fc" - FC, Fibre Channel,
- "nl_sas" - NL-SAS, Near Line SAS,
- "lun" - LUN, SCSI Logical Unit Number (e.g. Array),
- "sas" - SAS, Serial Attached SCSI,
- "scsi" - SCSI, Small Computer System Interface,
- "ssd" - SSD, Solid-State Disk,
- "vm_disk" - VM Disk, Hypervisor Virtual Disk,
- "unknown" - Unknown Disk Type,
- "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk,
- "ssd_dc" - DC SSD, Data Center Non-Volatile Memory Express Solid-State Disk,
- "ssd_cap" - CAP SSD, High Capacity Solid-State Disk,
- "vm_lun" - VM LUN, Hypervisor Virtual LUN,
- "vm_lun_ssd" - VM SSD LUN, Hypervisor Virtual SSD LUN,
- "ssd_zns" - SDF SSD, Non-Volatile Memory Express Solid-State Disk

[none]

# Element definition: **volume-space-info**

[top]

List of flexible volumes in the aggregate and their space usage.

| Name | Range | Type | Description |
|---|---|---|---|
| **guarantee** | | string | Type of guarantee option set on this volume. Possible values: none, file, volume |
| **volume-allocated** | | integer | Total space allocated for this volume in the aggregate. Range : [0..2^64-1] |
| **volume-name** | | string | Name of the volume |
| **volume-used** | | integer | Total space used by this volume. Range : [0..2^64-1] |

# Element definition: **aggr-64bit-upgrade-check-info**

[top]

Information returned when upgrade-64bit-mode in aggr-add or aggr-64bit-upgrade-start is "check".

| Name | Range | Type | Description |
|---|---|---|---|
| **added-space** | | integer optional | The effective total space to be added (in bytes), not including blocks used by the 64-bit upgrade of the aggregate and its contained flexible volumes. Range: [0..2^64-1]. |
| **cookie** | | integer optional | The opaque cookie to uniquely identify a 64-bit upgrade transaction previously triggered on the aggregate. Range: [0..2^64-1]. |
| **last-errno** | | integer optional | The error code of the last attempt to check for space usage on the specific aggregate. This field is present only if a 64-bit upgrade check was previously attempted. Possible values: 0 - indicates success EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL Per-volume upgrade check results may be out of date if last-errno is not 0. |
| **space-estimate-complete** | | boolean optional | True if the space estimate has completed. Check "last-errno" to find out whether the space estimate was successful. |

# Element definition: **aggr-64bit-upgrade-start-info**

[top]

Information returned when upgrade-64bit-mode in aggr-add or aggr-64bit-upgrade-start is "grow_all", "grow_none", or "grow_reserved".

| Name | Range | Type | Description |
|---|---|---|---|
| **last-errno** | | integer optional | The error code of the last attempt to start 64-bit upgrade on the specific aggregate. This field is present only if 64-bit upgrade was previously attempted. Possible values include: EAGGR_64BIT_UPGRADE_ENOSPC EOP_DISALLOWED_ON_AGGR_WITH_SPARSE_VOL EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC_OVERWRITE EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL EVOLUME_64BIT_UPGRADE_PREQUAL_NOT_AVAIL EVOLUME_IRON_NON_LOCAL_STATUS |
| **min-space-for-upgrade** | | integer optional | The minimum additional disk space (in bytes) required to trigger 64-bit upgrade. This field is present when the specified disks do not have sufficient space to upgrade the aggregate and its contained flexible volumes to 64-bit. Range: [0..2^64-1]. |

# Element definition: **aggr-64bit-upgrade-status-info**

[top]

Status information related to 64-bit upgrade. This information includes the block format of the aggregate and the progress of the 64-bit upgrade scanner.

| Name | Range | Type | Description |
|---|---|---|---|
| **block-format** | | string | The block format of the aggregate. Can be "32_bit", "64_bit", or "upgrading". |
| **fbn-progress** | | integer optional | The most recent fbn the 64-bit upgrade scanner is working on. Valid only when the aggregate block format is "upgrading". Range: [0..2^32-1]. |
| **inode-progress** | | integer optional | The most recent inode the 64-bit upgrade scanner is working on. Valid only when the aggregate block format is "upgrading". Value -1 indicates inofile is being scanned. Range: [-1..2^32-2]. |
| **percent-complete** | | integer optional | Estimated percentage of how much of the filesystem has completed the 64-bit upgrade. Valid only when the aggregate block format is "upgrading". Range: [0..100]. |
| **scanner-status** | | string optional | The status of the 64-bit upgrade scanner. Can be "running" or "stopped" if the aggregate block format is "upgrading". Otherwise, no value is returned. |
| **space-progress** | | string optional | The inode space of the most recent inode the 64-bit upgrade scanner is working on. Can be "public" or "private". Valid only when the aggregate block format is "upgrading". |
| **time-estimate** | | integer optional | Estimated time to completion of the 64-bit upgrade in seconds. Valid only when the aggregate block format is "upgrading" and scanner status is "running". Value -1 indicates that time estimate is not available. Range: [-1..(2^32-1)/10]. |
| **total-inodes** | | integer optional | The total number of inodes in the file system. Valid only when the aggregate block format is "upgrading". Range: [0..2^32-1]. |

# Element definition: **aggr-check-attributes**

[top]

Information returned when upgrade-64bit-mode in aggr-add API is "check".

| Name | Range | Type | Description |
|---|---|---|---|
| **added-space** | | integer optional | The effective total space that would be added (in bytes) to the aggregate. This would not include the blocks used by the 64-bit upgrade of the aggregate and its contained flexible volumes. Range: [0..2^64-1]. |
| **check-last-errno** | | integer optional | The error code of the last attempt to check for space usage on the specific aggregate. This field is present only if a previous 64-bit upgrade check failed. Possible values: 0 - indicates success EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL Per-volume upgrade check results may be out of date if last-errno is not 0. |
| **cookie** | | integer optional | The opaque cookie to uniquely identify a 64-bit upgrade transaction previously triggered on the aggregate using aggr-add API. Range: [0..2^64-1]. |
| **is-space-estimate-complete** | | boolean optional | True if the space estimate has completed. Check "check-last-errno" to find out whether the space estimate was successful. |

# Element definition: **aggr-raidgroup-info**

[top]

Information about the RAID Groups

| | | | |
|---|---|---|---|

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-disk-list** | | aggr-disk-info[]<br>optional | Information about the disks |
| **aggr-raidgroup-entity-list** | | aggr-raidgroup-entity-info[]<br>optional | Information about the individual RAID Groups |
| **storage-pool** | | string<br>optional | Name of the Storage Pool. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-start-attributes**

[top]

Information returned when upgrade-64bit-mode in aggr-add API is "grow_all", "grow_none", or "grow_reserved".

| Name | Range | Type | Description |
|---|---|---|---|
| **min-space-for-upgrade** | | integer<br>optional | The minimum additional disk space (in bytes) required to trigger 64-bit upgrade. This field is present when the specified disks do not have sufficient space to upgrade the aggregate and its contained flexible volumes to 64-bit. Range: [0..2^64-1]. |
| **start-last-errno** | | integer<br>optional | The error code of the last attempt to start 64-bit upgrade on the specific aggregate. This field is present only if a previous 64-bit upgrade failed. Possible values include: EAGGR_64BIT_UPGRADE_ENOSPC EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC_OVERWRITE EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL EVOLUME_64BIT_UPGRADE_PREQUAL_NOT_AVAIL |

# Element definition: **aggr-status-attributes**

[top]

Status information related to 64-bit upgrade. This information includes whether the 64-bit upgrade is in progress.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-64-bit-upgrade-in-progress** | | boolean<br>optional | True if the 64-bit upgrade is in progress. |

# Element definition: **fs-space-info**

[top]

A structure returning size-related information for a given aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **fs-aggregate-metadata** | | integer<br>optional | This field is deprecated in Data ONTAP 8.3 and later. Use the aggregate-metadata field of aggr-space-get-iter instead. This field always returns 0. Range : [0..2^64-1] |
| **fs-capacity-tier-used** | | integer<br>optional | This field represents total capacity tier physical used space in bytes in a composite aggregate. Range : [0..2^64-1] |
| **fs-files-private-used** | | integer | [not settable, online-only] Number of system (not user-visible) files (inodes) used. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1] |

| | | | |
|---|---|---|---|
| **fs-files-total** | | integer | [settable, online-only] Total user-visible file (inode) count, i.e., maximum number of user-visible files (inodes) that this referenced file system can currently hold. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1] |
| **fs-files-used** | | integer | [not settable, online-only] Number of user-visible files (inodes) used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1] |
| **fs-hybrid-cache-size-total** | | integer optional | [not settable, online-only] Total cache size (in bytes) in a hybrid aggregate. If the referenced aggregate is restricted or offline, or if it is not a hybrid aggregate, a value of 0 is returned. Range: [0 - 2^64-1] |
| **fs-hybrid-cache-size-used** | | integer optional | [not settable, online-only] Used cache size (in bytes) in a hybrid aggregate. If the referenced aggregate is restricted or offline, or if it is not a hybrid aggregate, a value of 0 is returned. Range: [0 - 2^64-1] |
| **fs-inodefile-private-capacity** | | integer | [not settable, online-only] Number of inodes that can currently be stored on disk for system (not user-visible) files. This number will dynamically increase as more system files are created. Range: [0 - 2^64-1] |
| **fs-inodefile-public-capacity** | | integer | [not settable, online-only] Number of inodes that can currently be stored on disk for user-visible files. This number will dynamically increase as more user-visible files are created. Range: [0 - 2^64-1] |
| **fs-maxfiles-available** | | integer | [not settable, always] The count of the maximum number of user-visible files currently allowable on the referenced file system. Range: [0 - 2^64-1] |
| **fs-maxfiles-possible** | | integer | [not settable, always] The largest value to which the fs-maxfiles-available parameter can be increased by reconfiguration, on the referenced file system. Range: [0 - 2^64-1] Range: [0 - 2^64-1] |
| **fs-maxfiles-used** | | integer | [not settable, online-only] The number of user-visible files currently in use on the referenced file system. Range: [0 - 2^64-1] |
| **fs-percent-inode-used-capacity** | | integer | [not settable, online-only] The percentage of disk space currently in use based on user-visible file (inode) count on the referenced file system. Range: [0..100] |
| **fs-percent-used-capacity** | | integer | [not settable, online-only] The percentage of disk space currently in use on the referenced file system. Range: [0..100] |
| **fs-perf-tier-capacity-tier-used** | | integer optional | This field represents total capacity tier physical used space in bytes in a composite aggregate. Range : [0..2^64-1] |
| **fs-physical-used** | | integer optional | This field represents physical used space in bytes. This differs from 'total-used' space by the space that is guaranteed for future writes. The value includes blocks in use by Snapshot copies. Range : [0..2^64-1] |
| **fs-sis-percent-saved** | | integer | [not settable, online-only] The percentage of disk space saved by eliminating the duplicated blocks on the referenced file system. Range: [0..100] |
| **fs-sis-saved-space** | | integer | [not settable, online-only] The total disk space in bytes that is saved by storing only one copy of the duplicated blocks on the referenced file system. Range: [0 - 2^64-1] |
| **fs-sis-shared-space** | | integer | [not settable, online-only] The amount of data in bytes that is shared by more than one instance on the referenced file system. Range: [0 - 2^64-1] |
| **fs-size-available** | | integer optional | [not settable, online-only] Number of bytes still available in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1] |
| | | | [not settable, online-only] Total size (in bytes) of the referenced file system . If |

| | | | |
|---|---|---|---|
| **fs-size-total** | | integer optional | the referenced file system is restricted or offline, a value 0 is returned. Range: [0 - 2^64-1] |
| **fs-size-used** | | integer optional | [not settable, online-only] Number of bytes used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1] |
| **fs-total-reserved-space** | | integer optional | [not settable, online-only]The total disk space in bytes that is reserved on the referenced file system. The reserved space is already counted in the used space, so this element can be used to see what portion of the used space represents space reserved for future use. Range: [0 - 2^64-1] |
| **fs-used-including-snapshot-reserve** | | integer optional | This field is deprecated in Data ONTAP 8.3 and later. Use the used-including-snapshot-reserve field of aggr-space-get-iter instead. This field always returns 0. Range : [0..2^64-1] |
| **fs-volume-footprints** | | integer optional | This field is deprecated in Data ONTAP 8.3 and later. Use the volume-footprints field of aggr-space-get-iter instead. This field always returns 0. Range : [0..2^64-1] |

# Element definition: **plex-attributes**

[top]

Information about a plex.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-online** | | boolean optional | "true" if the plex is online, "false" otherwise. |
| **is-resyncing** | | boolean optional | "true" if the plex is currently resyncing, "false" otherwise. |
| **plex-name** | | string optional | Name of the plex. |
| **plex-resync-pct-with-precision** | | string optional | If the plex is currently being resynced, then the completion percentage floored to two decimal places. (e.g. "13.12") |
| **plex-status** | | string optional | Plex status. Possible values: "normal", "failed", "empty", "invalid", "uninitialized", "failed assimilation", "limbo", "active", "inactive", "resyncing", These values may appear by themselves or in combination separated by commas (e.g., "normal,active") |
| **pool** | **[0..1]** | integer optional | The pool to which the majority of disks in the plex belong. |
| **raidgroups** | | raidgroup-attributes[] optional | List of all RAID groups in the plex. |
| **resync-level** | **[0..1]** | integer optional | If the plex is currently being resynced, then the resync level. |
| **resyncing-percentage** | **[0..100]** | integer optional | If the plex is currently being resynced, then the completion percentage. |

# Element definition: **raid-group-info**

[top]

Information for a particular RAID group.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **checksum-style** | | string | Checksum style. The possible values:<br>• "advanced_zoned" - advanced_zoned checksum (azcs),<br>• "block" - block,<br>• "mixed" - mixed,<br>• "none" - none,<br>• "unknown" - unknown,<br>• "wafl" - wafl,<br>• "zoned" - zoned (this value is no longer supported). |
| **cluster-disk-names** | | disk-info[] optional | List of disks in this plex by their spatial names, if available. |
| **disks** | | disk-info[] | List of disks in this plex. |
| **is-cache-tier** | | boolean | "true" if the RAID group is composed of SSDs and the owning aggregate is hybrid (group is not part of usable space). |
| **is-recomputing-parity** | | boolean | "true" if the RAID group is currently recomputing parity. |
| **is-reconstructing** | | boolean | "true" if the RAID group is currently reconstructing. |
| **is-scrub-suspended** | | boolean optional | Suspended state of the scrub on that RAID group. |
| **last-scrub-timestamp** | | integer optional | Time at which the last full scrub completed. If a scrub has never been performed, this value will not be returned. The time value is in seconds since January 1, 1970. Range : [0..2^31-1]. |
| **name** | | string | RAID group name. |
| **recomputing-parity-percentage** | | integer optional | The percentage of parity recomputation if is-recomputing-parity is set to true. Range : [0-100] |
| **reconstruction-percentage** | | integer optional | If reconstruction is going on, the the completion percentage. Range : [0-100] |
| **scrub-percentage-complete** | | integer optional | Scrub percentage complete. If scrub is not active, this value will not be returned. Range: [0..100]. |

# Element definition: **snapshot-space-info**

[top]

A structure returning consolidated size-related information for all snapshots of the given volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-files-total** | | integer | [settable, online-only] Total file (inode) count, i.e., current maximum number of files (inodes) that this referenced file system can currently hold. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1] |
| **snapshot-files-used** | | integer | [not settable, online-only] Number of files (inodes) used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1] |
| **snapshot-maxfiles-available** | | integer | [not settable, always] The count of the maximum number of files allowable on the referenced file system. Range: [0 - 2^64-1] |
| **snapshot-maxfiles-possible** | | integer | [not settable, always] The largest value to which the maxfiles-available parameter can be increased by reconfiguration, on the referenced file system. Range: [0 - 2^64-1] |
| **snapshot-** | | | |

| | | | |
|---|---|---|---|
| **maxfiles-used** | | integer | [not settable, online-only] The count of the number of files currently in use on the referenced file system. Range: [0 - 2^64-1] |
| **snapshot-percent-inode-used-capacity** | | integer | [not settable, online-only] The percentage of disk space currently in use based on file (inode) count on the referenced file system. Range: [0..100] |
| **snapshot-percent-used-capacity** | | integer | [not settable, online-only] The percentage of disk space currently in use on the referenced file system. Range: [0..100] |
| **snapshot-sis-percent-saved** | | integer | [not settable, online-only] The percentage of disk space saved by eliminating the duplicated blocks on the referenced file system. Range: [0..100] |
| **snapshot-sis-saved-space** | | integer | [not settable, online-only] The total disk space in bytes that is saved by storing only one copy of the duplicated blocks on the referenced file system. Range: [0 - 2^64-1] |
| **snapshot-sis-shared-space** | | integer | [not settable, online-only] The amount of data in bytes that is shared by more than one instance on the referenced file system. Range: [0 - 2^64-1] |
| **snapshot-size-available** | | integer optional | [not settable, online-only] Number of bytes still available in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1] |
| **snapshot-size-total** | | integer optional | [not settable, online-only] Total size (in bytes) of the referenced file system. If the referenced file system is restricted or offline, a value 0 is returned. Range: [0 - 2^64-1] |
| **snapshot-size-used** | | integer optional | [not settable, online-only] Number of bytes used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1] |

# Element definition: **aggr-disk-info**

[top]

Information about the disks

| Name | Range | Type | Description |
|---|---|---|---|
| **copy-percent** | **[0..100]** | integer optional | This field indicates the percentage of copying that has completed. Attributes: non-creatable, non-modifiable |
| **disk** | | disk-name optional | Name of the disk. Attributes: key, non-creatable, non-modifiable |
| **disk-rpm** | **[0..2^32-1]** | integer optional | Rotational speed in revolutions per minute. Possible values are: 5400, 7200, 10000, and 15000. Omitted if information is unavailable, or if the rpm does not apply to this 'disk-type'. Attributes: non-creatable, non-modifiable |
| **disk-type** | | string optional | Disk interface type. Attributes: non-creatable, non-modifiable |
| **effective-disk-rpm** | **[0..2^32-1]** | integer optional | Effective rotational speed in revolutions per minute. Disks can report different actual 'rpm', but have the same 'effective-disk-rpm'. Disks with the same 'effective-disk-rpm' are compatible for use within the same aggregate. Omitted if information is unavailable, or excluded by 'desired-attributes'. Attributes: non-creatable, non-modifiable |
| **effective-disk-type** | | string optional | Effective disk interface type. Disk can report different physical 'disk-type', but the same 'effective-disk-type'. Disk with the same 'effective-disk-type' are compatible for use within the same aggregate. Attributes: non-creatable, non-modifiable |
| **is-cache** | | boolean optional | True if the disk is being used as cache. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **is-evacuating** | | boolean optional | True if the disk is being evacuated. Attributes: non-creatable, non-modifiable |
| **is-failed** | | boolean optional | True if the disk is marked as failed. Attributes: non-creatable, non-modifiable |
| **is-offline** | | boolean optional | True if the disk is marked as offline. Attributes: non-creatable, non-modifiable |
| **is-recons-active** | | boolean optional | True if reconstruction is active on this disk. Attributes: non-creatable, non-modifiable |
| **is-replacing** | | boolean optional | True if the disk is being replaced. Attributes: non-creatable, non-modifiable |
| **is-sdc-active** | | boolean optional | True if the sick disk copy is active. Attributes: non-creatable, non-modifiable |
| **is-sick** | | boolean optional | True if the disk is marked as sick. Attributes: non-creatable, non-modifiable |
| **physical-size** | | size optional | Total raw capacity of this disk in bytes. Attributes: non-creatable, non-modifiable |
| **position** | | disk-position-type optional | Position of the disk within aggregate. Attributes: non-creatable, non-modifiable |
| **reconstruction-percent** | **[0..100]** | integer optional | This field indicates the percentage of reconstruction that has completed. Attributes: non-creatable, non-modifiable |
| **standard-disk-type** | | standarddisktype optional | Industry standard disk type. Attributes: non-creatable, non-modifiable Possible values:<br>• "sata" - SATA, Serial Advanced Technology Attachment,<br>• "fc" - FC, Fibre Channel,<br>• "nl_sas" - NL-SAS, Near Line SAS,<br>• "lun" - LUN, SCSI Logical Unit Number (e.g. Array),<br>• "sas" - SAS, Serial Attached SCSI,<br>• "scsi" - SCSI, Small Computer System Interface,<br>• "ssd" - SSD, Solid-State Disk,<br>• "vm_disk" - VM Disk, Hypervisor Virtual Disk,<br>• "unknown" - Unknown Disk Type,<br>• "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_dc" - DC SSD, Data Center Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_cap" - CAP SSD, High Capacity Solid-State Disk,<br>• "vm_lun" - VM LUN, Hypervisor Virtual LUN,<br>• "vm_lun_ssd" - VM SSD LUN, Hypervisor Virtual SSD LUN,<br>• "ssd_zns" - SDF SSD, Non-Volatile Memory Express Solid-State Disk |
| **syncmirror-pool** | | string optional | SyncMirror Pool to which disk is assigned. Attributes: non-creatable, non-modifiable |
| **usable-size** | | size optional | Total usable capacity of this disk in bytes. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-raidgroup-entity-info**

[top]

Information about the individual RAID Groups

| Name | Range | Type | Description |
|---|---|---|---|
| **is-rg-recomputing-** | | boolean optional | True if the RAID Group is recomputing parity. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **parity** | | | |
| **is-rg-reconstructing** | | boolean optional | True if the RAID Group is reconstructing. Attributes: non-creatable, non-modifiable |
| **is-scrub-active** | | boolean optional | This field indicates if scrub is currently active. Attributes: non-creatable, non-modifiable |
| **raidgroup** | | string optional | Name of the Raid Group. Attributes: key, non-creatable, non-modifiable |
| **rg-cksumstyle** | | checksum-style optional | Checksum Style of RAID Group. Attributes: non-creatable, non-modifiable |
| **rg-raidtype** | | raid-type optional | RAID Type of RAID Group. Attributes: non-creatable, non-modifiable |
| **rg-recons-percent** | **[0..100]** | integer optional | This field indicates the percentage of reconstruction that has completed. Attributes: non-creatable, non-modifiable |
| **rg-reparity-percent** | **[0..100]** | integer optional | This field indicates the percentage of parity recomputation that has completed. Attributes: non-creatable, non-modifiable |
| **rg-status** | | string optional | Status of the RAID Group. Attributes: non-creatable, non-modifiable |
| **scrub-percent-complete** | **[0..100]** | integer optional | This field indicates the percentage of scrubbing that has completed. Attributes: non-creatable, non-modifiable |

# Element definition: **checksum-style**

[top]

Checksum style of the aggregate.

The following are the possible values for checksum type and their meanings.

- 'none' - The data written to the aggregate is not protected by checksum.
- 'block' - Every block of data block has checksum written in the same block.
- 'azcs' - Disk is divided into zones of N blocks and the checksum is written in the middle of zone.
- 'wafl' - The checksum information is maintained in the filesystem layer.
- 'mixed' - This means we have both 'block' and 'zone' checksum styles.
- 'unknown' - The checksum style is unknown.

[none]

# Element definition: **disk-info**

[top]

Information for each disk in the plex.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of a member disk. |
| **vbn-end** | **[0..2^64-1].** | integer optional | VBN end value of a disk. |
| **vbn-start** | **[0..2^64-1].** | integer optional | VBN start value of a disk. |

# Element definition: **disk-name**

[top]

Disk path name

[none]

# Element definition: **disk-position-type**

[top]

Disk position type of the aggregate.

The following are the possible values for disk position type of the aggregate and their meanings.

- 'copy' - The disk serves as the destination for sick disk copy.
- 'data' - The disk serves as a data disk in the aggregate.
- 'dparity' - The disk serves as a double parity disk.
- 'tparity' - The disk serves as a triple parity disk.
- 'orphan' - The disk is in the process of being removed from the aggregate.
- 'parity' - The disk serves as a single parity disk.
- 'pending' - The disk is in the process of being added to a RAID group or is in the process of being reconstructed or sick disk copy.
- 'present' - The disk is part of a RAID group in an aggregate.
- 'shared' - The disk is being used as a shared disk.

[none]

# Element definition: **raid-type**

[top]

Raid type of the aggregate.

The following are the possible values for RAID type and their meanings.

- 'raid_tec' - The aggregate is composed of RAID groups that can handle triple disk failures (Triple Erasure Code).
- 'raid_dp' - The aggregate is composed of RAID groups that can handle double disk failures (double parity).
- 'raid4' - The aggregate is composed of RAID groups that can can handle a single non-SSD-ZNS disk failure (single parity).
- 'raid_ep' - The aggregate is composed of RAID groups that can can handle a single SSD-ZNS disk failure (single parity) and one or more block failures inside each SSD-ZNS disk.
- 'raid0' - The aggregate does not have parity protection.
- 'mixed_raid_type' - Cache tier in the aggregate has a different RAID type from the capacity tier.

[none]

# Element definition: **raidgroup-attributes**

[top]

Information about a raidgroup.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | Checksum style for the RAID group. The possible values are:<br>• "none" |

| | | | |
|---|---|---|---|
| **checksum-style** | | string optional | • "block"<br>• "wafl"<br>• "unknown"<br>• "advanced_zoned" |
| **is-cache-tier** | | boolean optional | "true" if the RAID group is composed of SSDs and the owning aggregate is hybrid (group is not part of usable space). |
| **is-recomputing-parity** | | boolean optional | "True" if the RAID group is currently recomputing parity. |
| **is-reconstructing** | | boolean optional | "true" if the RAID group is currently reconstructing. |
| **raidgroup-name** | | string optional | Name of the RAID group. |
| **recomputing-parity-percentage** | | integer optional | The percentage of parity recomputation completed, if is-recomputing-parity is true. Range : [0-100] |
| **reconstruction-percentage** | **[0..100]** | integer optional | If reconstruction is going on, then the completion percentage. |

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **standarddisktype**

[top]

SATA | FC | NL-SAS | LUN | SAS | SCSI | SSD | VM-DISK | NVMe-SSD | SSD-CAP | SSD-ZNS | VM-LUN | VM-LUN-SSDS Possible values:

- "sata" - SATA, Serial Advanced Technology Attachment,
- "fc" - FC, Fibre Channel,
- "nl_sas" - NL-SAS, Near Line SAS,
- "lun" - LUN, SCSI Logical Unit Number (e.g. Array),
- "sas" - SAS, Serial Attached SCSI,
- "scsi" - SCSI, Small Computer System Interface,
- "ssd" - SSD, Solid-State Disk,
- "vm_disk" - VM Disk, Hypervisor Virtual Disk,
- "unknown" - Unknown Disk Type,
- "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk,
- "ssd_dc" - DC SSD, Data Center Non-Volatile Memory Express Solid-State Disk,
- "ssd_cap" - CAP SSD, High Capacity Solid-State Disk,
- "vm_lun" - VM LUN, Hypervisor Virtual LUN,
- "vm_lun_ssd" - VM SSD LUN, Hypervisor Virtual SSD LUN,
- "ssd_zns" - SDF SSD, Non-Volatile Memory Express Solid-State Disk

[none]

# APIs in Category: **audit**


audit-log-config-get
audit-log-config-modify
audit-log-get
audit-log-get-iter


APIs for managing administrative audit settings for the cluster. Audit logging can be enabled/disabled separately for 'get' (read-only) requests, for each of the following access modes: CLI (Command-Line Interface), SNMP, HTTP, and the Data ONTAP API (ONTAPI, ZAPI). The state of these flags is represented via the audit-info typedef.

## audit-log-config-get

[top]

Get the cluster administrative audit settings

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | audit-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | audit-info | The attributes of the audit. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## audit-log-config-modify

[top]

Modify the cluster administrative audit settings

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cli-get** | | boolean optional | Enable Auditing of CLI Get Operations |
| **http-get** | | boolean optional | Enable Auditing of HTTP Get Operations |
| **ontapi-get** | | boolean optional | Enable Auditing of Data ONTAP API Get Operations |
| **snmp-get** | | boolean optional | Enable Auditing of SNMP Get Operations |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# audit-log-get

[top]

Get the cluster administrative audit settings

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | audit-log-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node that logged the entry. |
| **seq** | **[0..2^64-1]** | integer optional | Used as a tie-breaker for line entries with the same timestamp. |
| **timestamp** | **[0..2^31-1]** | integer | Timestamp of the log entry. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | audit-log-info | The attributes of the audit. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# audit-log-get-iter

[top]

Iterate of audit log entries

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | audit-log-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | audit-log-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the audit object. All audit objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | audit-log-info[] | The list of attributes of audit objects. |

| | | | |
|---|---|---|---|
| | | optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more audit objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# Element definition: **audit-info**

[top]

Audit logging can be enabled/disabled separately for 'get' (read-only) requests, for each of the following access modes: CLI (Command-Line Interface), SNMP, HTTP, and the Data ONTAP API (ONTAPI, ZAPI). The state of these flags is represented via the audit-info typedef. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cli-get** | | boolean optional | Enable Auditing of CLI Get Operations Attributes: non-creatable, modifiable |
| **http-get** | | boolean optional | Enable Auditing of HTTP Get Operations Attributes: non-creatable, modifiable |
| **ontapi-get** | | boolean optional | Enable Auditing of Data ONTAP API Get Operations Attributes: non-creatable, modifiable |
| **snmp-get** | | boolean optional | Enable Auditing of SNMP Get Operations Attributes: non-creatable, modifiable |

# Element definition: **audit-log-info**

[top]

View the audit log When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **entry** | | string optional | The actual log message from the audit log file. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node that logged the entry. Attributes: key, non-creatable, non-modifiable |
| **seq** | **[0..2^64-1]** | integer optional | Used as a tie-breaker for line entries with the same timestamp. Attributes: key, non-creatable, non-modifiable |
| **timestamp** | **[0..2^31-1]** | integer optional | Timestamp of the log entry. Attributes: key, non-creatable, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# APIs in Category: **autosupport**


autosupport-budget-get
autosupport-budget-get-iter
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autosupport-check-iter
autosupport-compliant-get
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autosupport-invoke-iter
autosupport-invoke-performance-archive
autosupport-invoke-performance-archive-iter


This set of ZAPIs provides visibility into the AutoSupport infrastructure of the system. The AutoSupport tool collects valuable information on the state of each node in the cluster, which aids in the diagnosis of hardware and software failures.The APIs are divided into the following major features:

- Configuration: manage AutoSupport general settings
- Destinations: view the current AutoSupport delivery destinations
- Triggers: manage what is collected for each AutoSupport trigger
- Manifest: view detailed collection information for a particular AutoSupport
- History: view a log of previously generated AutoSupports
- Budgets: manage AutoSupport collection size and time limits

autosupport-invoke-splog
autosupport-manifest-get-iter
autosupport-manifest-get-total-records
autosupport-trigger-get
autosupport-trigger-get-iter
autosupport-trigger-get-total-records
autosupport-trigger-modify

# autosupport-budget-get

[top]

Get AutoSupport time and size limits for the given node and subsystem.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-budget-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | string | The name of a filer on which the AutoSupport tool is running. |
| | | | The name of a subsystem from which AutoSupport collects data. Possible values:<br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node, |

| | | | |
|---|---|---|---|
| **subsystem** | | asup-subsystems | • "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | autosupport-budget-info | The attributes of the autosupport-budget. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

# autosupport-budget-get-iter

[top]

Get AutoSupport time and size limits per subsystem for all nodes.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| desired-attributes | | autosupport-budget-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | autosupport-budget-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-budget object. All autosupport-budget objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| attributes-list | | autosupport-budget-info[] optional | The list of attributes of autosupport-budget objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more autosupport-budget objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

# autosupport-budget-get-total-records

[top]

Return the total number of records.

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| count | [0..2^64-1] | integer | The total number of autosupport-budget objects. |

# autosupport-budget-modify

[top]

Modify AutoSupport time and size limits per subsystem.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **diagnostic-size-limit** | **[0..2^63-1]** | integer optional | The maximum allowable diagnostic content collection size (in bytes) for the subsystem. |
| **diagnostic-time-limit** | | string optional | The maximum allowable diagnostic content collection time (in seconds) for the subsystem. |
| **node-name** | | string | The name of a filer on which the AutoSupport tool is running. |
| **size-limit** | **[0..2^63-1]** | integer optional | The maximum allowable basic and troubleshooting content collection size (in bytes) for the subsystem. |
| **subsystem** | | asup-subsystems | The name of a subsystem from which AutoSupport collects data. Possible values:<br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node, |

| | | | |
|---|---|---|---|
| | | | "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |
| **time-limit** | | string<br>optional | The maximum allowable basic and troubleshooting content collection time (in seconds ) for the subsystem. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# autosupport-check-iter

[top]

Get Current Status of AutoSupport Subsystem for all nodes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-check-info<br>optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer<br>optional | The maximum number of records to return in this call. Default: 20 |
| | | autosupport- | A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-check |

| | | | |
|---|---|---|---|
| **query** | | check-info optional | object. All autosupport-check objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | autosupport-check-info[] optional | The list of attributes of autosupport-check objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more autosupport-check objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# autosupport-compliant-get

[top]

Get AutoSupport compliance hash mapping

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-compliant-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |
| **plaintext** | | string | Plaintext |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | autosupport-compliant-info | The attributes of the autosupport-compliant. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# autosupport-compliant-get-iter

[top]

Get AutoSupport compliance hash mapping

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-compliant-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is |

| | | | |
|---|---|---|---|
| | | optional | available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | autosupport-compliant-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-compliant object. All autosupport-compliant objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | autosupport-compliant-info[] optional | The list of attributes of autosupport-compliant objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more autosupport-compliant objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# autosupport-compliant-get-total-records

[top]

Return the total number of records.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^64-1]** | integer | The total number of autosupport-compliant objects. |

# autosupport-config-get

[top]

Get AutoSupport configuration settings for the given node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | string | The name of the filer that owns the AutoSupport configuration. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | autosupport-config-info | The attributes of the autosupport-config. |

| | |
|---|---|
| | |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# autosupport-config-get-iter

[top]

Get AutoSupport configuration settings for all nodes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | autosupport-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | autosupport-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-config object. All autosupport-config objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | autosupport-config-info[] optional | The list of attributes of autosupport-config objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more autosupport-config objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# autosupport-config-get-total-records

[top]

Return the total number of records.

| Output Name | Range | Type | Description |
|---|---|---|---|
| count | [0..2^64-1] | integer | The total number of autosupport-config objects. |

# autosupport-config-modify

[top]

Modify AutoSupport configuration settings for the given node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **from** | | mail-address optional | The e-mail address of the local administrator, used as the sender of the AutoSupport message. To generate node-specific 'from' addresses, use the 'node-specific-from' (privilege: advanced) parameter. |
| **is-enabled** | | boolean optional | Specifies whether the AutoSupport daemon is enabled. When this setting is disabled, delivery of all AutoSupport messages is turned off. |
| **is-local-collection-enabled** | | boolean optional | Used to enable / disable collection of AutoSupport data when the AutoSupport daemon is disabled. When this setting is true, collection of AutoSupport data will still be done if is-enabled is false. |
| **is-nht-data-enabled** | | boolean optional | Used to enable / disable collection of disk health data. |
| **is-node-in-subject** | | boolean optional | Specifies whether the filer's hostname should be part of an AutoSupport message's subject field. |
| **is-ondemand-download-enabled** | | boolean optional | Specifies whether the AutoSupport OnDemand Download feature is enabled. Default is true. |
| **is-ondemand-enabled** | | boolean optional | Specifies whether AutoSupport OnDemand is enabled. Default is true. |
| **is-ondemand-remote-diag-enabled** | | boolean optional | Specifies whether the AutoSupport OnDemand Remote Diagnostics feature is enabled. Default is true. |
| **is-perf-data-enabled** | | boolean optional | Used to enable / disable collection of Performance AutoSupport data. |
| **is-private-data-removed** | | boolean optional | Used to enable / disable removal of customer-supplied data. |
| **is-reminder-enabled** | | boolean optional | Specifies whether to enable / disable AutoSupport reminders. |
| **is-support-enabled** | | boolean optional | Specifies whether AutoSupport notification to technical support is enabled. |
| **is-throttle-enabled** | | boolean optional | Specifies whether to enable / disable throttling to prevent a potential avalanche of AutoSupport messages. |
| **mail-hosts** | | string[] optional | The name of the mail server(s) used to deliver AutoSupport messages via SMTP. Both host names and IP addresses may be used as valid input. One can optionally specify a username/password for authentication with the mailserver(rfc4954). |
| **max-download-rate** | **[0..2^63-1]** | integer optional | Maximum download rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or in the range 20480 (20KBps)- 10737418240 (10GBps). |
| **max-http-size** | **[0..2^63-1]** | integer optional | Delivery size limit for the HTTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB). |
| **max-smtp-** | **[0..2^63-** | integer | Delivery size limit for the SMTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for |

| | | | |
|---|---|---|---|
| **size** | **1]** | optional | unlimited) or greater than or equal to 2097152 (2MB). |
| **max-upload-rate** | **[0..2^63-1]** | integer optional | Maximum upload rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 20480 (20KBps). |
| **minimum-private-data-length** | **[2..1024]** | integer optional | Minimum Length for Sensitive Data |
| **node-name** | | string | The name of the filer that owns the AutoSupport configuration. |
| **node-specific-from** | | boolean optional | Specifies whether to generate a node-specific 'from' address by prepending the node name to the 'from' email address. Default is false. |
| **noteto** | | mail-address[] optional | (DEPRECATED) Specifies up to five recipients of short AutoSupport e-mail messages. |
| **ondemand-polling-interval** | **[0..2^32-1]** | integer optional | The AutoSupport OnDemand Client polling rate in minutes. As of Data ONTAP 8.3.1, this value should be in the range 5-2880. |
| **ondemand-server-url** | | string optional | The AutoSupport OnDemand Server URL. |
| **partner-address** | | mail-address[] optional | Specifies up to five partner vendor recipients of full AutoSupport e-mail messages. |
| **payload-format** | | compression-format optional | The format used to compress the AutoSupport message payload. Possible values:<br>• "7z" - 7-Zip Archive,<br>• "tgz" - Zipped Tarball |
| **periodic-tx-window** | | string optional | The transmission window (seconds). |
| **post-url** | | string optional | The URL used to deliver AutoSupport messages via HTTP POST. |
| **proxy-url** | | string optional | Optional proxy host for AutoSupport message delivery via HTTP. |
| **put-url** | | string optional | The URL used to deliver AutoSupport messages via HTTP PUT. |
| **retry-count** | **[0..2^32-1]** | integer optional | The maximum number of delivery attempts for an AutoSupport message. As of Data ONTAP 8.3.1, this value should be in the range 5-30. |
| **retry-interval** | | string optional | The number of seconds to wait, after a failed delivery attempt, prior to re-transmitting an AutoSupport message. |
| **support-address** | | mail-address[] optional | The e-mail address of Support. |
| **to** | | mail-address[] optional | Specifies up to five recipients of full AutoSupport e-mail messages. |
| **transport** | | asup-transport optional | The name of the transport protocol used to deliver AutoSupport messages. Possible values:<br>• "smtp" ,<br>• "http" ,<br>• "https" |
| **validate-digital-** | | boolean | Validate Digital Certificate Received |

| | | | |
|---|---|---|---|
| **certificate** | | optional | |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# autosupport-destinations-get

[top]

Get the list of AutoSupport destinations for the given node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-destinations-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | string | The name of the filer that owns this destination configuration. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | autosupport-destinations-info | The attributes of the autosupport-destinations. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# autosupport-destinations-get-iter

[top]

Get the list of AutoSupport destinations for all nodes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-destinations-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | autosupport-destinations-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-destinations object. All autosupport-destinations objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | autosupport- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | destinations-info[] optional | The list of attributes of autosupport-destinations objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more autosupport-destinations objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# autosupport-destinations-get-total-records

[top]

Return the total number of records. This sould be equal to the number of nodes in the cluster.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^64-1]** | integer | The total number of autosupport-destinations objects. |

# autosupport-download-get

[top]

Get a download record for the given AutoSupport.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-download-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **id** | **[0..2^64-1]** | integer | The download ID. |
| **node-name** | | string | The name of the filer that performed the download. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | autosupport-download-info | The attributes of the autosupport-download. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# autosupport-download-get-iter

[top]

Get the download records.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-download-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | autosupport-download-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-download object. All autosupport-download objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | autosupport-download-info[] optional | The list of attributes of autosupport-download objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more autosupport-download objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# autosupport-history-cancel

[top]

Cancel an AutoSupport Transmission.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination** | | asup-destination optional | Destination for This AutoSupport Possible values:<br>• "smtp" - Transmitted via SMTP,<br>• "http" - Transmitted via HTTP or HTTPS,<br>• "noteto" - (DEPRECATED) noteto destination,<br>• "retransmit" - Transmitted to a specified URI destination |
| **node-name** | | string | Node |
| **seq-num** | **[0..2^64-1]** | integer | AutoSupport Sequence Number |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# autosupport-history-get

[top]

Get a history record for the given AutoSupport.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination** | | asup-destination | The transport protocol for this AutoSupport message's destination. Possible values:<br>• "smtp" - Transmitted via SMTP,<br>• "http" - Transmitted via HTTP or HTTPS,<br>• "noteto" - (DEPRECATED) noteto destination,<br>• "retransmit" - Transmitted to a specified URI destination |
| **node-name** | | string | The name of the filer where the AutoSupport message was previously generated. |
| **seq-num** | **[0..2^64-1]** | integer | The AutoSupport message sequence number. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | autosupport-history-info | The attributes of the autosupport-history. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# autosupport-history-get-iter

[top]

Get the history records for the last 50 AutoSupport messages.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | autosupport-history-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-history object. All autosupport-history objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | autosupport- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | history-info[] optional | The list of attributes of autosupport-history objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more autosupport-history objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# autosupport-history-get-total-records

[top]

Return the total number of records.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^64-1]** | integer | The total number of autosupport-history objects. |

# autosupport-history-retransmit

[top]

Selectively retransmit a previously collected AutoSupport message.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string | The name of the filer on which the AutoSupport message will be retransmitted. |
| **seq-num** | **[0..2^64-1]** | integer | The AutoSupport message sequence number. |
| **size-limit** | **[0..2^63-1]** | integer optional | The maximum allowed size for the retransmitted AutoSupport. |
| **uri** | | string | The destination for the retransmitted AutoSupport. |

| Errno | Description |
|---|---|
| **E_ASUP_CHECK_INVALID_GENERIC_URI_SCHEME** | |

# autosupport-invoke

[top]

Generate a new AutoSupport message

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force generation, even if AutoSupport is disabled in the system. The default value is false. |
| **message** | | string optional | Text to include as part of the subject of the AutoSupport message. |
| | | | |

| | | | |
|---|---|---|---|
| **node-name** | | string | The name of the filer on which the AutoSupport message will be generated. |
| **type** | | asup-invoke-style | The type of AutoSupport to generate. Possible values:<br>• "test" - Test AutoSupport send and receive only,<br>• "performance" - Generate a Performance AutoSupport as requested by technical support,<br>• "all" - Send all AutoSupport data without time or size limit, as requested by technical support |
| **uri** | | string optional | Alternate destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **seq-num** | **[0..2^64-1]** | integer optional | The AutoSupport message sequence number. |

| Errno | Description |
|---|---|
| **E_ASUP_COLLECTION_DISABLED** | |
| **E_ASUP_TRIGGER_DISABLED** | |
| **E_ASUP_TRIGGER_THROTTLED** | |

# autosupport-invoke-core-upload

[top]

Generate and send an AutoSupport message with an existing core file.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **case-number** | | string optional | Support case number to associate with this core file. |
| **core-filename** | | string | Existing core file to be included in this AutoSupport. |
| **force** | | boolean optional | Force generation, even if AutoSupport is disabled in the system. The default value is false. |
| **message** | | string optional | Text to include as part of the subject of the AutoSupport message. |
| **node-name** | | string | The name of the filer on which the AutoSupport message will be generated. |
| **uri** | | string optional | Alternate destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations. Supported schemes are file, http & https. As of Data ONTAP 9.3, the file scheme is not supported. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **seq-num** | **[0..2^64-1]** | integer optional | The AutoSupport message sequence number. |

| Errno | Description |
|---|---|
| **E_ASUP_COLLECTION_DISABLED** | |
| **E_ASUP_TRIGGER_DISABLED** | |
| **E_ASUP_TRIGGER_THROTTLED** | |

| E_ASUP_CHECK_INVALID_GENERIC_URI_SCHEME | |
|---|---|

# autosupport-invoke-diagnostic

[top]

Generate and send an AutoSupport message with diagnostic content from specified subsystems.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean<br>optional | Force collection and delivery, even if Diagnostic AutoSupport is disabled in the system. The default value is false. |
| **message-subject** | | string<br>optional | Text to include as part of the subject of the AutoSupport message. |
| **node-name** | | string | The name of the filer on which the AutoSupport message will be generated. |
| | | | List of subsystems whose diagnostic content is to be included in this AutoSupport. Specify up to 4 subsystems. Possible values:<br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware , |

| | | | |
|---|---|---|---|
| **subsystems** | | asup-subsystems[] | "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |
| **uri** | | string optional | The destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **seq-num** | **[0..2^64-1]** | integer optional | The AutoSupport message sequence number. |

| Errno | Description |
|---|---|
| E_ASUP_COLLECTION_DISABLED | |
| E_ASUP_TRIGGER_DISABLED | |
| E_ASUP_TRIGGER_THROTTLED | |

# autosupport-invoke-diagnostic-iter

[top]

Generate and send an AutoSupport message with diagnostic content from specified subsystems.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple autosupport objects match a given query. If set to true, the API will continue with the next matching autosupport even when the operation fails for the autosupport. If set to false, the API will return on the first failure. Default: false |
| **force** | | boolean optional | Force collection and delivery, even if Diagnostic AutoSupport is disabled in the system. The default value is false. |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching autosupport even when the operation on a previous matching autosupport fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of autosupport objects to be operated in this call. Default: 20 |
| **message-subject** | | string optional | Text to include as part of the subject of the AutoSupport message. |
| **query** | | autosupport-config-info | If operating on a specific autosupport, this input element must specify all keys. If operating on autosupport objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of autosupport objects (just keys) that were not operated on due to some error. If set to false, the list of autosupport objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of autosupport objects (just keys) that were successfully operated on. If set to false, the list of autosupport objects operated on will not be returned. Default: true |
| | | | List of subsystems whose diagnostic content is to be included in this AutoSupport. Specify up to 4 subsystems. Possible values:<br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly), |

| | | | |
|---|---|---|---|
| **subsystems** | | asup-subsystems[] | "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload, |

| | | | |
|---|---|---|---|
| | | | "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |
| **tag** | | string<br>optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |
| **uri** | | string<br>optional | The destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | autosupport-invoke-diagnostic-iter-info[]<br>optional | Information about autosupport objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string<br>optional | Tag for the next call. Not present when there are no more matching autosupport objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer<br>optional | The number of autosupport objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer<br>optional | The number of autosupport objects that matched the query and were successfully processed. |
| **success-list** | | autosupport-invoke-diagnostic-iter-info[]<br>optional | The autosupport objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **E_ASUP_COLLECTION_DISABLED** | |
| **E_ASUP_TRIGGER_DISABLED** | |
| **E_ASUP_TRIGGER_THROTTLED** | |

# autosupport-invoke-iter

[top]

Generate a new AutoSupport message

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple autosupport objects match a given query. If set to true, the API will continue with the next matching autosupport even when the operation fails for the autosupport. If set to false, the API will return on the first failure. Default: false |
| **force** | | boolean optional | Force generation, even if AutoSupport is disabled in the system. The default value is false. |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching autosupport even when the operation on a previous matching autosupport fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of autosupport objects to be operated in this call. Default: 20 |
| **message** | | string optional | Text to include as part of the subject of the AutoSupport message. |
| **query** | | autosupport-config-info | If operating on a specific autosupport, this input element must specify all keys. If operating on autosupport objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of autosupport objects (just keys) that were not operated on due to some error. If set to false, the list of autosupport objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of autosupport objects (just keys) that were successfully operated on. If set to false, the list of autosupport objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |
| **type** | | asup-invoke-style | The type of AutoSupport to generate. Possible values:<br>• "test" - Test AutoSupport send and receive only,<br>• "performance" - Generate a Performance AutoSupport as requested by technical support,<br>• "all" - Send all AutoSupport data without time or size limit, as requested by technical support |
| **uri** | | string optional | Alternate destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | autosupport-invoke-iter-info[] optional | Information about autosupport objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string | Tag for the next call. Not present when there are no more |

| | | | |
|---|---|---|---|
| | | optional | matching autosupport objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of autosupport objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of autosupport objects that matched the query and were successfully processed. |
| **success-list** | | autosupport-invoke-iter-info[] optional | The autosupport objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **E_ASUP_COLLECTION_DISABLED** | |
| **E_ASUP_TRIGGER_DISABLED** | |
| **E_ASUP_TRIGGER_THROTTLED** | |

# autosupport-invoke-performance-archive

[top]

Generate and send an AutoSupport message with performance archives.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **case-number** | | string optional | Support case number to associate with this performance archive file. |
| **duration** | | string optional | Duration of the performance archives to collect in the AutoSupport. This is expressed as a quantity followed by a character indicating units of time. Allowed units are h\|m\|s for hours, minutes and seconds. Example '12h' for 12 hours |
| **end-date** | **[0..2^31-1]** | integer optional | End date of files to collect from the performance archive dataset. |
| **force** | | boolean optional | Force generation, even if AutoSupport is disabled in the system. The default value is false. |
| **message** | | string optional | Text to include as part of the subject of the AutoSupport message. |
| **node-name** | | string | The name of the filer on which the AutoSupport message will be generated. |
| **start-date** | **[0..2^31-1]** | integer | Start date of files to collect from the performance archive dataset. |
| **uri** | | string optional | Alternate destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **seq-num** | **[0..2^64-1]** | integer optional | The AutoSupport message sequence number. |

| Errno | Description |
|---|---|
| **E_ASUP_COLLECTION_DISABLED** | |
| **E_ASUP_TRIGGER_DISABLED** | |
| **E_ASUP_TRIGGER_THROTTLED** | |

# autosupport-invoke-performance-archive-iter

[top]

Generate and send an AutoSupport message with performance archives.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **case-number** | | string optional | Support case number to associate with this performance archive file. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple autosupport objects match a given query. If set to true, the API will continue with the next matching autosupport even when the operation fails for the autosupport. If set to false, the API will return on the first failure. Default: false |
| **duration** | | string optional | Duration of the performance archives to collect in the AutoSupport. This is expressed as a quantity followed by a character indicating units of time. Allowed units are h\|m\|s for hours, minutes and seconds. Example '12h' for 12 hours |
| **end-date** | **[0..2^31-1]** | integer optional | End date of files to collect from the performance archive dataset. |
| **force** | | boolean optional | Force generation, even if AutoSupport is disabled in the system. The default value is false. |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching autosupport even when the operation on a previous matching autosupport fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of autosupport objects to be operated in this call. Default: 20 |
| **message** | | string optional | Text to include as part of the subject of the AutoSupport message. |
| **query** | | autosupport-config-info | If operating on a specific autosupport, this input element must specify all keys. If operating on autosupport objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of autosupport objects (just keys) that were not operated on due to some error. If set to false, the list of autosupport objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of autosupport objects (just keys) that were successfully operated on. If set to false, the list of autosupport objects operated on will not be returned. Default: true |
| **start-date** | **[0..2^31-1]** | integer | Start date of files to collect from the performance archive dataset. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |
| **uri** | | string optional | Alternate destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| failure-list | | autosupport-invoke-performance-archive-iter-info[] optional | Information about autosupport objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more matching autosupport objects to be operated on. |
| num-failed | [0..2^32-1] | integer optional | The number of autosupport objects that matched the query, but were not operated on due some error. |
| num-succeeded | [0..2^32-1] | integer optional | The number of autosupport objects that matched the query and were successfully processed. |
| success-list | | autosupport-invoke-performance-archive-iter-info[] optional | The autosupport objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| E_ASUP_COLLECTION_DISABLED | |
| E_ASUP_TRIGGER_DISABLED | |
| E_ASUP_TRIGGER_THROTTLED | |

# autosupport-invoke-splog

[top]

Generate a Remote Service Processor Log AutoSupport message

| Input Name | Range | Type | Description |
|---|---|---|---|
| force | | boolean optional | Force generation, even if AutoSupport is disabled in the system. The default value is false. |
| log-sequence | | integer optional | The sequence number of the logs to be uploaded |
| remote-node | | node-name | The host node name where the Service Processor is present |
| uri | | string optional | Alternate destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# autosupport-manifest-get-iter

[top]

Get a detailed manifest for the contents of an AutoSupport.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **desired-attributes** | | autosupport-manifest-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | autosupport-manifest-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-manifest object. All autosupport-manifest objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | autosupport-manifest-info[] optional | The list of attributes of autosupport-manifest objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more autosupport-manifest objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# autosupport-manifest-get-total-records

[top]

Return the total number of records.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^64-1]** | integer | The total number of autosupport-manifest objects. |

# autosupport-trigger-get

[top]

Get the AutoSupport trigger data for the given node and EMS message.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-trigger-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | string | Node |
| **trigger** | | string | EMS Message |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **attributes** | | autosupport-trigger-info | The attributes of the autosupport-trigger. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# autosupport-trigger-get-iter

[top]

Get a list of the AutoSupport trigger data for all nodes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-trigger-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | autosupport-trigger-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-trigger object. All autosupport-trigger objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | autosupport-trigger-info[] optional | The list of attributes of autosupport-trigger objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more autosupport-trigger objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# autosupport-trigger-get-total-records

[top]

Return the total number of records.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^64-1]** | integer | The total number of autosupport-trigger objects. |

# autosupport-trigger-modify

[top]

Modify the AutoSupport trigger data for the given node and EMS message.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **basic-additional** | | asup-subsystems[] optional | Additional Subsystems Reporting Basic Info Possible values:<br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node, |

| | | | |
|---|---|---|---|
| | | | • "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |
| **node-name** | | string | Node |
| **noteto-enabled** | | string<br>optional | (DEPRECATED) Deliver to AutoSupport -noteto Addresses. Possible values are: enabled or disabled. |
| **size-limit** | | size<br>optional | The data collection size budget for this trigger. Content not collected will be marked as collection-truncated-size-limit in the manifest. |
| **time-limit** | | string<br>optional | The data collection time budget for this trigger (in seconds). Content not collected will be marked as collection-truncated-time-limit in the manifest. |
| **to-enabled** | | string<br>optional | Deliver to AutoSupport -to Addresses. Possible values are: enabled or disabled. |
| **trigger** | | string | EMS Message |
| | | | Additional Subsystems Reporting Troubleshooting Info Possible values:<br><br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node |

| | | | |
|---|---|---|---|
| **troubleshooting-additional** | | asup-subsystems[] optional | (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM, |

| | | | |
|---|---|---|---|
| | | | "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **asup-destination**

[top]

smtp|http|noteto|retransmit Possible values:

- "smtp" - Transmitted via SMTP,
- "http" - Transmitted via HTTP or HTTPS,
- "noteto" - (DEPRECATED) noteto destination,
- "retransmit" - Transmitted to a specified URI destination

[none]

# Element definition: **asup-invoke-style**

[top]

test|performance|all Possible values:

- "test" - Test AutoSupport send and receive only,
- "performance" - Generate a Performance AutoSupport as requested by technical support,
- "all" - Send all AutoSupport data without time or size limit, as requested by technical support

[none]

# Element definition: **asup-subsystems**

[top]

subsys1,subsys2,... Possible values:

- "platform" - Hardware information about the node,
- "mhost" - User Space application information for a node,
- "log_files" - Log files for a node,
- "performance" - Performance statistics for a node (event and weekly),
- "performance_asup" - Performance statistics for a node (hourly),
- "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,
- "san" - SAN specific information for a node,
- "snapvault" - SnapVault specific information for a node,
- "snapmirror" - Snapmirror specific information for a node,
- "dedupe" - Dedupe specific information for a node,
- "nfs" - NFS specific information for a node,
- "wafl" - WAFL specific information for a node,
- "mot" - MOT specific information for a node,
- "ha" - HA specific information for a node,
- "networking" - Networking specific information for a node,
- "cifs" - CIFS specific information for a node,
- "fpolicy" - Fpolicy specific information for a node,
- "multistore" - Multistore specific information for a node,
- "raid" - RAID specific information for a node,
- "storage" - Storage specific information for a node,
- "asup_ems" - ASUP EMS specific information for a node,
- "tape" - Tape specific information for a node,
- "kernel" - kernel specific information for a node,
- "secd" - Security Daemon specific information for a node,
- "metrocluster" - Metrocluster specific information for a node,
- "mandatory" - Mandatory Basic information for a node,
- "repository" - Repository specific information for a node,
- "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,
- "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,
- "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,
- "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,
- "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,
- "splog_rnode" - On demand collected remote SP logs,
- "hm" - Health Monitor Alerts specific information,
- "kcs" - Kernel Cluster Services information for a node,
- "av" - Antivirus specific information for a node,
- "vserver_dr" - Vserver disaster recovery,
- "nwd" - Node Watchdog specific information for a node,
- "vscan" - Vscan specific information for a node,
- "san_ffdc" - SAN specific trace dumps for a node,
- "cluster_peer" - Cluster peering specific dumps for a node,
- "crs" - Config Replication Service information,
- "cps" - Cluster Persistency Storage information,
- "memevt" - MemEVT gathered data from a node,
- "san_fcp" - FCP target driver related information for a node,
- "ndmp" - NDMP information,
- "ndu" - NDU specific information,
- "name_services" - Name Services specific information,
- "san_vdom" - SAN VDOM specific information for a node,
- "snaplock" - SnapLock specific information for a node,
- "key_manager" - Key Manager specific information,
- "appdm" - Application DM,
- "corefile" - Corefile to upload,

- "flexcache" - FlexCache,
- "nvmf" - NVMF specific information,
- "snapshot" - Snapshots specific information,
- "rdma" - RDMA driver and OFED layer specific information,
- "ndo" - NDO specific information,
- "metroclustertcp" - MetroCluster TCP specific information for a node,
- "metroclusterstats" - MetroCluster statistics for data analytics,
- "object_store_server" - Object store server specific information for a node,
- "storage_stats" - Storage statistics for data analytics,
- "ipsec" - IPsec specific information,
- "hm_switch" - Ethernet switch health monitoring information,
- "arw" - Anti-ransomware specific information,
- "svm_migrate" - Vserver migrate information,
- "nic" - NIC driver specific information,
- "splog_full" - Full SPLOG Collection from Service-Processor

[none]

# Element definition: **asup-transport**

[top]

smtp|http|https Possible values:

- "smtp" ,
- "http" ,
- "https"

[none]

# Element definition: **autosupport-budget-info**

[top]

AutoSupport budget data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **def-diagnostic-size-limit** | **[0..2^63-1]** | integer optional | The default setting for diagnostic content collection size (in bytes) for the subsystem. Attributes: non-creatable, non-modifiable |
| **def-diagnostic-time-limit** | | string optional | The default setting for diagnostic content collection time (in seconds) for the subsystem. Attributes: non-creatable, non-modifiable |
| **def-size-limit** | **[0..2^63-1]** | integer optional | The default setting for basic and troubleshooting content collection size (in bytes) for the subsystem. Attributes: non- |

| | | | |
|---|---|---|---|
| | | | creatable, non-modifiable |
| **def-time-limit** | | string optional | The default setting for basic and troubleshooting content collection time (in seconds ) for the subsystem. Attributes: non-creatable, non-modifiable |
| **diagnostic-size-limit** | **[0..2^63-1]** | integer optional | The maximum allowable diagnostic content collection size (in bytes) for the subsystem. Attributes: non-creatable, modifiable |
| **diagnostic-time-limit** | | string optional | The maximum allowable diagnostic content collection time (in seconds) for the subsystem. Attributes: non-creatable, modifiable |
| **node-name** | | string optional | The name of a filer on which the AutoSupport tool is running. Attributes: key, non-creatable, non-modifiable |
| **size-limit** | **[0..2^63-1]** | integer optional | The maximum allowable basic and troubleshooting content collection size (in bytes) for the subsystem. Attributes: non-creatable, modifiable |
| **subsystem** | | asup-subsystems optional | The name of a subsystem from which AutoSupport collects data. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information, |

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|---|---|---|---|
| | | | • "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |
| **time-limit** | | string<br>optional | The maximum allowable basic and troubleshooting content collection time (in seconds ) for the subsystem. Attributes: non-creatable, modifiable |

# Element definition: **autosupport-check-info**

[top]

Status of AutoSupport Subsystem When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| | | | |
|---|---|---|---|

| Name | Range | Type | Description |
|---|---|---|---|
| **check-category** | | string optional | Category of AutoSupport Check Attributes: key, non-creatable, non-modifiable Possible values:<br>• "http_https" - AutoSupport HTTP/HTTPS Destination,<br>• "smtp" - AutoSupport SMTP Destination,<br>• "on_demand" - AutoSupport OnDemand Destination,<br>• "configuration" - AutoSupport Configuration |
| **check-type** | | string optional | Type of AutoSupport Check Attributes: key, non-creatable, non-modifiable Possible values:<br>• "rollup_status" - Overall Status for a category,<br>• "http_put_destination" - HTTP/HTTPS PUT Destination,<br>• "http_post_destination" - HTTP/HTTPS POST Destination,<br>• "mail_server" - AutoSupport MailServer,<br>• "ondemand_server" - AutoSupport OnDemand Server,<br>• "configuration" - AutoSupport Configuration |
| **corrective-action** | | string optional | Action to correct the error seen as the result of this check. Attributes: non-creatable, non-modifiable |
| **error-detail** | | string optional | Detailed Error String for this AutoSupport Check. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | The name of the filer on which the check is being performed. Attributes: key, non-creatable, non-modifiable |
| **status** | | asup-check-status optional | Status of this AutoSupport Check. Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" - The Status of the AutoSupport check is ok.,<br>• "warning" - Please verify the intended behavior.,<br>• "failed" - AutoSupport check failed.,<br>• "not_run" - AutoSupport check could not be run. |

# Element definition: **autosupport-compliant-info**

[top]

Compliant AutoSupport has data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **hash** | | string optional | hash Attributes: non-creatable, non-modifiable |
| **last-used-sequence** | | seqnum optional | Last AutoSupport that used this hash Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **plaintext** | | string optional | Plaintext Attributes: key, non-creatable, non-modifiable |

# Element definition: **autosupport-config-info**

[top]

AutoSupport configuration data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **from** | | mail-address optional | The e-mail address of the local administrator, used as the sender of the AutoSupport message. To generate node-specific 'from' addresses, use the 'node-specific-from' (privilege: advanced) parameter. Attributes: non-creatable, modifiable |
| **is-enabled** | | boolean optional | Specifies whether the AutoSupport daemon is enabled. When this setting is disabled, delivery of all AutoSupport messages is turned off. Attributes: non-creatable, modifiable |
| **is-local-collection-enabled** | | boolean optional | Used to enable / disable collection of AutoSupport data when the AutoSupport daemon is disabled. When this setting is true, collection of AutoSupport data will still be done if is-enabled is false. Attributes: non-creatable, modifiable |
| **is-nht-data-enabled** | | boolean optional | Used to enable / disable collection of disk health data. Attributes: non-creatable, modifiable |
| **is-node-in-subject** | | boolean optional | Specifies whether the filer's hostname should be part of an AutoSupport message's subject field. Attributes: non-creatable, modifiable |
| **is-ondemand-download-enabled** | | boolean optional | Specifies whether the AutoSupport OnDemand Download feature is enabled. Default is true. Attributes: non-creatable, modifiable |
| **is-ondemand-enabled** | | boolean optional | Specifies whether AutoSupport OnDemand is enabled. Default is true. Attributes: non-creatable, modifiable |
| **is-ondemand-remote-diag-enabled** | | boolean optional | Specifies whether the AutoSupport OnDemand Remote Diagnostics feature is enabled. Default is true. Attributes: non-creatable, modifiable |
| **is-perf-data-enabled** | | boolean optional | Used to enable / disable collection of Performance AutoSupport data. Attributes: non-creatable, modifiable |
| **is-private-data-removed** | | boolean optional | Used to enable / disable removal of customer-supplied data. Attributes: non-creatable, modifiable |
| **is-reminder-** | | boolean | Specifies whether to enable / disable AutoSupport reminders. |

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|---|---|---|---|
| **enabled** | | optional | Attributes: non-creatable, modifiable |
| **is-support-enabled** | | boolean optional | Specifies whether AutoSupport notification to technical support is enabled. Attributes: non-creatable, modifiable |
| **is-throttle-enabled** | | boolean optional | Specifies whether to enable / disable throttling to prevent a potential avalanche of AutoSupport messages. Attributes: non-creatable, modifiable |
| **last-subject** | | string optional | The subject field of the last generated AutoSupport message. Attributes: non-creatable, non-modifiable |
| **last-timestamp** | **[0..2^31-1]** | integer optional | The timestamp of the last generated AutoSupport message. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable |
| **mail-hosts** | | string[] optional | The name of the mail server(s) used to deliver AutoSupport messages via SMTP. Both host names and IP addresses may be used as valid input. One can optionally specify a username/password for authentication with the mailserver(rfc4954). Attributes: non-creatable, modifiable |
| **max-download-rate** | **[0..2^63-1]** | integer optional | Maximum download rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or in the range 20480 (20KBps)- 10737418240 (10GBps). Attributes: non-creatable, modifiable |
| **max-http-size** | **[0..2^63-1]** | integer optional | Delivery size limit for the HTTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB). Attributes: non-creatable, modifiable |
| **max-smtp-size** | **[0..2^63-1]** | integer optional | Delivery size limit for the SMTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB). Attributes: non-creatable, modifiable |
| **max-upload-rate** | **[0..2^63-1]** | integer optional | Maximum upload rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 20480 (20KBps). Attributes: non-creatable, modifiable |
| **minimum-private-data-length** | **[2..1024]** | integer optional | Minimum Length for Sensitive Data Attributes: non-creatable, modifiable |
| **node-name** | | string optional | The name of the filer that owns the AutoSupport configuration. Attributes: key, non-creatable, non-modifiable |
| **node-specific-from** | | boolean optional | Specifies whether to generate a node-specific 'from' address by prepending the node name to the 'from' email address. Default is false. Attributes: non-creatable, modifiable |
| **noteto** | | mail-address[] optional | (DEPRECATED) Specifies up to five recipients of short AutoSupport e-mail messages. Attributes: non-creatable, modifiable |
| **ondemand-polling-interval** | **[0..2^32-1]** | integer optional | The AutoSupport OnDemand Client polling rate in minutes. As of Data ONTAP 8.3.1, this value should be in the range 5-2880. Attributes: non-creatable, modifiable |
| **ondemand-server-url** | | string optional | The AutoSupport OnDemand Server URL. Attributes: non-creatable, modifiable |
| **partner-address** | | mail-address[] optional | Specifies up to five partner vendor recipients of full AutoSupport e-mail messages. Attributes: non-creatable, modifiable |
| **payload-format** | | compression-format | The format used to compress the AutoSupport message payload. Attributes: non-creatable, modifiable Possible values:<br>• "7z" - 7-Zip Archive, |

| | | | |
|---|---|---|---|
| | | optional | • "tgz" - Zipped Tarball |
| **periodic-tx-window** | | string optional | The transmission window (seconds). Attributes: non-creatable, modifiable |
| **post-url** | | string optional | The URL used to deliver AutoSupport messages via HTTP POST. Attributes: non-creatable, modifiable |
| **proxy-url** | | string optional | Optional proxy host for AutoSupport message delivery via HTTP. Attributes: non-creatable, modifiable |
| **put-url** | | string optional | The URL used to deliver AutoSupport messages via HTTP PUT. Attributes: non-creatable, modifiable |
| **retry-count** | **[0..2^32-1]** | integer optional | The maximum number of delivery attempts for an AutoSupport message. As of Data ONTAP 8.3.1, this value should be in the range 5-30. Attributes: non-creatable, modifiable |
| **retry-interval** | | string optional | The number of seconds to wait, after a failed delivery attempt, prior to re-transmitting an AutoSupport message. Attributes: non-creatable, modifiable |
| **support-address** | | mail-address[] optional | The e-mail address of Support. Attributes: non-creatable, modifiable |
| **to** | | mail-address[] optional | Specifies up to five recipients of full AutoSupport e-mail messages. Attributes: non-creatable, modifiable |
| **transport** | | asup-transport optional | The name of the transport protocol used to deliver AutoSupport messages. Attributes: non-creatable, modifiable Possible values: • "smtp" , • "http" , • "https" |
| **validate-digital-certificate** | | boolean optional | Validate Digital Certificate Received Attributes: non-creatable, modifiable |

# Element definition: **autosupport-destinations-info**

[top]

AutoSupport destination summary When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **destinations** | | string[] optional | A comma separated list of destinations used to deliver AutoSupport messages. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | The name of the filer that owns this destination configuration. Attributes: key, non-creatable, non-modifiable |

# Element definition: **autosupport-download-info**

[top]

AutoSupport OnDemand download data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **download-type** | | aod-download optional | The type of the download. Attributes: non-creatable, non-modifiable Possible values:<br>• "licensing" - Download licenses for a node or cluster |
| **error** | | string optional | The error string recorded for this download. This string may be empty. Attributes: non-creatable, non-modifiable |
| **id** | **[0..2^64-1]** | integer optional | The download ID. Attributes: key, non-creatable, non-modifiable |
| **last-modification-timestamp** | **[0..2^31-1]** | integer optional | The timestamp of the last update to this download record. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | The name of the filer that performed the download. Attributes: key, non-creatable, non-modifiable |
| **result** | | string optional | The path to the downloaded results on the filer. Attributes: non-creatable, non-modifiable |
| **status** | | aod-download-status optional | The status for this download. Attributes: non-creatable, non-modifiable Possible values:<br>• "initialized" - Download request is ready to be transmitted to the AutoSupport OnDemand server,<br>• "request_failed" - Download request could not be transmitted,<br>• "not_supported" - Download request type is not known by the AutoSupport OnDemand server,<br>• "transferring" - Requested data is being downloaded,<br>• "completed" - Download has completed successfully,<br>• "cancelled" - Download was cancelled,<br>• "failed" - Download failed to complete |

# Element definition: **autosupport-history-info**

[top]

AutoSupport history data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **attempt-count** | **[0..2^32-1]** | integer optional | The number of attempted deliveries for this AutoSupport message. Attributes: non-creatable, non-modifiable |
| **decompressed-size** | | size optional | The decompressed size in bytes of the Autosupport message. Attributes: non-creatable, non-modifiable |
| **destination** | | asup-destination optional | The transport protocol for this AutoSupport message's destination. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "smtp" - Transmitted via SMTP,<br>• "http" - Transmitted via HTTP or HTTPS,<br>• "noteto" - (DEPRECATED) noteto destination,<br>• "retransmit" - Transmitted to a specified URI destination |
| **generation-timestamp** | **[0..2^31-1]** | integer optional | The timestamp of the original generation (collection) of this AutoSupport message. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable |
| **last-modification-timestamp** | **[0..2^31-1]** | integer optional | The timestamp of the last update to this history record. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | The name of the filer where the AutoSupport message was previously generated. Attributes: key, non-creatable, non-modifiable |
| **percent-complete** | **[0..100]** | integer optional | The perentage of the AutoSupport message transmitted successfully. Attributes: non-creatable, non-modifiable |
| **seq-num** | **[0..2^64-1]** | integer optional | The AutoSupport message sequence number. Attributes: key, non-creatable, non-modifiable |
| **size** | | size optional | The compressed size in bytes of the AutoSupport message. Attributes: non-creatable, non-modifiable |
| **status** | | asup-status optional | The delivery status for this AutoSupport message. Attributes: non-creatable, non-modifiable Possible values:<br>• "initializing" - ASUP request is being processed,<br>• "collection_failed" - The AutoSupport Collection failed. See 'Last Error' for more information,<br>• "collection_in_progress" - The AutoSupport Collection is in progress,<br>• "queued" - ASUP is queued for delivery,<br>• "transmitting" - ASUP transmission is in progress,<br>• "sent_successful" - ASUP was successfully sent,<br>• "ignore" - ASUP was processed successfully but has no destinations configured,<br>• "re_queued" - ASUP transmission failed and has been re-queued,<br>• "transmission_failed" - ASUP transmission has failed and the retry limit has been exceeded,<br>• "ondemand_ignore" - ASUP was processed successfully but ASUP OnDemand has declined delivery,<br>• "cancelled" - ASUP transmission cancelled |
| **subject** | | string optional | The subject field of this AutoSupport message. Attributes: non-creatable, non-modifiable |

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|---|---|---|---|
| **time-remaining** | | time-interval optional | The estimate of the amount of time for the AutoSupport Message to be fully transmitted. Attributes: non-creatable, non-modifiable |
| **total-time** | **[0..2^64-1]** | integer optional | The total collection time in msec of the Autosupport message. Attributes: non-creatable, non-modifiable |
| **trigger** | | string optional | The name of the EMS event that triggered this AutoSupport message. Attributes: non-creatable, non-modifiable |
| **upload-rate** | | byte-rate optional | The approximate rate in bytes per second of the AutoSupport Message upload. Attributes: non-creatable, non-modifiable |
| **uri** | | string optional | The URI used to deliver this AutoSupport message. Attributes: non-creatable, non-modifiable |

# Element definition: **autosupport-invoke-diagnostic-iter-info**

[top]

Information about the operation that was attempted/performed against autosupport object.

| Name | Range | Type | Description |
|---|---|---|---|
| **autosupport-key** | | autosupport-config-info | The keys for the autosupport object to which the operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **seq-num** | **[0..2^64-1]** | integer optional | The AutoSupport message sequence number. |

# Element definition: **autosupport-invoke-iter-info**

[top]

Information about the operation that was attempted/performed against autosupport object.

| Name | Range | Type | Description |
|---|---|---|---|
| **autosupport-key** | | autosupport-config-info | The keys for the autosupport object to which the operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **seq-num** | **[0..2^64-1]** | integer optional | The AutoSupport message sequence number. |

# Element definition: **autosupport-invoke-performance-archive-iter-info**

[top]

Information about the operation that was attempted/performed against autosupport object.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **autosupport-key** | | autosupport-config-info | The keys for the autosupport object to which the operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **seq-num** | **[0..2^64-1]** | integer optional | The AutoSupport message sequence number. |

# Element definition: **autosupport-manifest-info**

[top]

AutoSupport manifest data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **body-file** | | string optional | The AutoSupport Content Filename for this Data Attributes: non-creatable, non-modifiable |
| **cmd** | | string optional | Actual Data Being Collected Attributes: non-creatable, non-modifiable |
| **cmd-tgt** | | autosupport-cmd-tgt optional | Execution Domain for Command Attributes: non-creatable, non-modifiable Possible values:<br>• "bsd" - Command executed by BSD,<br>• "smf_table" - Command selects SMF table,<br>• "file" - Command indicates file to collect,<br>• "dblade" - Collect from dbladecli,<br>• "dblade_file" - Collect a file from dblade. Could be partner file,<br>• "zapi_xml" - Response in XML format,<br>• "custom_fx" - Collect custom function output file |
| **content-type** | | asup-content-type optional | AutoSupport Content Type for this Data Attributes: non-creatable, non-modifiable Possible values:<br>• "basic" - ASUP will contain minimal set of data for this subsystem,<br>• "troubleshooting" - ASUP will contain detailed collection of data for this subsystem,<br>• "diagnostic" - ASUP will contain diagnostic data for this subsystem |
| **error** | | string optional | Textual Description of Error Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Node Attributes: key, non-creatable, non-modifiable |
| **orig-size-collected** | **[0..2^63-1]** | integer optional | Initial Number of Bytes Collected Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **prio-num** | **[0..2^32-1]** | integer optional | Priority Order of Collection Attributes: key, non-creatable, non-modifiable |
| **query** | | string optional | Table Query for XML Collection Attributes: non-creatable, non-modifiable |
| **seq-num** | **[0..2^64-1]** | integer optional | AutoSupport Sequence Number Attributes: key, non-creatable, non-modifiable |
| **size-collected** | **[0..2^63-1]** | integer optional | Number of Bytes Collected Attributes: non-creatable, non-modifiable |
| **size-compressed** | **[0..2^63-1]** | integer optional | Compressed Size Attributes: non-creatable, non-modifiable |
| **status** | | asup-manifest-status optional | Status of this Data Item Attributes: non-creatable, non-modifiable Possible values:<br>• "requested" - ASUP request has been added to the queue and is waiting processing by the collector,<br>• "working" - ASUP Collector is actively gathering the needed data,<br>• "file_not_found" - ASUP collection failed, a needed file is missing,<br>• "no_such_table" - ASUP collection was unable to find the requested SMF table,<br>• "collection_truncated_size_limit" - ASUP collection truncated due to size limits and partial data is available,<br>• "collection_skipped_size_limit" - ASUP collection skipped due to size limits and no data is available,<br>• "collection_truncated_time_limit" - ASUP collection truncated due to time limits and partial data is available,<br>• "collection_skipped_time_limit" - ASUP collection skipped due to time limits and no data is available,<br>• "delivery_skipped_size_limit" - ASUP data was skipped at delivery time due to size limits,<br>• "general_error" - ASUP collection failed, additional information if any will be in the Error String field,<br>• "completed" - ASUP collection is complete, ready for delivery,<br>• "content_not_collected_mode" - ASUP content was not collected, incompatible operational mode,<br>• "content_not_collected_precheck" - ASUP content was not collected, pre-check function violation,<br>• "content_not_collected_privacy" - ASUP content was not collected, the operation is disabled in privacy mode,<br>• "content_empty" - ASUP content was collected successfully, but output was empty,<br>• "collection_aborted" - ASUP collection aborted, additional information if any, will be in available in the Error field,<br>• "collection_truncated_file_size_limit" - ASUP file truncated due to size limits and partial data is available,<br>• "collection_skipped_trigger_time_limit" - ASUP collection was skipped due to trigger time limit,<br>• "collection_incomplete" - ASUP content collection incomplete,<br>• "collection_skipped_trigger_size_limit" - ASUP collection was skipped due to trigger size limit,<br>• "collection_truncated_age" - ASUP file truncated due to age and partial data is available |
| | | | Subsystem Attributes: non-creatable, non-modifiable Possible values: |

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| **subsystem** | | asup-subsystems optional | "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node, |

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| | | | "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |
| **time-collected** | **[0..2^64-1]** | integer optional | Collection Time for this Data Item (ms) Attributes: non-creatable, non-modifiable |

# Element definition: **autosupport-trigger-info**

[top]

AutoSupport trigger data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-content** | | asup-content-type[] optional | Additional Content Flag Attributes: non-creatable, non-modifiable Possible values:<br>• "basic" - ASUP will contain minimal set of data for this subsystem,<br>• "troubleshooting" - ASUP will contain detailed collection of data for this subsystem,<br>• "diagnostic" - ASUP will contain diagnostic data for this subsystem |
| | | | Additional Subsystems Reporting Basic Info Attributes: non-creatable, modifiable Possible values:<br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node, |

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| **basic-additional** | | asup-subsystems[] optional | "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node, |

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| | | | "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |
| | | | Default Subsystems Reporting Basic Info Attributes: non-creatable, non-modifiable Possible values:<br><br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a |

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|---|---|---|---|
| **basic-default** | | asup-subsystems[] optional | node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |
| **node-name** | | string optional | Node Attributes: key, non-creatable, non-modifiable |

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| **noteto-enabled** | | string optional | (DEPRECATED) Deliver to AutoSupport -noteto Addresses. Possible values are: enabled or disabled. Attributes: non-creatable, modifiable |
| **size-limit** | | size optional | The data collection size budget for this trigger. Content not collected will be marked as collection-truncated-size-limit in the manifest. Attributes: non-creatable, modifiable |
| **time-limit** | | string optional | The data collection time budget for this trigger (in seconds). Content not collected will be marked as collection-truncated-time-limit in the manifest. Attributes: non-creatable, modifiable |
| **to-enabled** | | string optional | Deliver to AutoSupport -to Addresses. Possible values are: enabled or disabled. Attributes: non-creatable, modifiable |
| **trigger** | | string optional | EMS Message Attributes: key, non-creatable, non-modifiable |
| | | asup- | Additional Subsystems Reporting Troubleshooting Info Attributes: non-creatable, modifiable Possible values:<br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down, |

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|---|---|---|---|
| **troubleshooting-additional** | | subsystems[] optional | "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |
| | | | Default Subsystems Reporting Troubleshooting Info Attributes: non-creatable, non-modifiable Possible values:<br><br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node, |

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|---|---|---|---|
| **troubleshooting-default** | | asup-subsystems[] optional | "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information, |

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| | | | "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |

## Element definition: **compression-format**

[top]

7z|tgz Possible values:

- "7z" - 7-Zip Archive,
- "tgz" - Zipped Tarball

[none]

## Element definition: **mail-address**

[top]

E-mail Address

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **aod-download**

[top]

aod_download Possible values:

- "licensing" - Download licenses for a node or cluster

[none]

## Element definition: **aod-download-status**

[top]

aod_download_status Possible values:

- "initialized" - Download request is ready to be transmitted to the AutoSupport OnDemand server,
- "request_failed" - Download request could not be transmitted,
- "not_supported" - Download request type is not known by the AutoSupport OnDemand server,
- "transferring" - Requested data is being downloaded,
- "completed" - Download has completed successfully,
- "cancelled" - Download was cancelled,
- "failed" - Download failed to complete

[none]

## Element definition: **asup-check-status**

[top]

ok|warning|failed|not-run Possible values:

- "ok" - The Status of the AutoSupport check is ok.,
- "warning" - Please verify the intended behavior.,
- "failed" - AutoSupport check failed.,
- "not_run" - AutoSupport check could not be run.

[none]

## Element definition: **asup-content-type**

[top]

Type of AutoSupport content Possible values:

- "basic" - ASUP will contain minimal set of data for this subsystem,
- "troubleshooting" - ASUP will contain detailed collection of data for this subsystem,
- "diagnostic" - ASUP will contain diagnostic data for this subsystem

[none]

## Element definition: **asup-destination**

[top]

smtp|http|noteto|retransmit Possible values:

- "smtp" - Transmitted via SMTP,
- "http" - Transmitted via HTTP or HTTPS,
- "noteto" - (DEPRECATED) noteto destination,
- "retransmit" - Transmitted to a specified URI destination

[none]

## Element definition: **asup-manifest-status**

[top]

AutoSupport manifest collection status Possible values:

- "requested" - ASUP request has been added to the queue and is waiting processing by the collector,
- "working" - ASUP Collector is actively gathering the needed data,
- "file_not_found" - ASUP collection failed, a needed file is missing,
- "no_such_table" - ASUP collection was unable to find the requested SMF table,
- "collection_truncated_size_limit" - ASUP collection truncated due to size limits and partial data is available,
- "collection_skipped_size_limit" - ASUP collection skipped due to size limits and no data is available,
- "collection_truncated_time_limit" - ASUP collection truncated due to time limits and partial data is available,
- "collection_skipped_time_limit" - ASUP collection skipped due to time limits and no data is available,
- "delivery_skipped_size_limit" - ASUP data was skipped at delivery time due to size limits,
- "general_error" - ASUP collection failed, additional information if any will be in the Error String field,
- "completed" - ASUP collection is complete, ready for delivery,
- "content_not_collected_mode" - ASUP content was not collected, incompatible operational mode,
- "content_not_collected_precheck" - ASUP content was not collected, pre-check function violation,
- "content_not_collected_privacy" - ASUP content was not collected, the operation is disabled in privacy mode,
- "content_empty" - ASUP content was collected successfully, but output was empty,
- "collection_aborted" - ASUP collection aborted, additional information if any, will be in available in the Error field,
- "collection_truncated_file_size_limit" - ASUP file truncated due to size limits and partial data is available,
- "collection_skipped_trigger_time_limit" - ASUP collection was skipped due to trigger time limit,
- "collection_incomplete" - ASUP content collection incomplete,
- "collection_skipped_trigger_size_limit" - ASUP collection was skipped due to trigger size limit,
- "collection_truncated_age" - ASUP file truncated due to age and partial data is available

[none]

# Element definition: **asup-status**

[top]

AutoSupport general status Possible values:

- "initializing" - ASUP request is being processed,
- "collection_failed" - The AutoSupport Collection failed. See 'Last Error' for more information,
- "collection_in_progress" - The AutoSupport Collection is in progress,
- "queued" - ASUP is queued for delivery,
- "transmitting" - ASUP transmission is in progress,
- "sent_successful" - ASUP was successfully sent,
- "ignore" - ASUP was processed successfully but has no destinations configured,
- "re_queued" - ASUP transmission failed and has been re-queued,
- "transmission_failed" - ASUP transmission has failed and the retry limit has been exceeded,
- "ondemand_ignore" - ASUP was processed successfully but ASUP OnDemand has declined delivery,
- "cancelled" - ASUP transmission cancelled

[none]

# Element definition: **asup-subsystems**

[top]

subsys1,subsys2,... Possible values:

- "platform" - Hardware information about the node,
- "mhost" - User Space application information for a node,
- "log_files" - Log files for a node,
- "performance" - Performance statistics for a node (event and weekly),
- "performance_asup" - Performance statistics for a node (hourly),
- "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,
- "san" - SAN specific information for a node,
- "snapvault" - SnapVault specific information for a node,
- "snapmirror" - Snapmirror specific information for a node,
- "dedupe" - Dedupe specific information for a node,
- "nfs" - NFS specific information for a node,
- "wafl" - WAFL specific information for a node,
- "mot" - MOT specific information for a node,
- "ha" - HA specific information for a node,
- "networking" - Networking specific information for a node,
- "cifs" - CIFS specific information for a node,
- "fpolicy" - Fpolicy specific information for a node,
- "multistore" - Multistore specific information for a node,
- "raid" - RAID specific information for a node,
- "storage" - Storage specific information for a node,
- "asup_ems" - ASUP EMS specific information for a node,
- "tape" - Tape specific information for a node,
- "kernel" - kernel specific information for a node,
- "secd" - Security Daemon specific information for a node,
- "metrocluster" - Metrocluster specific information for a node,
- "mandatory" - Mandatory Basic information for a node,
- "repository" - Repository specific information for a node,
- "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,
- "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,
- "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,

- "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,
- "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,
- "splog_rnode" - On demand collected remote SP logs,
- "hm" - Health Monitor Alerts specific information,
- "kcs" - Kernel Cluster Services information for a node,
- "av" - Antivirus specific information for a node,
- "vserver_dr" - Vserver disaster recovery,
- "nwd" - Node Watchdog specific information for a node,
- "vscan" - Vscan specific information for a node,
- "san_ffdc" - SAN specific trace dumps for a node,
- "cluster_peer" - Cluster peering specific dumps for a node,
- "crs" - Config Replication Service information,
- "cps" - Cluster Persistency Storage information,
- "memevt" - MemEVT gathered data from a node,
- "san_fcp" - FCP target driver related information for a node,
- "ndmp" - NDMP information,
- "ndu" - NDU specific information,
- "name_services" - Name Services specific information,
- "san_vdom" - SAN VDOM specific information for a node,
- "snaplock" - SnapLock specific information for a node,
- "key_manager" - Key Manager specific information,
- "appdm" - Application DM,
- "corefile" - Corefile to upload,
- "flexcache" - FlexCache,
- "nvmf" - NVMF specific information,
- "snapshot" - Snapshots specific information,
- "rdma" - RDMA driver and OFED layer specific information,
- "ndo" - NDO specific information,
- "metroclustertcp" - MetroCluster TCP specific information for a node,
- "metroclusterstats" - MetroCluster statistics for data analytics,
- "object_store_server" - Object store server specific information for a node,
- "storage_stats" - Storage statistics for data analytics,
- "ipsec" - IPsec specific information,
- "hm_switch" - Ethernet switch health monitoring information,
- "arw" - Anti-ransomware specific information,
- "svm_migrate" - Vserver migrate information,
- "nic" - NIC driver specific information,
- "splog_full" - Full SPLOG Collection from Service-Processor

[none]

# Element definition: **asup-transport**

[top]

smtp|http|https Possible values:

- "smtp" ,
- "http" ,
- "https"

[none]

# Element definition: **autosupport-cmd-tgt**

[top]

Execution domain of AutoSupport content Possible values:

- "bsd" - Command executed by BSD,
- "smf_table" - Command selects SMF table,
- "file" - Command indicates file to collect,
- "dblade" - Collect from dbladecli,
- "dblade_file" - Collect a file from dblade. Could be partner file,
- "zapi_xml" - Response in XML format,
- "custom_fx" - Collect custom function output file

[none]

# Element definition: **autosupport-config-info**

[top]

AutoSupport configuration data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **from** | | mail-address optional | The e-mail address of the local administrator, used as the sender of the AutoSupport message. To generate node-specific 'from' addresses, use the 'node-specific-from' (privilege: advanced) parameter. Attributes: non-creatable, modifiable |
| **is-enabled** | | boolean optional | Specifies whether the AutoSupport daemon is enabled. When this setting is disabled, delivery of all AutoSupport messages is turned off. Attributes: non-creatable, modifiable |
| **is-local-collection-enabled** | | boolean optional | Used to enable / disable collection of AutoSupport data when the AutoSupport daemon is disabled. When this setting is true, collection of AutoSupport data will still be done if is-enabled is false. Attributes: non-creatable, modifiable |
| **is-nht-data-enabled** | | boolean optional | Used to enable / disable collection of disk health data. Attributes: non-creatable, modifiable |
| **is-node-in-subject** | | boolean optional | Specifies whether the filer's hostname should be part of an AutoSupport message's subject field. Attributes: non-creatable, modifiable |
| **is-ondemand-download-enabled** | | boolean optional | Specifies whether the AutoSupport OnDemand Download feature is enabled. Default is true. Attributes: non-creatable, modifiable |
| **is-ondemand-enabled** | | boolean optional | Specifies whether AutoSupport OnDemand is enabled. Default is true. Attributes: non-creatable, modifiable |
| **is-ondemand-** | | boolean | Specifies whether the AutoSupport OnDemand Remote |

| | | | |
|---|---|---|---|
| **remote-diag-enabled** | | optional | Diagnostics feature is enabled. Default is true. Attributes: non-creatable, modifiable |
| **is-perf-data-enabled** | | boolean optional | Used to enable / disable collection of Performance AutoSupport data. Attributes: non-creatable, modifiable |
| **is-private-data-removed** | | boolean optional | Used to enable / disable removal of customer-supplied data. Attributes: non-creatable, modifiable |
| **is-reminder-enabled** | | boolean optional | Specifies whether to enable / disable AutoSupport reminders. Attributes: non-creatable, modifiable |
| **is-support-enabled** | | boolean optional | Specifies whether AutoSupport notification to technical support is enabled. Attributes: non-creatable, modifiable |
| **is-throttle-enabled** | | boolean optional | Specifies whether to enable / disable throttling to prevent a potential avalanche of AutoSupport messages. Attributes: non-creatable, modifiable |
| **last-subject** | | string optional | The subject field of the last generated AutoSupport message. Attributes: non-creatable, non-modifiable |
| **last-timestamp** | **[0..2^31-1]** | integer optional | The timestamp of the last generated AutoSupport message. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable |
| **mail-hosts** | | string[] optional | The name of the mail server(s) used to deliver AutoSupport messages via SMTP. Both host names and IP addresses may be used as valid input. One can optionally specify a username/password for authentication with the mailserver(rfc4954). Attributes: non-creatable, modifiable |
| **max-download-rate** | **[0..2^63-1]** | integer optional | Maximum download rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or in the range 20480 (20KBps)- 10737418240 (10GBps). Attributes: non-creatable, modifiable |
| **max-http-size** | **[0..2^63-1]** | integer optional | Delivery size limit for the HTTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB). Attributes: non-creatable, modifiable |
| **max-smtp-size** | **[0..2^63-1]** | integer optional | Delivery size limit for the SMTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB). Attributes: non-creatable, modifiable |
| **max-upload-rate** | **[0..2^63-1]** | integer optional | Maximum upload rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 20480 (20KBps). Attributes: non-creatable, modifiable |
| **minimum-private-data-length** | **[2..1024]** | integer optional | Minimum Length for Sensitive Data Attributes: non-creatable, modifiable |
| **node-name** | | string optional | The name of the filer that owns the AutoSupport configuration. Attributes: key, non-creatable, non-modifiable |
| **node-specific-from** | | boolean optional | Specifies whether to generate a node-specific 'from' address by prepending the node name to the 'from' email address. Default is false. Attributes: non-creatable, modifiable |
| **noteto** | | mail-address[] optional | (DEPRECATED) Specifies up to five recipients of short AutoSupport e-mail messages. Attributes: non-creatable, modifiable |
| **ondemand-** | **[0..2^32-** | integer | The AutoSupport OnDemand Client polling rate in minutes. As of |

| | | | |
|---|---|---|---|
| **polling-interval** | **1]** | optional | Data ONTAP 8.3.1, this value should be in the range 5-2880. Attributes: non-creatable, modifiable |
| **ondemand-server-url** | | string optional | The AutoSupport OnDemand Server URL. Attributes: non-creatable, modifiable |
| **partner-address** | | mail-address[] optional | Specifies up to five partner vendor recipients of full AutoSupport e-mail messages. Attributes: non-creatable, modifiable |
| **payload-format** | | compression-format optional | The format used to compress the AutoSupport message payload. Attributes: non-creatable, modifiable Possible values:<br>• "7z" - 7-Zip Archive,<br>• "tgz" - Zipped Tarball |
| **periodic-tx-window** | | string optional | The transmission window (seconds). Attributes: non-creatable, modifiable |
| **post-url** | | string optional | The URL used to deliver AutoSupport messages via HTTP POST. Attributes: non-creatable, modifiable |
| **proxy-url** | | string optional | Optional proxy host for AutoSupport message delivery via HTTP. Attributes: non-creatable, modifiable |
| **put-url** | | string optional | The URL used to deliver AutoSupport messages via HTTP PUT. Attributes: non-creatable, modifiable |
| **retry-count** | **[0..2^32-1]** | integer optional | The maximum number of delivery attempts for an AutoSupport message. As of Data ONTAP 8.3.1, this value should be in the range 5-30. Attributes: non-creatable, modifiable |
| **retry-interval** | | string optional | The number of seconds to wait, after a failed delivery attempt, prior to re-transmitting an AutoSupport message. Attributes: non-creatable, modifiable |
| **support-address** | | mail-address[] optional | The e-mail address of Support. Attributes: non-creatable, modifiable |
| **to** | | mail-address[] optional | Specifies up to five recipients of full AutoSupport e-mail messages. Attributes: non-creatable, modifiable |
| **transport** | | asup-transport optional | The name of the transport protocol used to deliver AutoSupport messages. Attributes: non-creatable, modifiable Possible values:<br>• "smtp" ,<br>• "http" ,<br>• "https" |
| **validate-digital-certificate** | | boolean optional | Validate Digital Certificate Received Attributes: non-creatable, modifiable |

# Element definition: **byte-rate**

[top]

Bytes per second Range : [0..2^63-1].

[none]

# Element definition: **compression-format**

[top]

7z|tgz Possible values:

- "7z" - 7-Zip Archive,
- "tgz" - Zipped Tarball

[none]

## Element definition: **mail-address**

[top]

E-mail Address

[none]

## Element definition: **seqnum**

[top]

Reverse-ordered Integer Range : [0..2^64-1].

[none]

## Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

## Element definition: **asup-transport**

[top]

smtp|http|https Possible values:

- "smtp" ,
- "http" ,
- "https"

[none]

# APIs in Category: **cf**


cf-aggregate-giveback-status
cf-force-takeover
cf-get-iter
cf-get-partner
cf-giveback
cf-hwassist-stats
cf-hwassist-stats-clear
cf-hwassist-status
cf-hwassist-test
cf-mode-set
cf-modify-iter
cf-negotiated-failover-disable
cf-negotiated-failover-enable
cf-negotiated-failover-status
cf-service-disable
cf-service-enable
cf-status
cf-takeover
cf-takeover-status


## cf-aggregate-giveback-status

[top]

Returns giveback status of all the aggregates in the cluster which are taken over or were given back.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cf-aggregate-giveback-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..100]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cf-aggregate-giveback-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cf object. All cf objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cf-aggregate-giveback-info[] | The list of attributes of cf objects. |

| | | | |
|---|---|---|---|
| | | optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cf objects to return. |
| **num-records** | **[0..100]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cf-force-takeover

[top]

Forces one filer to take over its partner even though the filer detects an error that would otherwise prevent a takeover. For example, normally, if a detached or faulty interconnect cable between the filers causes the filers' NVRAM contents to be unsynchronized, takeover is disabled. However, this will allow the filer to take over its partner despite the unsynchronized NVRAM contents. cf-force-takeover is dangerous and can lead to data corruption; in almost all cases, use cf-takeover instead.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disaster** | | boolean optional | When set to true, forces a filer to take over its partner in all cases where a force-takeover would. In addition it will force a takeover even if some partner mailbox disks are inaccessible. It can only be used when remotesyncmirror is licensed. This option is very dangerous. Not only can it cause data corruption, if not used carefully, it can also lead to a situation where both the filer and it's partner are operational (split brain). As such, it should only be used as a means of last resort when the takeover and force-takeover operations are unsuccessful in achieving a takeover. The operator must ensure that the partner filer does not become operational at any time while a filer is in a takeover mode initiated by the use of this operation. In conjunction with RAID mirroring, it can allow recovery from a disaster when the two filers are setup in a MetroCluster configuration. |
| **node** | | string | This parameter is the name of the node which is doing a takeover of its partner. |

| Errno | Description |
|---|---|
| **ETAKEOVERINPROGRESS** | |
| **ESENDHOMEINPROGRESS** | |
| **EVERSIONMISMATCH** | |
| **EMBOXDEGRADED** | |
| **EBADOPTIONS** | |
| **EWAITINGFORPARTNER** | |
| **ENOTHALTED** | |
| **ENODENOTFOUND** | |
| **EINTERNALERROR** | |

# cf-get-iter

[top]

Iterate over a list of cf objects.

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-failover-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-failover-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cf object. All cf objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-failover-info[] optional | The list of attributes of cf objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cf objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cf-get-partner

[top]

Get the host name of the partner. If the name is unknown, It will return partner-unknown.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | The node name is passed as an argument |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **partner** | | string | Host name of the partner or partner-unknown, if the host name is not known. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# cf-giveback

[top]

Initiates a giveback of partner resources. Once the giveback is complete, the automatic takeover capability is disabled until the partner is rebooted. A giveback fails if outstanding CIFS sessions, active system dump processes, or other filer operations makes a giveback dangerous or disruptive.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | When set to true, this allows a giveback to proceed even if there are outstanding CIFS sessions, active system dump processes, or other filer operations which makes a giveback dangerous or disruptive as long as it would not result in data corruption or filer error. When set to false, this does not allow a giveback to proceed if there are outstanding CIFS sessions, active system dump processes, or other filer operations which makes a giveback dangerous or disruptive. The default value is false. |
| **node** | | string | This parameter is the name of the node which performs giveback to its partner. |
| **only-cfo-aggregates** | | boolean optional | When set to true, only the CFO HA-style aggregates (which includes the root aggregate) will be given back. This may be needed in the case when the partner node's VLDB and other such management applications are not properly working (they are required to be online for the SFO HA-style aggregates to start serving data), so it might not be possible to giveback SFO HA-style aggregates. When set to false, all the aggregates (CFO HA-style aggregates + SFO HA-style aggregates) will be given back. The default value is false. |
| **override-vetoes** | | boolean optional | Some conditions cause attempts to giveback aggregates to be vetoed. When set to true, this allows the process of giveback of the aggregates to be initiated even in the face of such vetoes. When set to false, this does not allow the process of giveback of the aggregates to proceed if there are any vetoes. The default value is false. |
| **require-partner-waiting** | | boolean optional | When set to true, this ensures that the process of giveback of the aggregates is not initiated if the partner is not up and waiting to receive them. When set to false, this allows the process of giveback of the aggregates to proceed even if the partner is not up and waiting to receive them. The default value is true. |

| Errno | Description |
|---|---|
| **EPARTNERNOTWAITING** | |
| **ENOAGGRS** | |
| **ESENDHOMEINPROGRESS** | |
| **ETAKEOVERINPROGRESS** | |
| **EHALTING** | |
| **ENOPARTNERINVENTORY** | |
| **EPARTNERMISSINGDISKS** | |
| **ENODENOTFOUND** | |
| **EINTERNALERROR** | |
| **EPARTNERTRYINGTAKEOVER** | |
| **E_ARL_IN_PROGRESS** | |

# cf-hwassist-stats

[top]

Get useful information about statistics of hardware assisted takeover functionality.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Node name of the filer for which the API is requested. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **hwassist-stats-abnormal-reboot** | | string optional | Number of abnormal_reboot alerts received |
| **hwassist-stats-bad-nvram-id** | | string optional | Number of bad NVRAM id alerts received |
| **hwassist-stats-dimm-uecc-error** | | string optional | Number of dimm_uecc_error alerts received |
| **hwassist-stats-keep-alive** | | string optional | Number of keep_alive alerts received |
| **hwassist-stats-loss-of-heartbeat** | | string optional | Number of loss_of_heartbeat alerts received |
| **hwassist-stats-post-error** | | string optional | Number of post_error alerts received |
| **hwassist-stats-power-cycle-via-rlm** | | string optional | Number of power_cycle_via_rlm alerts received |
| **hwassist-stats-power-cycle-via-sp** | | string optional | Number of power_cycle_via_sp alerts received |
| **hwassist-stats-power-loss** | | string optional | Number of power_loss alerts received |
| **hwassist-stats-power-off-via-rlm** | | string optional | Number of power_off_via_rlm alerts received |
| **hwassist-stats-power-off-via-sp** | | string optional | Number of power off alerts received from service processor (power_off_via_sp alert). |
| **hwassist-stats-reset-via-rlm** | | string optional | Number of reset_via_rlm alerts received |
| **hwassist-stats-reset-via-sp** | | string optional | Number of reset_via_sp alerts received |
| **hwassist-stats-ss-mismatch** | | string optional | Number of shared secret key mismatch alerts received |
| **hwassist-stats-test** | | string optional | Number of test alerts received |
| **hwassist-stats-times-throttled** | | string optional | Number of times hardware assist alerts were throttled. Alerts are throttled when too many are received in a short interval. |
| **hwassist-stats-unknown-alerts** | | string optional | Number of unknown alerts received |
| **hwassist-stats-watchdog-reset** | | string optional | Number of l2_watchdog_reset alerts received |
| **no-stats** | | string optional | If no hardware assist statistics are available, this is set to "Cannot determine hwassist stats". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cf-hwassist-stats-clear

[top]

Get useful information about stats of hw_assist functionality.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **node** | | string | Node name of the filer for which the API is requested. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cf-hwassist-status

[top]

Get useful information about the status of hw_assist functionality.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Node name of the filer for which the API is requested. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **keep-alive-status** | | string optional | Possible values are:<br>• healthy<br>• missed_keep_alive_alerts |
| **local-hwassist-inactive-corrective-action** | | string optional | Indicates the corrective action if status is inactive. |
| **local-hwassist-inactive-reason** | | string optional | Indicates the reason if status is inactive. |
| **local-hwassist-ipaddr** | | string optional | If set, Ip address; 0.0.0.0 otherwise |
| **local-hwassist-port** | | integer optional | If set, port; 0 otherwise |
| **local-hwassist-status** | | string optional | Local node hw_assist status<br>Possible values are:<br>• active: If functionality is active.<br>• inactive: If functionality is inactive |
| **no-status** | | string optional | Set if no hw_assist status is avaliable. Either this or the remaining fields will be set,hence they are optional. |
| **partner-hwassist-inactive-corrective-action** | | string optional | Indicates the corrective action if status is inactive. |
| **partner-hwassist-inactive-reason** | | string optional | Indicates the reason if status is inactive. |
| **partner-hwassist-ipaddr** | | string optional | If set, Ip address, 0.0.0.0 otherwise |
| **partner-hwassist-port** | | integer optional | If set, current port, 0 otherwise |
| **partner-hwassist-status** | | string optional | partner node hw_assist status<br>Possible values are:<br>• active: If functionality is active.<br>• inactive: If functionality is inactive |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cf-hwassist-test

[top]

Validates the hardware-assisted takeover configuration. functionality.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Node name of the filer for which the API is requested. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **hwassist-test-result** | | string | This string corresponds to the result of the test. The possible outcomes are: Hwassist is not initialized No hw_assist hardware found. Partner is throttling alerts. Resource busy. Try again after some time. Hwassist hardware returned error. No response from partner. Timed out. Unexpected abort. Partner has taken over. Interconnect is down between nodes. Make sure partner is booted up.Run 'storage failover hwassist show' for details. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cf-mode-set

[top]

Enable or disable the high-availability (HA) for this node. A reboot of the node is required for the HA mode to become effective.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **mode** | | string | HA mode.<br><br>Possible values:<br><br>• 'ha' - Enable high-availability(HA). After HA is enabled, giveback and and takeover are available.<br>• 'non_ha' - Disable high-availability(HA). After HA is disabled, the giveback and takeover are not available. Note that changing the mode to non_ha requires disabling the takeover facility by calling cf-service-disable. |
| **node** | | node-name | Node name |

| Errno | Description |
|---|---|
| **ESERVICEENABLED** | |
| **EINTAKEOVER** | |
| **EINTERNALERROR** | |

# cf-modify-iter

[top]

Modify the attributes of cf or a group of cf objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | options-related-info-modify | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple cf objects match a given query. If set to true, the API will continue modifying the next matching cf even when modification of a previous cf fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching cf even when the modification of a previous matching cf fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | options-related-info-modify | If modifying a specific cf, this input element must specify all keys. If modifying cf objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of cf objects (just keys) that were not modified due to some error. If set to false, the list of cf objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of cf objects (just keys) that were successfully updated. If set to false, the list of cf objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | cf-modify-iter-info[] optional | Information about cf objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching cf objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of cf objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of cf objects that matched the query and were successfully updated. |
| **success-list** | | cf-modify-iter-info[] optional | The cf objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

# cf-negotiated-failover-disable

[top]

Disables negotiated failover. disk_shelf is the negotiated failover module currently supported.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| module | | string | Module currently supported is 'disk_shelf'. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

# cf-negotiated-failover-enable

[top]

Enables negotiated failover. disk_shelf is the negotiated failover module currently supported.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| module | | string | Module currently supported is 'disk_shelf'. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

# cf-negotiated-failover-status

[top]

Returns the status of the negotiated failover module. Negotiated failover is a general facility which supports negotiated failover on the basis of decisions made by various modules.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| module | | string | Module currently supported is 'disk_shelf' |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| is-enabled | | boolean | True, if storage failover for this module is enabled, false otherwise. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

# cf-service-disable

[top]

Disables the takeover capability of this filer in the cluster.

| | | | |
| --- | --- | --- | --- |

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | This parameter is the name of the node on which service is to be disabled |

| Errno | Description |
|---|---|
| **ESERVICENOTINITIALIZED** | |
| **ESERVICENOTLICENSED** | |
| **ESERVICENOTENABLED** | |
| **EREVERTINPROGRESS** | |
| **EINTERNALERROR** | |

# cf-service-enable

[top]

Enables the takeover capability of this filer in the cluster. This spawns a process to enable the service

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | This parameter is the name of the node on which service is to be enabled |

| Errno | Description |
|---|---|
| **ESERVICENOTINITIALIZED** | |
| **ESERVICEENABLED** | |
| **EREVERTINPROGRESS** | |
| **EMBOXUNKNOWN** | |
| **EINTERNALERROR** | |

# cf-status

[top]

Get useful information about the status of the high availability service. If the monitor is not initialized, this returns an error.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | This parameter is the name of the node for which High Availability service status is being requested |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **backup-io-times** | | mailbox-io-times-info optional | Backup mailbox IO times. Not returned if state is "waiting_for_root_aggr". |
| **backup-mailbox-status** | | mailbox-status-info[] optional | Backup mailbox status information, represented as a list of strings. Not returned if state is "waiting_for_root_aggr". |
| **booting-received** | | integer | time booting notification received, in milliseconds. |
| **control-partner-** | | boolean | True, if we control one or more partner aggregates. |

| | | | |
|---|---|---|---|
| **aggregates** | | | |
| **current-giveback-module** | | string optional | The current module giveback process is in |
| **current-mode** | | string optional | Current HA mode |
| **current-resource-table-entry** | | string optional | If we're doing takeover processing, the name of the current entry in the resource table. |
| **current-resource-table-entry-index** | | integer optional | If we're doing takeover processing, the index of the current entry in the resource table. |
| **current-takeover-module** | | string optional | The current module takeover process is in. e.g. WAFL |
| **current-time** | | integer | Current time on the filer |
| **fanta-reloc-aggr-count** | | integer optional | Number of partner homed aggregates owned by local node. |
| **firmware-received** | | integer | time firmware notification received, in milliseconds. |
| **giveback-failure-reason** | | string optional | If a giveback failed this is the reason for the giveback failure. Possible values are:<br>• aggr_relocation_in_progress - aggregate relocation is in progress<br>• shutdown_in_progress - shutdown is in progress<br>• testpoint - a giveback failure was simulated with a testpoint<br>• cannot_giveback_partner_subsystem - node failed to giveback one of partner's subsystems<br>• bck_mbx_update_error - node could not update its backup mailbox<br>• disaster_recovery_in_progress - disaster recovery operation is in progress<br>• partner_disaster_recovery_in_progress - disaster recovery operation is in progress on the partner node |
| | | | Giveback state of the node. Possible values are:<br>• nothing_to_gb - No partner aggregates owned by local node<br>• not_attempted_yet - Local node owns partner aggregates and a giveback has not been attempted yet<br>• giveback_in_progress - Giveback is in progress. Refer to current-giveback-module field to get the current module, the giveback process is in.<br>• giveback_failed_autogiveback_disabled - Previous giveback failed and auto giveback is disabled. Refer to current-giveback-module to get the module in which giveback process failed.<br>• giveback_failed_autogiveback_scheduled - Previous giveback failed and an auto giveback is scheduled. Refer to current-giveback-module to get the module in which giveback process failed. Refer time-until-autogiveback field to check time remaining before an auto giveback is initiated.<br>• previous_giveback_failed - Previous giveback failed. Refer to current-giveback-module to get the module in which giveback process failed.<br>• giveback_vetoed_no_di - Normal giveback not possible as |

| | | | |
|---|---|---|---|
| **giveback-state** | | string optional | disk inventory from partner has not yet been received<br>• giveback_vetoed_missing_disks - Normal giveback not possible as the partner is missing some of its files system disks<br>• autogiveback_scheduled - An auto giveback is scheduled Refer time-until-autogiveback field to check time remaining before an auto giveback is initiated.<br>• autogiveback_deferred - Auto giveback is deferred because the partner node was not ready to receive aggregates when the auto giveback timer expired. An auto giveback will be initiated as soon as the partner node is up and ready to receive aggregates.<br>• node_upgrade_in_progress - Local node owns partner's aggregates as part of node upgrade process<br>• sfo_aggr_giveback_failed - Giveback of SFO aggregates failed. Call cf-aggregate-giveback-status API for more information regarding giveback failure.<br>• sfo_aggr_giveback_in_progress - Giveback of SFO aggregates is in progress. Call cf-aggregate-giveback-status API for more information regarding giveback status.<br>• partial_giveback - Local node owns partner SFO aggregates<br>• partner_spare_disks_giveback_pending - Local node owns partner's spare disks |
| **ha-type** | | string optional | HA type Possible values are:<br>• none - None<br>• shared_storage - Shared storage HA configuration<br>• non_shared_storage - Non-shared storage HA configuration<br>***** typedefs ***** |
| **interconnect-links** | | string optional | States of the individual interconnect links e.g. VIA Interconnect is down (link 0 down, link 1 down) VIA Interconnect is up (link 0 down, link 1 up) VIA Interconnect is up (link 0 up, link 1 down) |
| **interconnect-type** | | string optional | Type and Vendor of the interconnect e.g. Infiniband (Mellanox Sinai) FCVI (Qlogic 2462) |
| **is-enabled** | | boolean | True, if the storage failover facility is enabled, false otherwise. Note that the facility can be enabled but takeover may not be possible due to various reason. |
| **is-interconnect-up** | | boolean | True, if high availability interconnect is up |
| **kill-packets** | | boolean | True, if we issue ic kill messages during takeover. |
| **local-firmware-progress** | | integer optional | A counter to indicate that the local node is progressing in the current firmware state The range of possible values is [0..2^31-1] |
| | | | Local firmware state that will be communicated through interconnect to the partner<br>• SF_OPERATOR_EXIT - operator completed<br>• SF_DEBUG_EXIT - debugger completed<br>• SF_PROGRESS - progress counter<br>• SF_IOERROR - I/O error<br>• SF_BADCKSUM - bad checksum<br>• SF_RESERVED - reserved<br>• SF_UNKNOWN - unknown<br>• SF_OPEN - initializing<br>• SF_POST - in power-on self test<br>• SF_BOOTING - booting |

| | | | |
|---|---|---|---|
| **local-firmware-state** | | string optional | • SF_FAIL - boot failed<br>• SF_WAITING - waiting<br>• SF_OS_BOOTED - kernel loaded<br>• SF_UP - up<br>• SF_DEBUG - in debugger<br>• SF_OPERATOR - waiting for operator input<br>• SF_DUMPCORE - dumping core<br>• SF_HALT - halted<br>• SF_REBOOT - rebooting<br>• SF_GIVEWAIT - waiting for giveback<br>• SF_MBWAIT - waiting for HA mailbox release<br>• SF_SPARECORE - dumping sparecore and ready to be taken-over<br>• SF_MDP - multi-disk panic<br>• SF_TO - in takeover<br>• SF_NOTO - takeover disabled<br>• SF_CLUSTERWAIT - waiting for cluster apps |
| **local-in-headswap** | | boolean optional | True, if the local node is being replaced by a new node. |
| **local-mailbox-disks** | | sf-disk-info[] optional | List of local mailbox disks. Not returned if state is "waiting_for_root_aggr". |
| **local-missing-disks** | | sf-disk-info[] optional | List of disks that the local node is missing but the partner node is able to view. |
| **logs-unsynced-count** | | integer | Number of times the log was unsynchronized. |
| **max-resource-table-index** | | integer optional | The maximum resource table index. |
| **mode** | | string optional | High-availability (HA) mode for this node Possible values:<br>• 'ha' - High-availability is enabled.<br>• 'non_ha' - High-availability is disabled. |
| **name** | | string | Hostname of the dblade. |
| **new-partner-sysid** | **[0..2^32-1]** | integer optional | The new partner system ID recieved via HA interconnect. The value is zero if partner is not in headswap. |
| | | | State of the storage failover of the node. Possible values are:<br>• connected - Partner is available for takeover<br>• takeover_scheduled - Partner is down and takeover is scheduled<br>• takeover_started - Takeover process has begun<br>• takeover - Currently controlling partner's resources.<br>• takeover_failed - Failed to takeover the partner<br>• giveback_partial_waiting - This node controls partner aggregates even though the node is not in takeover. And we're waiting for a connection to the partner.<br>• giveback_partial_connected - This node controls partner aggregates even though the node is not in takeover. The partner is available to receive the aggregates.<br>• waiting_for_root_aggr - Partner is controlling dblade's root aggregate If we're in this state, many other optional fields are not returned.<br>• waiting - Waiting for a connection to partner. Generally happens while partner is rebooting. |

| | | | |
|---|---|---|---|
| **node-state** | | string<br>optional | • in_maintenance_mode - node is in maintenance mode. In the mode it is not possible to determine more detailed information (e.g. takeover or not).<br>• pending_shutdown - starting a takeover/giveback is inhibited due to a pending system shutdown.<br>• relocating_aggrs_before_takeover - node is relocating its SFO aggregates to its partner prior to a negotiated takeover.<br>• sfo_takeover_phase_done - Node is done with the SFO phase of takeover.<br>• sfo_takenover_phase_done - This node has relocated its SFO aggregates to its partner during an optimized negotiated takeover by its partner.<br>• sfo_takeover_phase_aborted - The SFO phase of takeover has been aborted. Refer to takeover-failure-reason field to check the reason.<br>• sfo_takenover_phase_aborted - This node has aborted the relocation of its SFO aggregates to its partner, during an optimized negotiated takeover by its partner.<br>• in_non_HA_mode - Node is not in HA mode<br>• cfo_takeover_failed - CFO phase of takeover failed<br>• sfo_takeover_phase - SFO phase of takeover of partner is in progress<br>• relocated_aggrs_before_takeover - node has relocated its SFO aggregates to its partner prior to a negotiated takeover.<br>• giving_back - Giveback is in progress. Refer to current-giveback-module field to get the current module, the giveback process is in.<br>• giveback_failed_autogiveback_disabled - Previous giveback failed and auto giveback is disabled. Refer to current-giveback-module to get the module in which giveback process failed.<br>• giveback_failed_autogiveback_scheduled - Previous giveback failed and an auto giveback is scheduled. Refer to current-giveback-module to get the module in which giveback process failed.<br>Refer to time-until-autogiveback field to check time remaining before an auto giveback is initiated.<br>• previous_giveback_failed - Previous giveback failed. Refer to current-giveback-module to get the module in which giveback process failed.<br>• takeover_disk_inventory_not_received - Local node is in takeover. A normal giveback is not possible as disk inventory from partner has not yet been received.<br>• takeover_partner_missing_disks - Local node is in takeover. A normal giveback is not possible as the patner is missing some of its file system disks.<br>• takeover_autogiveback_scheduled - Local node in takeover. An auto giveback is scheduled. Refer time-until-autogiveback field to check time remaining before an auto giveback is initiated.<br>• takeover_network_failure - Local node in takeover. The partner was taken over due to network failure.<br>• takeover_autogiveback_deferred - Local node in takeover. Auto giveback is deferred because the partner node was not ready to receive aggregates when the auto giveback timer expired. An auto giveback will be initiated as soon as the partner node is up and ready to receive aggregates.<br>• automatic_takeover_disabled_connected - Automatic takeover is disabled. Local node is connected to partner via HA interconnect. This happens only in debug builds when |

| | | | |
|---|---|---|---|
| | | | raid.panic.missing.disks is turned on from node CLI.<br>• automatic_takeover_disabled_waiting - Automatic takeover is disabled. Local node is waiting for partner node on HA interconnect. This happens only in debug builds when raid.panic.missing.disks is turned on from node CLI.<br>• ndo_upgrade_in_progress - Local node owns partner's aggregates as part of node upgrade process.<br>• own_aggr_non_local_connected - Local node owns aggregates of some other node in the cluster. Local node is connected to partner via HA interconnect. This is possible only during NDO double hop controller upgrade.<br>• own_aggr_non_local_waiting - Local node owns aggregates of some other node in the cluster. Local node is waiting for partner on HA interconnect. This is possible only during NDO double hop controller upgrade.<br>• clusterwait_connected - Connected to partner via HA interconnect. Local node waiting for cluster applications to come online.<br>• clusterwait_waiting - Waiting for partner on HA interconnect. Local node waiting for cluster applications to come online.<br>• dr_op_in_progress - MetroCluster disaster recovery operation is in progress.<br>• error - There is an error with the system<br><br>User have to compare the return values case-insensitively. |
| **nvram-id** | **[0..2^32-1]** | integer | NVRAM identifier |
| **partner** | | string | Hostname of the partner. If the partner is unknown, returns an empty string. |
| **partner-firmware-progress** | | integer optional | A counter to indicate that the partner node is progressing in the current firmware state The range of possible values is [0..2^31-1] |
| **partner-firmware-state** | | string optional | Partner firmware state as communicated by the partner through interconnect<br><br>• SF_OPERATOR_EXIT - operator completed<br>• SF_DEBUG_EXIT - debugger completed<br>• SF_PROGRESS - progress counter<br>• SF_IOERROR - I/O error<br>• SF_BADCKSUM - bad checksum<br>• SF_RESERVED - reserved<br>• SF_UNKNOWN - unknown<br>• SF_OPEN - initializing<br>• SF_POST - in power-on self test<br>• SF_BOOTING - booting<br>• SF_FAIL - boot failed<br>• SF_WAITING - waiting<br>• SF_OS_BOOTED - kernel loaded<br>• SF_UP - up<br>• SF_DEBUG - in debugger<br>• SF_OPERATOR - waiting for operator input<br>• SF_DUMPCORE - dumping core<br>• SF_HALT - halted<br>• SF_REBOOT - rebooting<br>• SF_GIVEWAIT - waiting for giveback<br>• SF_MBWAIT - waiting for HA mailbox release<br>• SF_SPARECORE - dumping sparecore and ready to be taken-over<br>• SF_MDP - multi-disk panic<br>• SF_TO - in takeover |

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|---|---|---|---|
| | | | • SF_NOTO - takeover disabled<br>• SF_CLUSTERWAIT - waiting for cluster apps |
| **partner-in-headswap** | | boolean optional | True, if partner node is being replaced by a new node. |
| **partner-mailbox-disks** | | sf-disk-info[] optional | List of partner mailbox disks as this dblade sees them. Not returned if state is "waiting_for_root_aggr". |
| **partner-missing-disks** | | sf-disk-info[] optional | List of disks that the partner node is missing but the local node is able to view. |
| **partner-name** | | string optional | Hostname of the partner. Not returned if unknown. |
| **partner-nvram-id** | **[0..2^32-1]** | integer optional | Partner NVRAM identifier. Not returned if unknown. |
| **primary-io-times** | | mailbox-io-times-info optional | Primary mailbox IO times. Not returned if state is "waiting_for_root_aggr". |
| **primary-mailbox-status** | | mailbox-status-info[] optional | Primary mailbox statusPrimary mailbox status information, represented as a list of strings. Not returned if state is "waiting_for_root_aggr". |
| **resource-table** | | resource-table-info[] optional | The failover monitor resource table.Pre-rsrctbl information will be prep-ended to this output. |
| **sf-options** | | sf-options-info optional | Options for debugging purpose. The actual interface is via the options mechanism. Not returned if state is "waiting_for_root_aggr". |
| **state** | | string optional | connected - Partner is available for takeover takeover_scheduled - Partner is down and takeover is scheduled takeover_started - Takeover process has begun takeover - Currently controlling partner's resources. taken over - Partner is controlling filer's resources takeover_failed - Failed to takeover the partner sfo_takeover_phase - This node has asked its partner to relocate its SFO aggregates in preparation for takeover. This occurs when a user has initiated an optimized negotiated takeover. relocating_aggrs_before_takeover - This node is relocating its SFO aggregates to its partner during an optimized negotiated takeover by its partner. sfo_takeover_phase_done - This node is done with the SFO phase of an optimized negotiated takeover. sfo_takenover_phase_done - This node has relocated its SFO aggregates to its partner during an optimized negotiated takeover by its partner. sfo_takeover_phase_aborted - The SFO phase of takeover is aborted on this node during an optimized negotiated takeover of its partner. sfo_takenover_phase_aborted - This node has aborted the relocation of its SFO aggregates to its partner, during an optimized negotiated takeover by its partner. giving_back - Sendhome process in progress giveback_partial_waiting - This node controls partner aggregates even though the node is not in takeover. And we're waiting for a connection to the partner. giveback_partial_connected - This node controls partner aggregates even though the node is not in takeover. The partner is available to receive the aggregates. waiting_for_root_aggr - Partner is controlling dblade's root aggregate If we're in this state, many other optional fields are not |

| | | | |
|---|---|---|---|
| | | | returned. waiting - Waiting for a connection to partner. Generally happens while partner is rebooting. in_maintenance_mode - node is in maintenance mode. In the mode it is not possible to determine more detailed information (e.g. takeover or not). pending_shutdown - starting a takeover/sendhome is inhibited due to a pending system shutdown. error - There is an error with the system User have to compare the return values case-insensitively. |
| **takeover-by-partner-not-possible-reason** | | takeover-info[] optional | If takeover by the partner is not possible, list of one or more reasons why. Note that in for non-verbose command output the first reason returned is the one that should be displayed. |
| **takeover-by-partner-possible** | | boolean optional | True, if storage failover takeover is currently possible by the partner, false otherwise. Note that this is the local node's view of partner. |
| **takeover-failure-reason** | | string optional | If state equals "takeover_failed", this is the reason for the takeover failure. Possible values are:<br>• shutdown_in_progress - shutdown is in progress<br>• aggr_relocation_in_progress - aggregate relocation is in progress<br>• giveback_in_progress - giveback is in progress<br>• takeover_in_progress - takeover is in progress<br>• unknown_partner_id - node could not detect its partner's system ID<br>• conflicting_sysid - node has the same system ID as its partner<br>• pri_mbx_update_error - node could not update its primary mailbox<br>• takeover_disabled_by_partner - partner has disabled takeover<br>• cannot_takeover_partner_subsystem - node failed to takeover one of partner's subsystems<br>• non_etc_or_rc_boot - it is not possible to takeover in a non-etc/rc boot<br>• bck_mbx_update_error - node could not update its backup mailbox<br>• partner_taking_over - partner is taking over local node<br>• revert_in_progress - revert is in progress<br>• disaster_recovery_in_progress - disaster recovery operation is in progress<br>• headswap_in_progress - headswap is in progress<br>• destination_check_failed - destination check failed<br>• communication_failed - communication with destination failed<br>• operation_aborted - operation was aborted<br>• aggr_not_online - destination node did not online the aggregate being relocated in time<br>• sfo_disabled - storage failover service is not enabled<br>• partner_taking_over - partner is taking over local node<br>• bdfu_not_disabled_source - failed to disable background disk firmware update (BDFU) on local node<br>• bdfu_not_disabled_dest - failed to disable background disk firmware update (BDFU) on partner node<br>• partner_shutting_down - shutdown is in progress on the partner node<br>• partner_aggr_relocation_in_progress - aggregate relocation is in progress on the partner node<br>• partner_giveback_in_progress - giveback is in progress on the partner node<br>• partner_revert_in_progress - revert is in progress on the |

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|---|---|---|---|
| | | | partner node<br>• partner_disaster_recovery_in_progress - disaster recovery operation is in progress on the partner node<br>• partner_in_headswap - headswap is in progress on the partner node |
| **takeover-of-partner-not-possible-reason** | | takeover-info[] optional | If is-enabled is false, list of one or more reasons why. Note that in for non-verbose command output the first reason returned is the one that should be displayed. |
| **takeover-possible** | | boolean | True, if storage failover takeover is currently possible, false otherwise. |
| **takeover-reason** | | string optional | Reason for triggering a takeover of partner. |
| **takeover-state** | | string optional | Takeover state of the node. Possible values are:<br>• takeover_failed - Takeover Failed<br>• sfo_takeover_in_progress - SFO phase of takeover of partner is in progress<br>• relocating_aggrs_before_takeover - Relocating aggregates to partner as a takeover was initiated by partner<br>• cfo_takeover_scheduled - CFO phase of takeover is scheduled<br>• relocated_aggrs_before_takeover - Relocated aggregates to partner after a takeover was initiated by partner<br>• takeover_by_partner_failed - A takeover attempt by partner failed. Refer to takeover-failure-reason field to check the reason for takeover failure.<br>• in_takeover - Node is in takeover<br>• takeover_started - A takeover is in progress<br>• takeover_scheduled - A takeover of partner is scheduled. Refer to time-until-takeover field to check time remaining till takeover.<br>• not_in_takeover - Local node is not in takeover |
| **time-since-takeover** | | integer optional | Time in milliseconds since the local node has taken over partner. |
| **time-until-auto-giveback** | | integer optional | If state == takeover this is the countdown time in seconds until auto-giveback is started. The range of possible values is [0..2^31-1]. This attribute will be absent on output when the value is 0. |
| **time-until-takeover** | | integer optional | if state == takeover_scheduled, this is the countdown time in seconds until state == takeover_started. |
| **timeouts** | | timeout-info | Various failover monitor timeouts. |
| **transit-event-time** | | integer | Time at which last takeover/giveback event occurred, in milliseconds. |

| Errno | Description |
|---|---|
| **ENODENOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# cf-takeover

[top]

Initiates a takeover of the storage partner. Takeover is done asynchronously; status may be monitored by calling the cf-status API and examining the state field. If automatic giveback is enabled then control will be returned to storage partner once it boots up.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allow-disk-inventory-mismatch** | | boolean optional | This allows takeover if disk inventory information is mismatched for non root volume disks. If mismatched, local node performance could degrade as what appears to be missing disks are rebuilt. NOTE:: When using this option and if some of partner's file system disks are not visible to local node, then after giveback those missing disks can create new failed aggregate with same name. So, if any aggregate is offline after giveback with same name then using "zapi_aggr_destroy", you have to destroy that offline aggregate. |
| **bypass-optimization** | | boolean optional | The bypass-optimization option determines whether or not an optimized negotiated takeover is run. Optimized negotiated takeover refers to the serial relocation of SFO aggregates to the taking over node, prior to a negotiated takeover. This is an optimization because it reduces per-aggregate client outage times. If the bypass-optimization option is set to true, then the takeover optimization is bypassed, and the normal takeover code path is executed. The default value for this option is false. |
| **force** | | boolean optional | It forces a node to take over its storage partner even though the node detects an error that would otherwise prevent a takeover. For example, normally, if a detached or faulty interconnect cable between the nodes(ha pair) causes the nodes NVRAM contents to be unsynchronized, takeover is disabled. However, this will allow the node to take over its storage partner despite the unsynchronized NVRAM contents. cf-force-takeover is dangerous and can lead to data corruption; in almost all cases, use cf-takeover instead. |
| **halt** | | boolean optional | This parameter specifies whether the node being taken over should be halted. If the value is true, then the node being taken over is halted. If the value is false, then the node being taken over is shutdown and might be rebooted if AUTOBOOT is set to true. This parameter defaults to false. |
| **ignore-quorum-warnings** | | boolean optional | This option ignores errors that would be returned due to a takeover of the epsilon node or causing an out of quorum. The default value is `false` and thuse the default behavior is to fail on quorum-warnings. |
| **immediate** | | boolean optional | This causes takeover to be initiated immediately. The taken over node, if up, does not get to shut things down in an orderly manner so the takeover of the resources takes longer. |
| **node** | | string | This parameter is the name of the node which is doing a takeover of its partner. |
| **override-vetoes** | | boolean optional | The override-vetoes option ignores any vetoes occuring as part of a negotiated takeover and allows the takeover operation to continue. The default value is `false` which means the operation fails by default if a veto is encountered. |
| **skip-lif-migration** | | boolean optional | This option results in migration of LIFs to be skipped prior to a takeover. However if LIFs on this node are configured for failover, those LIFs may still failover after the reboot has occurred. The default value is `false` and hence the default behavior is to synchronously migrate data and cluster management LIFs away from the node prior to its takeover. |
| **version-mismatch-ok** | | boolean optional | This allows takeover if the partner was running an incompatible operating system version and was cleanly halted. This option is used for non-disruptive upgrade(NDU). |

| Errno | Description |
|---|---|
| **ETAKEOVERINPROGRESS** | |
| **ESENDHOMEINPROGRESS** | |

| | |
|---|---|
| **EVERSIONMISMATCH** | |
| **EMBOXDEGRADED** | |
| **EBADOPTIONS** | |
| **EWAITINGFORPARTNER** | |
| **ENOTHALTED** | |
| **ENODENOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVENTORYMISMATCH** | |
| **ENOPARTNERINVENTORY** | |
| **EPARTNERTRYINGTAKEOVER** | |
| **E_NODE_NOT_SF_UP** | |
| **EARL_ABORT_FAILED** | |
| **ECIFSACTIVEONPARTNER** | |
| **E_RESET_DEFAULT_IMAGE_TO_TAKEOVER** | |

# cf-takeover-status

[top]

Get the takeover status of a node and the takeover status of all its partner aggregates, for all nodes in a cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | takeover-status optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..100]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | takeover-status optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | takeover-status[] optional | The list of attributes of aggr objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr objects to return. |
| **num-records** | **[0..100]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **ESERVICENOTINITIALIZED** | |
| **EAGGR_MIGRATE_CORE** | |
| **ENOT_SFO_HA_POLICY** | |
| **EAGGR_FAILED_LIMBO** | |
| **EAGGR_MIGRATE_OFFLINE_FAILED** | |
| **EAGGR_MIGRATE_VETO** | |

| | |
|---|---|
| **EAGGR_MIGRATE_HA_MSG_ERR** | |
| **EAGGR_MIGRATE_ONLINE_TIMEOUT** | |
| **EAGGR_MIGRATE_ONLINE_FAILED** | |
| **E_NETRA_CHK_FAILED** | |
| **E_AGGR_MIGRATE_ABORTED** | |
| **E_TKOVR_ABORT_CHK_FAILED** | |
| **EAGGR_MIGRATE_PRECOMMIT_FAILED** | |
| **EAGGR_MIGRATE_RESTRICTED** | |
| **EAGGR_MIGRATE_OFFLINE** | |
| **EAGGR_MIGRATE_FOREIGN** | |
| **ENOT_BOTH_PLEX_ONLINE** | |
| **E_BDFU_FAILED_AGGR_MIGRATION_SOURCE** | |
| **E_BDFU_FAILED_AGGR_MIGRATION_DEST** | |
| **ENODISKSFOUND** | |

# Element definition: **cf-aggregate-giveback-info**

[top]

Giveback status of an aggregate When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-giveback-error** | | string optional | Failure reason, incase giveback of this aggregate failed. Possible values include:<br>• "sfo_am_shutdown" - Node is being shutdown<br>• "sfo_am_not_homed_partner" - Aggregate not owned by partner<br>• "sfo_am_not_sfo" - Aggregate does not have SFO policy<br>• "sfo_am_failed_limbo" - Aggregate in failed or limbo state<br>• "sfo_am_offline_failed" - Aggregate could not be offlined during giveback<br>• "sfo_am_migrating" - Aggregate is being migrated<br>• "sfo_am_veto" - Giveback was vetoed.<br>• "sfo_am_communication_err" - Giveback failed because node cannot communicate with the partner<br>• "sfo_am_online_timeout" - Aggregate did not come online after giveback<br>• "sfo_am_online_failed" - Failed to online the aggregate after giveback<br>• "sfo_am_hdd_to_aff_dest" - Migration of a non-SSD aggregate to an All-Flash Optimized destination is not allowed<br><br>Attributes: non-creatable, non-modifiable |
| **aggr-giveback-module** | | string optional | If giveback is in progress, then this is set to the module which is currently running. If giveback was failed or vetoed by a certain module then this is set to the first module which failed the giveback. Example: WAFL. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **aggr-giveback-state** | | string optional | Giveback status of the aggregate Possible values include:<br>• "sfo_am_done" - Giveback done<br>• "sfo_am_failed" - Giveback failed<br>• "sfo_am_inprog" - Giveback in progress<br>• "sfo_am_not_started" - Giveback not started<br>• "sfo_am_nothing_to_gb" - No aggregates to giveback<br>• "sfo_disk_inventory_not_exchanged" - Auto giveback failed because disk inventory was not exchanged between HA partners<br>• "sfo_disk_inventory_mismatch" - Auto giveback failed because there was mismatch in disk inventory<br>• "sfo_am_failed_bdfu_source" - Giveback failed as failed to disable background disk firmware update on source node.<br>• "sfo_am_failed_bdfu_dest" - Giveback failed as failed to disable background disk firmware update on destination node.<br>• "sfo_am_delayed_bdfu_source" - Giveback delayed as disk firmware update is in progress on source node.<br>• "sfo_am_delayed_bdfu_dest" - Giveback delayed as disk firmware update is in progress on destination node.<br>• "sfo_am_running_checks" - Performing veto checks.<br>Attributes: non-creatable, non-modifiable |
| **aggregate** | | string optional | Aggregate name Attributes: non-creatable, non-modifiable |
| **destination-node** | | string optional | Node to which the aggregate is being given back Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node performing the giveback of aggregate Attributes: key, non-creatable, non-modifiable |

# Element definition: **cf-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against cf object.

| Name | Range | Type | Description |
|---|---|---|---|
| **cf-key** | | options-related-info-modify | The keys for the cf object to which the modify operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |

# Element definition: **mailbox-io-times-info**

[top]

Mailbox IO times

| Name | Range | Type | Description |
|---|---|---|---|
| **normal** | | integer | Maximum IO time in milliseconds, normal |
| **transition** | | integer | Maximum IO time in milliseconds, transition |

# Element definition: **mailbox-status-info**

[top]

Mailbox status info.

| Name | Range | Type | Description |
|---|---|---|---|
| **mailbox-status** | | string | representation of mailbox status bit. Possible values: mbx_status_nodisks mbx_status_uncertain mbx_status_stale mbx_status_conflicted mbx_status_old_version mbx_status_not_found mbx_status_wrong_state mbx_status_backup |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **options-related-info-modify**

[top]

Storage Failover Options to Modify

| Name | Range | Type | Description |
|---|---|---|---|
| **auto-giveback-enabled** | | boolean optional | True, if auto-giveback is enabled, false otherwise. Default: true. Attributes: non-creatable, modifiable |
| **failover-enabled** | | boolean optional | True, if the storage failover facility is enabled, false otherwise. Note that the facility can be enabled but takeover may not be possible due to various reasons. Attributes: non-creatable, modifiable |
| **ha-mode** | | hamode optional | Specifies whether the node is set up in high-availability mode or stand-alone mode. Attributes: non-creatable, modifiable Possible values:<br>• "ha" ,<br>• "non_ha" |
| **node** | | node-name optional | Node name Attributes: key, non-creatable, non-modifiable |
| **sfo-advanced-options-info-modify** | | advanced-options-modify optional | Advanced Options to Modify |
| **sfo-giveback-options-info-modify** | | giveback-options-modify optional | Giveback Options to Modify |
| **sfo-takeover-** | | takeover-options- | Takeover Options to Modify |

| | | | |
|---|---|---|---|
| **options-info-modify** | | modify optional | |

# Element definition: **resource-table-info**

[top]

A failover monitor resource table entry.

| Name | Range | Type | Description |
|---|---|---|---|
| **fail** | | string | Entry failure code, represented as a string: ok fail fail_always hang panic veto |
| **name** | | string | Name of the entry |
| **state** | | string | Entry state, represented as a string: up start_running start_done start_failed stop_running stop_failed takeover_barrier only_when_initd |
| **time-delta** | | integer optional | Amount of time spent in this element, in milliseconds. |

# Element definition: **sf-disk-info**

[top]

Disk information.

| Name | Range | Type | Description |
|---|---|---|---|
| **disk-cluster-name** | | string optional | A cluster unique name for a disk. Disks take the form 'stack-id'.'shelf'.'bay'. Disks on multi-disk carriers take the form 'stack-id'.'shelf'.'bay'.'lun'.<br><br>Virtual disks take the form 'prefix'.'number' where prefix is the storage array's prefix and number is a unique ascending number.<br><br>Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'. |
| **disk-uid** | | string | Disk unique identifier. Maximum length of 90 characters. XXX should use same typedef as storage ZAPI. Note sure where it is defined. |
| **name** | | string optional | Name of the disk, e.g. v1.1 |
| **physical-location** | | integer optional | Name of the location where the disk is physically present. This can be local, partner or mediator. |

# Element definition: **sf-options-info**

[top]

Options for debugging purpose.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-migration-timeout** | | integer optional | Number of seconds the source node has to wait for the destination node to complete the aggregate migration before declaring the migration as failed. The default setting is 40 seconds. |
| **bypass-takeover-** | | boolean | If true, then optimized negotiated takeover is bypassed. If false, negotiated takeover will be optimized. The default value for this |

| | | | |
|---|---|---|---|
| **optimization** | | optional | option is false. This option will be available starting with Data ONTAP 8.2. |
| **giveback-auto** | | boolean | Indicates if the automatic giveback is enabled. Same as send-home-auto. |
| **hwassist-enable** | | boolean | Indicate if hardware assist takeover is enabled. |
| **hwassist-health-check-interval** | | integer | Hardware assist h/w sends a heartbeat every '-health-check-interval' seconds. |
| **hwassist-partner-ip** | | string | Hardware assist Ip address of the partner. |
| **hwassist-partner-port** | | integer | Port number on which hwassist receives alerts. |
| **hwassist-retry-count** | | integer | Number of times we repeat sending an alert. |
| **mode** | | string optional | HA mode in registry |
| **node-status-in-mailbox-disks** | | boolean | Indicates if we propagate node status via mailbox disks. |
| **node-status-in-mailbox-disks-read-interval** | | integer | Rate in seconds at which we read node status from mailbox disks. |
| **node-status-in-mailbox-disks-write-interval** | | integer | Rate in seconds at which we write node status to mailbox disks. |
| **send-home-auto** | | boolean | Indicates if the automatic send-home facility enabled. |
| **send-home-auto-attempts** | | integer | The number of times we'll try to do an automatic giveback within send-home-auto-minutes |
| **send-home-auto-attempts-minutes** | | integer | The number of minutes in which we should not exeeced send-home-auto-attempts automatic send-home attempts. |
| **send-home-auto-delay-seconds** | | integer | The number of seconds of delay before initiating automatic send-home. This will be the minimum time a node will be in takeover state before performing auto sendhome. |
| **send-home-check-partner-waiting** | | boolean | Indicates if we require the partner to be waiting for a send-home in order to do a send-home. |
| **takeover-detection-time** | | integer | Takeover detection time in seconds. |
| **takeover-on-failure** | | boolean | Indicates if we will automatically takeover upon partner failure. |
| **takeover-on-panic** | | boolean | Indicates if we will automatically takeover upon partner panic. |
| **takeover-on-reboot** | | boolean | Indicates if we will automatically takeover upon partner reboot. |
| **takeover-on-short-uptime** | | boolean | Indicates if we will automatically takeover if the partner fails within 60 seconds of booting. |

# Element definition: **storage-failover-info**

[top]

Storage Failover Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **sfo-giveback-info** | | giveback-related-info optional | Giveback related Info |
| **sfo-interconnect-info** | | interconnect-related-info optional | Interconnect Info |
| **sfo-node-info** | | node-related-info optional | Node Info |
| **sfo-options-info** | | options-related-info optional | Options Info |
| **sfo-storage-info** | | storage-related-info optional | Storage Info |
| **sfo-takeover-info** | | takeover-related-info optional | Takeover related Info |

# Element definition: **takeover-info**

[top]

Takeover info.

| Name | Range | Type | Description |
|---|---|---|---|
| **reason** | | string | reason we can't takeover:<br>• not_initialized - Controller Failover not initialized<br>• non_ha_mode - Controller is in non-HA mode<br>• disabled - Controller Failover takeover disabled<br>• mailbox_invalid - Partner mailbox disks not accessible or invalid<br>• mailbox_uninit - Partner mailbox status uninitialized<br>• fm_version_mismatch - Failover monitor version mismatch<br>• partner_disabled - Takeover disabled by partner<br>• operator_deny - Takeover disabled by operator<br>• nvram_mismatch - NVRAM size mismatch<br>• version - Version mismatch<br>• ic_error - Interconnect error<br>• booting - Partner booting<br>• shelf_hot - Disk shelf is too hot<br>• partner_revert_in_progress - Partner is performing revert<br>• local_revert_in_progress - Revert is in progress<br>• partner_takeover - Partner is attempting takeover<br>• local_takeover - Already in takeover mode<br>• halt_no_takeover - Partner halted in notakeover mode<br>• log_unsync - NVRAM log unsynchronized<br>• unknown - No takeover due to unknown reason<br>• waiting_for_partner - Waiting for partner to recover<br>• low_memory - Low memory condition<br>• halting - Local halt in progress<br>• mailbox_uncertain - Status of partner mailbox is uncertain<br>• no_auto_takeover - Automatic takeover is disabled<br>• disk_inventory_not_exchanged - Disk inventory information not received |

| | | | |
|---|---|---|---|
| | | | from partner<br>• disk_inventory_mismatch_local - Local node missing some of partner node's file system disks<br>• pending_shutdown - Local node is shutting down<br>• dr_in_progress - metrocluster disaster recovery operation is in progress.<br>• mcc_node_object_limit - This node or partner node is in switchover state and MetroCluster config option node-object-limit is off in the DR group of this node. |

# Element definition: **takeover-status**

[top]

Takeover status of a node and all of its partner aggregates. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, assuming that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-takeover-status** | | string | Takeover status of the partner aggregate. This includes the reason for the failure of takeover of an aggregate. If takeover is in progress in a particular module, or if takeover was vetoed by a particular module, that is also indicated. Possible values include:<br>• Done<br>• Failed<br>• In progress, Module: wafl<br>• Not attempted yet<br>• Failed: Operation was vetoed, Module: example. The aggregate will be taken over during CFO phase of takeover.<br>• Failed: Aggregate does not have SFO HA policy. The aggregate will be taken over during CFO phase of takeover.<br>• Failed: Aggregate is in failed or limbo state. The aggregate will be taken over during CFO phase of takeover.<br>• Failed to offline the aggregate. The aggregate will be taken over during CFO phase of takeover.<br>• No aggregates to relocate<br>• Failed: Node cannot communicate with the destination node. To takeover the remaining aggregates, run the "storage failover takeover -ofnode -bypass-optimization true" command. To giveback the relocated aggregates, run the "storage failover giveback -ofnode " command.<br>• Failed: Destination node did not online the aggregate on time. To takeover the remaining aggregates, run the "storage failover takeover -ofnode -bypass-optimization true" command. To giveback the relocated aggregates, run the "storage failover giveback -ofnode " command.<br>• Failed: Destination node failed to online the aggregate. To takeover the remaining aggregates, run the "storage failover takeover -ofnode -bypass-optimization true" command. To giveback the relocated aggregates, run the "storage failover giveback -ofnode " command. |

| | | | |
|---|---|---|---|
| | | | Failed: Destination cannot receive the aggregate. To takeover the remaining aggregates, run the "storage failover takeover -ofnode -bypass-optimization true" command. To giveback the relocated aggregates, run the "storage failover giveback -ofnode " command.<br>• Failed: Aggregate is restricted. The aggregate will be taken over during CFO phase of takeover.<br>• Failed: Aggregate does not have disks. The aggregate will be taken over during CFO phase of takeover.<br>• Failed: Aggregate is foreign. The aggregate will be taken over during CFO phase of takeover.<br>• Failed: Aggregate is offline. The aggregate will be taken over during CFO phase of takeover.<br>• Failed: Mirrored aggregate does not have both plexes online. The aggregate will be taken over during CFO phase of takeover.<br>• Failed, could not disable firmware updates on .<br><br>Attributes: non-creatable, non-modifiable |
| **node** | | string | Name of the node. Attributes: key, non-creatable, non-modifiable |
| **node-takeover-status** | | string | Takeover status of the node. Attributes: non-creatable, non-modifiable |
| **taken-over-aggregate** | | string | Name of the taken over aggregate. Attributes: non-creatable, non-modifiable |

# Element definition: **timeout-info**

[top]

Failover monitor timeouts.

| Name | Range | Type | Description |
|---|---|---|---|
| **booting** | | integer | booting timeout, in milliseconds |
| **connect** | | integer | connect timeout, in milliseconds |
| **dumpcore** | | integer | dumpcore timeout, in milliseconds |
| **fast** | | integer | fast timeout, in milliseconds |
| **firmware** | | integer | firmware timeout, in milliseconds |
| **mailbox** | | integer | mailbox timeout, in milliseconds |
| **operator** | | integer | operator timeout, in milliseconds |
| **reboot** | | integer optional | reboot timeout, in milliseconds |
| **slow** | | integer | slow timeout, in milliseconds |
| **transit** | | integer | transit timeout, in milliseconds |
| **transit-timer-enabled** | | boolean | True, if the transit timer is enabled |

# Element definition: **advanced-options-modify**

[top]

Advanced Options to Modify

| Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **aggregate-migration-timeout** | **[30..300]** | integer optional | Specifies the amount of time, in seconds, the source node has to wait for the destination node to complete the aggregate migration before declaring the migration as failed. Default: 120 seconds. Attributes: non-creatable, modifiable |
| **cifs-ndo-duration** | | cifsndoduration optional | Specifies failover outage durations to allow CIFS NDO lite customers to tune the NVlog size. A value of 'default' uses the maximum NVRAM possible. Attributes: non-creatable, modifiable Possible values:<br>• "default" ,<br>• "medium" ,<br>• "low" |
| **propagate-mailbox-enabled** | | boolean optional | Specifies whether storage-failover status is communicated via mailbox disks. Default: true Attributes: non-creatable, modifiable |
| **read-interval** | **[1..120]** | integer optional | Specifies how frequently, in seconds, the node reads its partner's status from the mailbox disks. Default: 5 seconds Attributes: non-creatable, modifiable |
| **write-interval** | **[1..120]** | integer optional | Specifies how frequently, in seconds, the node writes its status to the mailbox disks. Default: 5 seconds Attributes: non-creatable, modifiable |

# Element definition: **giveback-options-modify**

[top]

Giveback Options to Modify

| Name | Range | Type | Description |
|---|---|---|---|
| **auto-giveback-after-panic-enabled** | | boolean optional | Specifies whether a node should attempt automatic giveback operations if takeover was because of a disruption in the partner's operation Attributes: non-creatable, modifiable |
| **auto-giveback-enabled** | | boolean optional | True, if auto-giveback is enabled, false otherwise. Default: true. Attributes: non-creatable, modifiable |
| **auto-giveback-override-vetoes-enabled** | | boolean optional | Specifies whether long-running operations (for instance, NDMP dump/restoration, volume verification, etc.) are terminated and partner veto votes are overriden when an automatic giveback operation is initiated. Attributes: non-creatable, modifiable |
| **autogiveback-delay** | **[0..600]** | integer optional | Specifies the minimum time, in seconds, that a node will stay in takeover state prior to performing an automatic giveback. Default: 600 seconds Attributes: non-creatable, modifiable |
| **check-partner-enabled** | | boolean optional | Specifies whether the node checks that its partner is waiting-for-giveback before initiating a giveback. If check-partner is false, aggregates will be given back even if the partner is not up and ready potentially leading to longer outage. Default: true Attributes: non-creatable, modifiable |
| **giveback-attempts-count** | **[2..10]** | integer optional | Specifies the number of times the node attempts an automatic giveback within the time period specified by giveback-attempts-interval. Default: 2 Attributes: non-creatable, modifiable |
| **giveback-attempts-interval** | **[1..90]** | integer optional | Specifies the time period, in minutes, used by the giveback-attempts-count parameter Default: 60 minutes Attributes: non-creatable, modifiable |

# Element definition: **giveback-related-info**

[top]

Giveback related Info

| Name | Range | Type | Description |
|---|---|---|---|
| **giveback-failure-reason** | | string optional | This is the reason for the giveback failure. Possible values are:<br>• aggr_relocation_in_progress - aggregate relocation is in progress<br>• shutdown_in_progress - shutdown is in progress<br>• testpoint - a giveback failure was simulated with a testpoint<br>• cannot_giveback_partner_subsystem - node failed to giveback one of partner's subsystems<br>• bck_mbx_update_error - node could not update its backup mailbox<br>• disaster_recovery_in_progress - disaster recovery operation is in progress<br>• partner_disaster_recovery_in_progress - disaster recovery operation is in progress on the partner node<br><br>Attributes: non-creatable, non-modifiable |
| **giveback-module** | | string optional | The current module giveback process is in. e.g. WAFL Attributes: non-creatable, non-modifiable |
| **giveback-state** | | string optional | Giveback state of the node. Possible values are:<br>• nothing_to_gb<br>• not_attempted_yet<br>• giveback_in_progress<br>• giveback_failed_autogiveback_disabled<br>• giveback_failed_autogiveback_scheduled<br>• previous_giveback_failed<br>• giveback_vetoed_no_di<br>• giveback_vetoed_missing_disks<br>• autogiveback_scheduled<br>• autogiveback_deferred<br>• node_upgrade_in_progress<br>• sfo_aggr_giveback_failed<br>• sfo_aggr_giveback_in_progress<br>• partial_giveback<br>• partner_spare_disks_giveback_pending<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **hamode**

[top]

High availability mode Possible values:

- "ha" ,
- "non_ha"

[none]

# Element definition: **interconnect-related-info**

[top]

Interconnect Info

| Name | Range | Type | Description |
|---|---|---|---|
| **interconnect-links** | | string optional | States of the individual interconnect links. Attributes: non-creatable, non-modifiable |
| **interconnect-type** | | string optional | Type and Vendor of the interconnect. Attributes: non-creatable, non-modifiable |
| **is-interconnect-up** | | boolean optional | True, if storage failover interconnect is up. Attributes: non-creatable, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **node-related-info**

[top]

Node Info

| Name | Range | Type | Description |
|---|---|---|---|
| **current-mode** | | hamode optional | Current HA Mode Attributes: non-creatable, modifiable Possible values:<br>• "ha" ,<br>• "non_ha" |
| **ha-type** | | hatype optional | Specifies the type of high-availability configuration. Possible values are:<br>• none - none<br>• shared_storage - shared storage high-availability configuration<br>• non_shared_storage - non-shared storage high-availability configuration<br>Attributes: non-creatable, non-modifiable Possible values:<br>• "none" - None,<br>• "shared_storage" - Shared storage HA configuration,<br>• "non_shared_storage" - Non-shared storage HA configuration |
| **local-firmware-progress** | **[0..2^32-1]** | integer optional | A counter to indicate that the local node is progressing in the current firmware state. If the counter is not progressing the node may be unresponsive or down. Attributes: non-creatable, non-modifiable |
| | | | Local firmware state that will be communicated through interconnect |

| | | | |
|---|---|---|---|
| **local-firmware-state** | | string optional | to the partner. Possible values are:<br><br>• SF_OPERATOR_EXIT - operator completed<br>• SF_DEBUG_EXIT - debugger completed<br>• SF_PROGRESS - progress counter<br>• SF_IOERROR - I/O error<br>• SF_BADCKSUM - bad checksum<br>• SF_RESERVED - reserved<br>• SF_UNKNOWN - unknown<br>• SF_OPEN - initializing<br>• SF_POST - in power-on self test<br>• SF_BOOTING - booting<br>• SF_FAIL - boot failed<br>• SF_WAITING - waiting<br>• SF_OS_BOOTED - kernel loaded<br>• SF_UP - up<br>• SF_DEBUG - in debugger<br>• SF_OPERATOR - waiting for operator input<br>• SF_DUMPCORE - dumping core<br>• SF_HALT - halted<br>• SF_REBOOT - rebooting<br>• SF_GIVEWAIT - waiting for giveback<br>• SF_MBWAIT - waiting for cluster mailbox release<br>• SF_SPARECORE - dumping sparecore and ready to be taken-over<br>• SF_MDP - multi-disk panic<br>• SF_TO - in takeover<br>• SF_NOTO - takeover disabled<br>• SF_CLUSTERWAIT - waiting for cluster apps<br><br>Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node name Attributes: key, non-creatable, non-modifiable |
| | | | Storage failover status of the node. Possible values are:<br><br>• connected - Partner is available for takeover.<br>• takeover_scheduled - Partner is down and takeover is scheduled.<br>• takeover_started - Takeover process has begun.<br>• takeover - Currently controlling partner's resources.<br>• takeover_failed - Failed to takeover the partner.<br>• giveback_partial_waiting - This node controls partner aggregates even though the node is not in takeover. And we're waiting for a connection to the partner.<br>• giveback_partial_connected - This node controls partner aggregates even though the node is not in takeover. The partner is available to receive the aggregates.<br>• waiting_for_root_aggr - Partner is controlling dblade's root aggregate If we're in this state, many other optional fields are not returned.<br>• waiting - Waiting for a connection to partner. Generally happens while partner is rebooting.<br>• in_maintenance_mode - Node is in maintenance mode. In the mode it is not possible to determine more detailed information (e.g. cluster or not; takeover or not, etc).<br>• pending_shutdown - Starting a takeover/giveback is inhibited due to a pending system shutdown.<br>• relocating_aggrs_before_takeover - Node is relocating its SFO aggregates to its partner prior to a negotiated takeover.<br>• sfo_takeover_phase_done - Node is done with the SFO phase of takeover. |

| | | | |
|---|---|---|---|
| **node-state** | | string<br>optional | sfo_takenover_phase_done - This node has relocated its SFO aggregates to its partner during an optimized negotiated takeover by its partner.<br>• sfo_takeover_phase_aborted - The SFO phase of takeover has been aborted. Refer to takeover-failure-reason field to check the reason.<br>• sfo_takenover_phase_aborted - This node has aborted the relocation of its SFO aggregates to its partner, during an optimized negotiated takeover by its partner.<br>• in_non_HA_mode - Node is not in HA mode<br>• cfo_takeover_failed - CFO phase of takeover failed<br>• sfo_takeover_phase - SFO phase of takeover of partner is in progress<br>• relocated_aggrs_before_takeover - Node has relocated its SFO aggregates to its partner prior to a negotiated takeover.<br>• giving_back - Giveback is in progress. Refer to current-giveback-module field to get the current module, the giveback process is in.<br>• giveback_failed_autogiveback_disabled - Previous giveback failed and auto giveback is disabled. Refer to current-giveback-module to get the module in which giveback process failed.<br>• giveback_failed_autogiveback_scheduled - Previous giveback failed and an auto giveback is scheduled. Refer to current-giveback-module to get the module in which giveback process failed.<br>Refer to time-until-autogiveback field to check time remaining before an auto giveback is initiated.<br>• previous_giveback_failed - Previous giveback failed. Refer to current-giveback-module to get the module in which giveback process failed.<br>• takeover_disk_inventory_not_received - Local node is in takeover. A normal giveback is not possible as disk inventory from partner has not yet been received.<br>• takeover_partner_missing_disks - Local node is in takeover. A normal giveback is not possible as the patner is missing some of its file system disks.<br>• takeover_autogiveback_scheduled - Local node in takeover. An auto giveback is scheduled. Refer time-until-autogiveback field to check time remaining before an auto giveback is initiated.<br>• takeover_network_failure - Local node in takeover. The partner was taken over due to network failure.<br>• takeover_autogiveback_deferred - Local node in takeover. Auto giveback is deferred because the partner node was not ready to receive aggregates when the auto giveback timer expired. An auto giveback will be initiated as soon as the partner node is up and ready to receive aggregates.<br>• automatic_takeover_disabled_connected - Automatic takeover is disabled. Local node is connected to partner via HA interconnect. This happens only in debug builds when raid.panic.missing.disks is turned on from node CLI.<br>• automatic_takeover_disabled_waiting - Automatic takeover is disabled. Local node is waiting for partner node on HA interconnect. This happens only in debug builds when raid.panic.missing.disks is turned on from node CLI.<br>• ndo_upgrade_in_progress - Local node owns partner's aggregates as part of node upgrade process.<br>• own_aggr_non_local_connected - Local node owns aggregates of some other node in the cluster. Local node is connected to partner via HA interconnect. This is possible only during NDO double hop controller upgrade. |

| | | | |
|---|---|---|---|
| | | | own_aggr_non_local_waiting - Local node owns aggregates of some other node in the cluster. Local node is waiting for partner on HA interconnect. This is possible only during NDO double hop controller upgrade.<br>• clusterwait_connected - Connected to partner via HA interconnect. Local node waiting for cluster applications to come online.<br>• clusterwait_waiting - Waiting for partner on HA interconnect. Local node waiting for cluster applications to come online.<br>• dr_op_in_progress - MetroCluster disaster recovery operation is in progress.<br>• SF_OPERATOR_EXIT - operator completed<br>• SF_DEBUG_EXIT - debugger completed<br>• SF_PROGRESS - progress counter<br>• SF_IOERROR - I/O error<br>• SF_BADCKSUM - bad checksum<br>• SF_RESERVED - reserved<br>• SF_UNKNOWN - unknown<br>• SF_OPEN - initializing<br>• SF_POST - in power-on self test<br>• SF_BOOTING - booting<br>• SF_FAIL - boot failed<br>• SF_WAITING - waiting<br>• SF_OS_BOOTED - kernel loaded<br>• SF_UP - up<br>• SF_DEBUG - in debugger<br>• SF_OPERATOR - waiting for operator input<br>• SF_DUMPCORE - dumping core<br>• SF_HALT - halted<br>• SF_REBOOT - rebooting<br>• SF_GIVEWAIT - waiting for giveback<br>• SF_MBWAIT - waiting for cluster mailbox release<br>• SF_SPARECORE - dumping sparecore and ready to be taken-over<br>• SF_MDP - multi-disk panic<br>• SF_TO - in takeover<br>• SF_NOTO - takeover disabled<br>• SF_CLUSTERWAIT - waiting for cluster apps<br><br>Attributes: non-creatable, non-modifiable |
| **nvram-id** | **[0..2^32-1]** | integer optional | NVRAM identifier Attributes: non-creatable, non-modifiable |
| **partner-firmware-progress** | **[0..2^32-1]** | integer optional | A counter to indicate that the partner node is progressing in the current firmware state. If the counter is not progressing the partner node may be unresponsive or down. Attributes: non-creatable, non-modifiable |
| **partner-** | | | Partner firmware state as communicated by the partner through interconnect. Possible values are:<br><br>• SF_OPERATOR_EXIT - operator completed<br>• SF_DEBUG_EXIT - debugger completed<br>• SF_PROGRESS - progress counter<br>• SF_IOERROR - I/O error<br>• SF_BADCKSUM - bad checksum<br>• SF_RESERVED - reserved<br>• SF_UNKNOWN - unknown<br>• SF_OPEN - initializing<br>• SF_POST - in power-on self test<br>• SF_BOOTING - booting<br>• SF_FAIL - boot failed<br>• SF_WAITING - waiting |

| | | | |
|---|---|---|---|
| **firmware-state** | | string optional | • SF_OS_BOOTED - kernel loaded<br>• SF_UP - up<br>• SF_DEBUG - in debugger<br>• SF_OPERATOR - waiting for operator input<br>• SF_DUMPCORE - dumping core<br>• SF_HALT - halted<br>• SF_REBOOT - rebooting<br>• SF_GIVEWAIT - waiting for giveback<br>• SF_MBWAIT - waiting for cluster mailbox release<br>• SF_SPARECORE - dumping sparecore and ready to be taken-over<br>• SF_MDP - multi-disk panic<br>• SF_TO - in takeover<br>• SF_NOTO - takeover disabled<br>• SF_CLUSTERWAIT - waiting for cluster apps<br><br>Attributes: non-creatable, non-modifiable |
| **partner-name** | | string optional | Storage failover partner node name Attributes: non-creatable, non-modifiable |
| **partner-nvram-id** | **[0..2^32-1]** | integer optional | Partner NVRAM identifier Attributes: non-creatable, non-modifiable |
| **state-description** | | string optional | A detailed description of the storage failover state of the node. Attributes: non-creatable, non-modifiable |

# Element definition: **options-related-info**

[top]

Options Info

| Name | Range | Type | Description |
|---|---|---|---|
| **auto-giveback-enabled** | | boolean optional | True, if auto-giveback is enabled, false otherwise. Default: true. Attributes: non-creatable, modifiable |
| **failover-enabled** | | boolean optional | True, if the storage failover facility is enabled, false otherwise. Note that the facility can be enabled but takeover may not be possible due to various reasons. Attributes: non-creatable, modifiable |
| **ha-mode** | | hamode optional | Specifies whether the node is set up in high-availability mode or stand-alone mode. Attributes: non-creatable, modifiable Possible values:<br>• "ha" ,<br>• "non_ha" |
| **sfo-advanced-options-info** | | advanced-options optional | Advanced Options |
| **sfo-giveback-options-info** | | giveback-options optional | Giveback Options |
| **sfo-takeover-options-info** | | takeover-options optional | Takeover Options |

# Element definition: **storage-related-info**

[top]

Storage Info

| Name | Range | Type | Description |
|---|---|---|---|
| **local-mailbox-state** | | mailbox-state[] optional | Primary mailbox status information, represented as a list of strings. Not returned if node-state is waiting_for_root_aggr. Attributes: non-creatable, non-modifiable |
| **local-missing-disks** | | disk-uid[] optional | List of disks that the local node is missing but the partner node is able to view. Attributes: non-creatable, non-modifiable |
| **mailbox-disks-local** | | disk-uid[] optional | List of local mailbox disks. Not returned if node-state is waiting_for_root_aggr. Attributes: non-creatable, non-modifiable |
| **mailbox-disks-partner** | | disk-uid[] optional | List of partner mailbox disks as this dblade sees them. Not returned if partner's node-state is waiting_for_root_aggr. Attributes: non-creatable, non-modifiable |
| **partner-mailbox-state** | | mailbox-state[] optional | Backup mailbox status information, represented as a list of strings. Not returned if partner's node-state is waiting_for_root_aggr. Attributes: non-creatable, non-modifiable |
| **partner-missing-disks** | | disk-uid[] optional | List of disks that the partner node is missing but the local node is able to view. Attributes: non-creatable, non-modifiable |

# Element definition: **takeover-options-modify**

[top]

Takeover Options to Modify

| Name | Range | Type | Description |
|---|---|---|---|
| **bypass-takeover-optimization-enabled** | | boolean optional | Specifies if manual takeover is optimized. If optimized SFO aggregates will be relocated serially to the node that is taking over prior to takeover. This reduces client outage. Default: false Attributes: non-creatable, modifiable |
| **short-uptime-duration** | **[0..86400]** | integer optional | Specifies the time period, in seconds, used by the takeover-onshort-uptime-enabled parameter. Default: 60 seconds. Attributes: non-creatable, modifiable |
| **takeover-detection-interval** | **[0..2^32-1]** | integer optional | Specifies the amount of time, in seconds, that a node remains unresponsive before its partner initiates a takeover operation. Default: 15 seconds. Attributes: non-creatable, modifiable |
| **takeover-onfailure-enabled** | | boolean optional | A master option that specifies whether the node takes over on any partner failure. When false, all takeovers are disabled; when true the other take over specific options are checked. Default: true Attributes: non-creatable, modifiable |
| **takeover-onpanic-enabled** | | boolean optional | Specifies whether the node automatically takes over if the partner node panics. Changing this parameter on one node automatically makes the same change on its partner node. Default: true Attributes: non-creatable, modifiable |
| **takeover-onreboot-enabled** | | boolean optional | Specifies whether the node automatically takes over if its partner reboots. Default: true Attributes: non-creatable, modifiable |

| | | | |
|---|---|---|---|
| **takeover-onshort-uptime-enabled** | | boolean optional | Specifies whether the node takes over if the partner node fails within short-uptime-duration seconds of starting up. Default: true Attributes: non-creatable, modifiable |

# Element definition: **takeover-related-info**

[top]

Takeover related Info

| Name | Range | Type | Description |
|---|---|---|---|
| **takeover-by-partner-not-possible-reason** | | reason-takeover-not-possible[] optional | It list of one or more reasons why takeover by partner is not possible. Attributes: non-creatable, non-modifiable |
| **takeover-by-partner-possible** | | boolean optional | True, if storage failover takeover is currently possible. by the partner, false otherwise. Note that this is the local node's view of partner. Attributes: non-creatable, non-modifiable |
| **takeover-enabled** | | boolean optional | True, if the storage failover facility is enabled, false otherwise. Note that the facility can be enabled but takeover may not be possible due to various reasons. Attributes: non-creatable, modifiable |
| **takeover-failure-reason** | | string optional | This is the reason for the takeover failure. Possible values are:<br>• shutdown_in_progress - shutdown is in progress<br>• aggr_relocation_in_progress - aggregate relocation is in progress<br>• giveback_in_progress - giveback is in progress<br>• takeover_in_progress - takeover is in progress<br>• unknown_partner_id - node could not detect its partner's system ID<br>• conflicting_sysid - node has the same system ID as its partner<br>• pri_mbx_update_error - node could not update its primary mailbox<br>• takeover_disabled_by_partner - partner has disabled takeover<br>• cannot_takeover_partner_subsystem - node failed to takeover one of partner's subsystems<br>• non_etc_or_rc_boot - it is not possible to takeover in a non-etc/rc boot<br>• bck_mbx_update_error - node could not update its backup mailbox<br>• partner_taking_over - partner is taking over local node<br>• revert_in_progress - revert is in progress<br>• disaster_recovery_in_progress - disaster recovery operation is in progress<br>• headswap_in_progress - headswap is in progress<br>• destination_check_failed - destination check failed<br>• communication_failed - communication with destination failed<br>• operation_aborted - operation was aborted<br>• aggr_not_online - destination node did not online the aggregate being relocated in time<br>• sfo_disabled - storage failover service is not enabled |

| | | | |
|---|---|---|---|
| | | | partner_taking_over - partner is taking over local node<br>• bdfu_not_disabled_source - failed to disable background disk firmware update (BDFU) on local node<br>• bdfu_not_disabled_dest - failed to disable background disk firmware update (BDFU) on partner node<br>• partner_shutting_down - shutdown is in progress on the partner node<br>• partner_aggr_relocation_in_progress - aggregate relocation is in progress on the partner node<br>• partner_giveback_in_progress - giveback is in progress on the partner node<br>• partner_revert_in_progress - revert is in progress on the partner node<br>• partner_disaster_recovery_in_progress - disaster recovery operation is in progress on the partner node<br>• partner_in_headswap - headswap is in progress on the partner node<br><br>Attributes: non-creatable, non-modifiable |
| **takeover-module** | | string optional | The current module takeover process is in. e.g. WAFL Attributes: non-creatable, non-modifiable |
| **takeover-of-partner-not-possible-reason** | | reason-takeover-not-possible[] optional | If takeover-possible field is false, it lists of one or more reasons why takeover of partner is not possible. Attributes: non-creatable, non-modifiable |
| **takeover-of-partner-possible** | | boolean optional | True, if storage failover takeover is currently possible, false otherwise. Attributes: non-creatable, non-modifiable |
| **takeover-reason** | | takeover-reason | List of reasons why a takeover can happen. Possible values are:<br><br>• none - Not in takeover<br>• takeover_normal - Operator initiated takeover<br>• takeover_immediate - Operator initiated forced takeover<br>• takeover_ndu - Takeover initiated as part of NDU<br>• takeover_forced - Operator initiated forced takeover, possible data loss<br>• takeover_early - Takeover occuring during bootup of a filer<br>• takeover_operator_exp - Takeover occuring after operator timeout expired<br>• takeover_post_failed - Takeover occuring on POST failure<br>• takeover_panic - Takeover on panic<br>• takeover_shortuptime - Takeover after quick toggling between up & down states<br>•<br>• takeover_sparecore_exp - Takeover on panic timeout expiry<br>• takeover_reboot_exp - Takeover on reboot timer expiry<br>• takeover_booting_exp - Takeover on booting timer expiry<br>• takeover_nfo_shutdown - Takeover on negotiated failover shutdown<br>• takeover_nfo_timer - Takeover on negotiated failover timer expiry<br>• takeover_mdp - Takeover on multi-disk panic<br>• takeover_reboot - Takeover on reboot<br>• takeover_halt - Takeover on halt<br>• takeover_clam - CLAM triggered takeover<br>• takeover_hwassist - H/w assisted takeover<br><br>Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| | | optional | • "takeover_none" - None,<br>• "takeover_immediate" - Immediate takeover,<br>• "takeover_ndu" - NDU Takeover,<br>• "takeover_forced" - Forced Takeover,<br>• "takeover_disaster" - Disaster Takeover,<br>• "takeover_early" - Early Takeover,<br>• "takeover_operator_exp" - Takeover Operator Timeout,<br>• "takeover_post_failed" - Takeover POST Failed,<br>• "takeover_panic" - Takeover On Panic,<br>• "takeover_shortuptime" - Takeover On Short Uptime,<br>• "takeover_sparecore_exp" - Takeover On Sparecore Timeout,<br>• "takeover_reboot_exp" - Takeover On Reboot Timeout,<br>• "takeover_booting_exp" - Takeover On Booting Timeout,<br>• "takeover_firmware_exp" - Takeover On Firmware Timeout,<br>• "takeover_nfo_shutdown" - Takeover On Negotiated Failover,<br>• "takeover_nfo_timer" - Takeover On Negotiated Failover Timeout,<br>• "takeover_mdp" - Takeover On MDP,<br>• "takeover_reboot" - Takeover On Reboot,<br>• "takeover_halt" - Takeover On Halt,<br>• "takeover_clam" - CLAM Initiated Takeover,<br>• "takeover_hwassist" - H/w assisted Takeover,<br>• "takeover_normal" - Operator initiated takeover,<br>• "takeover_comm_err" - Takeover On Communication Error |
| **takeover-state** | | string optional | Takeover state of the node. Possible values are:<br>• takeover_failed - Takeover Failed<br>• sfo_takeover_in_progress - SFO phase of takeover of partner is in progress<br>• relocating_aggrs_before_takeover - Relocating aggregates to partner as a takeover was initiated by partner<br>• cfo_takeover_scheduled - CFO phase of takeover is scheduled<br>• relocated_aggrs_before_takeover - Relocated aggregates to partner after a takeover was initiated by partner<br>• takeover_by_partner_failed - A takeover attempt by partner failed. Refer to takeover-failure-reason field to check the reason for takeover failure.<br>• in_takeover - Node is in takeover<br>• takeover_started - A takeover is in progress<br>• takeover_scheduled - A takeover of partner is scheduled Refer to time-until-takeover field to check time remaining till takeover.<br>• not_in_takeover - Local node is not in takeover<br>Attributes: non-creatable, non-modifiable |
| **time-since-takeover** | **[0..2^32-1]** | integer optional | Time in milliseconds since the local node has taken over partner.<br>Attributes: non-creatable, non-modifiable |
| **time-until-takeover** | **[0..2^32-1]** | integer optional | This is the countdown time in seconds until takeover is started.<br>Attributes: non-creatable, non-modifiable |

[top]

# Element definition: **advanced-options**

Advanced Options

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-migration-timeout** | **[30..300]** | integer optional | Specifies the amount of time, in seconds, the source node has to wait for the destination node to complete the aggregate migration before declaring the migration as failed. Default: 120 seconds. Attributes: non-creatable, modifiable |
| **cifs-ndo-duration** | | cifsndoduration optional | Specifies failover outage durations to allow CIFS NDO lite customers to tune the NVlog size. A value of 'default' uses the maximum NVRAM possible. Attributes: non-creatable, modifiable Possible values:<br>• "default" ,<br>• "medium" ,<br>• "low" |
| **propagate-mailbox-enabled** | | boolean optional | Specifies whether storage-failover status is communicated via mailbox disks. Default: true Attributes: non-creatable, modifiable |
| **read-interval** | **[1..120]** | integer optional | Specifies how frequently, in seconds, the node reads its partner's status from the mailbox disks. Default: 5 seconds Attributes: non-creatable, modifiable |
| **write-interval** | **[1..120]** | integer optional | Specifies how frequently, in seconds, the node writes its status to the mailbox disks. Default: 5 seconds Attributes: non-creatable, modifiable |

# Element definition: **cifsndoduration**

[top]

CIFS NDO outage duration Possible values:

- "default" ,
- "medium" ,
- "low"

[none]

# Element definition: **disk-uid**

[top]

Disk Unique Identifier

[none]

# Element definition: **giveback-options**

[top]

Giveback Options

| Name | Range | Type | Description |
|---|---|---|---|
| **auto-giveback-after-panic-enabled** | | boolean optional | Specifies whether a node should attempt automatic giveback operations if takeover was because of a disruption in the partner's operation Attributes: non-creatable, modifiable |
| **auto-giveback-enabled** | | boolean optional | True, if auto-giveback is enabled, false otherwise. Default: true. Attributes: non-creatable, modifiable |
| **auto-giveback-override-vetoes-enabled** | | boolean optional | Specifies whether long-running operations (for instance, NDMP dump/restoration, volume verification, etc.) are terminated and partner veto votes are overriden when an automatic giveback operation is initiated. Attributes: non-creatable, modifiable |
| **autogiveback-delay** | **[0..600]** | integer optional | Specifies the minimum time, in seconds, that a node will stay in takeover state prior to performing an automatic giveback. Default: 600 seconds Attributes: non-creatable, modifiable |
| **check-partner-enabled** | | boolean optional | Specifies whether the node checks that its partner is waiting-for-giveback before initiating a giveback. If check-partner is false, aggregates will be given back even if the partner is not up and ready potentially leading to longer outage. Default: true Attributes: non-creatable, modifiable |
| **giveback-attempts-count** | **[2..10]** | integer optional | Specifies the number of times the node attempts an automatic giveback within the time period specified by giveback-attempts-interval. Default: 2 Attributes: non-creatable, modifiable |
| **giveback-attempts-interval** | **[1..90]** | integer optional | Specifies the time period, in minutes, used by the giveback-attempts-count parameter Default: 60 minutes Attributes: non-creatable, modifiable |

# Element definition: **hamode**

[top]

High availability mode Possible values:

- "ha" ,
- "non_ha"

[none]

# Element definition: **hatype**

[top]

none|shared_storage|non_shared_storage Possible values:

- "none" - None,
- "shared_storage" - Shared storage HA configuration,
- "non_shared_storage" - Non-shared storage HA configuration

[none]

# Element definition: **mailbox-state**

[top]

State of mailbox disks owned by the node. Possible values are:

- mbx_status_nodisks
- mbx_status_uncertain
- mbx_status_stale
- mbx_status_conflicted
- mbx_status_old_version
- mbx_status_not_found
- mbx_status_wrong_state
- mbx_status_backup

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **reason-takeover-not-possible**

[top]

Reason why takeover is not possible.

- not_initialized - Controller Failover not initialized
- non_ha_mode - Controller is in non-HA mode
- disabled - Controller Failover takeover disabled
- mailbox_invalid - Partner mailbox disks not accessible or invalid
- mailbox_uninit - Partner mailbox status uninitialized
- fm_version_mismatch - Failover monitor version mismatch
- partner_disabled - Takeover disabled by partner
- operator_deny - Takeover disabled by operator
- nvram_mismatch - NVRAM size mismatch
- version - Version mismatch
- ic_error - Interconnect error
- booting - Partner booting
- shelf_hot - Disk shelf is too hot
- partner_revert_in_progress - Partner is performing revert
- local_revert_in_progress - Revert is in progress
- partner_takeover - Partner is attempting takeover
- local_takeover - Already in takeover mode
- halt_no_takeover - Partner halted in notakeover mode
- log_unsync - NVRAM log unsynchronized
- unknown - No takeover due to unknown reason
- waiting_for_partner - Waiting for partner to recover
- low_memory - Low memory condition
- halting - Local halt in progress
- mailbox_uncertain - Status of partner mailbox is uncertain

no_auto_takeover - Automatic takeover is disabled
- disk_inventory_not_exchanged - Disk inventory information not received - from partner
- disk_inventory_mismatch_local - Local node missing some of partner node's file system disks
- pending_shutdown - Local node is shutting down

[none]

# Element definition: **takeover-options**

[top]

Takeover Options

| Name | Range | Type | Description |
|---|---|---|---|
| **bypass-takeover-optimization-enabled** | | boolean optional | Specifies if manual takeover is optimized. If optimized SFO aggregates will be relocated serially to the node that is taking over prior to takeover. This reduces client outage. Default: false Attributes: non-creatable, modifiable |
| **short-uptime-duration** | **[0..86400]** | integer optional | Specifies the time period, in seconds, used by the takeover-onshort-uptime-enabled parameter. Default: 60 seconds. Attributes: non-creatable, modifiable |
| **takeover-detection-interval** | **[0..2^32-1]** | integer optional | Specifies the amount of time, in seconds, that a node remains unresponsive before its partner initiates a takeover operation. Default: 15 seconds. Attributes: non-creatable, modifiable |
| **takeover-onfailure-enabled** | | boolean optional | A master option that specifies whether the node takes over on any partner failure. When false, all takeovers are disabled; when true the other take over specific options are checked. Default: true Attributes: non-creatable, modifiable |
| **takeover-onpanic-enabled** | | boolean optional | Specifies whether the node automatically takes over if the partner node panics. Changing this parameter on one node automatically makes the same change on its partner node. Default: true Attributes: non-creatable, modifiable |
| **takeover-onreboot-enabled** | | boolean optional | Specifies whether the node automatically takes over if its partner reboots. Default: true Attributes: non-creatable, modifiable |
| **takeover-onshort-uptime-enabled** | | boolean optional | Specifies whether the node takes over if the partner node fails within short-uptime-duration seconds of starting up. Default: true Attributes: non-creatable, modifiable |

# Element definition: **takeover-reason**

[top]

FM Takeover Reason Possible values:

- "takeover_none" - None,
- "takeover_immediate" - Immediate takeover,
- "takeover_ndu" - NDU Takeover,
- "takeover_forced" - Forced Takeover,
- "takeover_disaster" - Disaster Takeover,
- "takeover_early" - Early Takeover,
- "takeover_operator_exp" - Takeover Operator Timeout,
- "takeover_post_failed" - Takeover POST Failed,

- "takeover_panic" - Takeover On Panic,
- "takeover_shortuptime" - Takeover On Short Uptime,
- "takeover_sparecore_exp" - Takeover On Sparecore Timeout,
- "takeover_reboot_exp" - Takeover On Reboot Timeout,
- "takeover_booting_exp" - Takeover On Booting Timeout,
- "takeover_firmware_exp" - Takeover On Firmware Timeout,
- "takeover_nfo_shutdown" - Takeover On Negotiated Failover,
- "takeover_nfo_timer" - Takeover On Negotiated Failover Timeout,
- "takeover_mdp" - Takeover On MDP,
- "takeover_reboot" - Takeover On Reboot,
- "takeover_halt" - Takeover On Halt,
- "takeover_clam" - CLAM Initiated Takeover,
- "takeover_hwassist" - H/w assisted Takeover,
- "takeover_normal" - Operator initiated takeover,
- "takeover_comm_err" - Takeover On Communication Error

[none]

# APIs in Category: **cg**


cg-commit
cg-delete
cg-start


## cg-commit

[top]

Commits the snapshots that were started during the preceeding cg-start call that returned the cg-id key, and unfences the volumes that were fenced. If cg-commit API times out, then it means that either too many volumes were specified to the cg-start api or the timeout value for the cg-start api was very small. In this situation, the caller should try to perform the cg-start operation by specifying lesser volumes or by specifying higher timeout value.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cg-id** | | integer | Key to identify the ongoing cg operation. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **EVOLUMENOTONLINE** | |
| **ECGOFF** | |
| **ECGSNAPERR** | |
| **ECGERROR** | |
| **EONTAPI_ETIMEDOUT** | |
| **EVOLUMEBUSY** | |
| **ELOCALREVERT** | |
| **EVOLUMEREADONLY** | |
| **EONTAPI_EVOLOPNOTSUPP** | |
| **ENOSPC** | |
| **EAGGRRELOCATING** | |
| **EAGGRINSWITCHBACK** | |
| **EOP_DISALLOWED_DURING_GIVEBACK** | |
| **EAGGRFAILINGOVER** | |
| **EHALTING** | |

| Vfiler-enabled |
|---|
| **Yes** |

## cg-delete

[top]

Deletes the snaps associated with a CG checkpoint in this filer. This API is deprecated as of Data ONTAP 8.2. Applications using this API should transition to snapshot-multidelete API as appropriate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | string | The name of the snapshot that is deleted in each volume. |
| **volume-uuids** | | UUID[] | The identities of the volumes in which to create the snapshot.<br><br>The volume identity string is its 128-bit universally-unique identifier (UUID) or its DSID.<br><br>UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.<br><br>Here is an example of an actual UUID:<br><br>49e370d6-5b5a-11d9-9eb5-000100000529 |
| **volumes** | | volume-name[] | A list of volumes in this filer that is part of this CG operation. |

| Errno | Description |
|---|---|
| **ECGOFF** | |
| **EONTAPI_EINVAL** | |
| **EVOLUMENOTONLINE** | |
| **ECGSNAPDELERR** | |
| **ECGERROR** | |

# cg-start

[top]

Starts the checkpoint cycle for externally synchronized checkpoints in the filer. This operation fences the specified volumes and returns "success" (if successful). If the API returns "success", the call starts a snapshot create operation in these volumes. If the API returns "success", this operation SHOULD be followed by a call to cg-commit (below).

This API is not supported on Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **incoming-cg-id** | | integer optional | This is the common cg-id which the M-host generates internally to keep track of all the D-blades on which this API is executed. When this field is not present, D-blade will generates its own cg-id. |
| **snapmirror-label** | | string optional | A human readable SnapMirror label to be attached with the consistency group snapshot copies. Size of the label can be at most 31 characters. This label will be applied as an attribute to the snapshots that are created and will be used by the vaulting system to identify a vaulting scheme. |
| **snapshot** | | string | The provided name of the snapshot that is created in each volume. This name is the unique identifier by which the calling agent identifies the snapshots that constitute a checkpoint. The maximum length is 255 characters. (= MAXNAMLEN) |
| **snapshot-tags** | | d-snapshot-tag-info[] optional | The new tags to be set on the given consistency group snapshot copies. |

| | | | |
|---|---|---|---|
| **timeout** | | string optional | Timeout selector. Possible vaules are "urgent", "medium" or "relaxed". If no value is specified, the default value is "medium". Following are the timeout values:<br><br>"urgent" : 5 seconds<br><br>"medium" : 7 seconds<br><br>"relaxed" : 20 seconds |
| **user-timeout** | | integer optional | User specified timeout value in seconds. This option can be set if the user wants to specify timeout value other than the default timeouts. The API will return failure if both 'timeout' and 'user-timeout' are specified. The minimum value for this field is equal to the "urgent" timeout. The maximum timeout which can be specified is 120 seconds. |
| **volume-uuids** | | UUID[] | The identities of the volumes in which to create the snapshot.<br><br>The volume identity string is its 128-bit universally-unique identifier (UUID) or its DSID.<br><br>UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.<br><br>Here is an example of an actual UUID:<br><br>49e370d6-5b5a-11d9-9eb5-000100000529 |
| **volumes** | | volume-name[] | A list of volumes in this filer that is part of this CG operation. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **cg-id** | | integer | Identifier of the started cg-start operation. This identifier is used in the succeeding cg-commit call to identify the operation to be commited. |
| **no-fence** | | boolean optional | This option disables volume fencing. The default value is "false" |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **EONTAPI_EAGAIN** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUMEBUSY** | |
| **ECGERROR** | |
| **EONTAPI_ETIMEDOUT** | |
| **EVOLUMEBUSY** | |
| **ELOCALREVERT** | |
| **EDUPLICATEDSID** | |
| **EVOLUMEREADONLY** | |
| **EVOLUMEBUSY** | |
| **EONTAPI_EVOLOPNOTSUPP** | |

| Vfiler-enabled |
| --- |
| Yes |

# Element definition: **UUID**

[top]

The 128-bit universally-unique identifier (UUID). UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# APIs in Category: **cifs**


cifs-branchcache-create
cifs-branchcache-flush
cifs-branchcache-get
cifs-branchcache-get-iter
cifs-branchcache-hash
cifs-branchcache-hash-stat
cifs-branchcache-modify
cifs-branchcache-remove
cifs-branchcache-set-key
cifs-cache-settings-get
cifs-cache-settings-modify
cifs-character-mapping-create
cifs-character-mapping-destroy
cifs-character-mapping-get-iter
cifs-character-mapping-modify
cifs-check-server-get-iter
cifs-connection-get-iter
cifs-domain-discovered-servers-get-iter
cifs-domain-discovered-servers-reset
cifs-domain-name-mapping-search-add
cifs-domain-name-mapping-search-get-iter
cifs-domain-name-mapping-search-modify
cifs-domain-name-mapping-search-remove
cifs-domain-password-schedule-get-iter
cifs-domain-password-schedule-modify
cifs-domain-preferred-dc-add
cifs-domain-preferred-dc-get-iter
cifs-domain-preferred-dc-remove
cifs-domain-server-discovery-mode-get
cifs-domain-server-discovery-mode-get-iter
cifs-domain-server-discovery-mode-modify


This set of APIs allows managing CIFS configuration.

cifs-domain-trusts-get-iter
cifs-domain-trusts-rediscover
cifs-home-directory-get-iter
cifs-home-directory-modify
cifs-home-directory-search-path-add
cifs-home-directory-search-path-delete
cifs-home-directory-search-path-get-iter
cifs-home-directory-search-path-remove
cifs-home-directory-search-path-reorder
cifs-homedir-path-get-for-user
cifs-homedir-paths-get
cifs-homedir-paths-set
cifs-list-config
cifs-local-group-create
cifs-local-group-delete
cifs-local-group-get-iter
cifs-local-group-members-add-members
cifs-local-group-members-get-iter
cifs-local-group-members-remove-members
cifs-local-group-modify
cifs-local-group-rename
cifs-local-user-create
cifs-local-user-delete
cifs-local-user-get-iter
cifs-local-user-membership-get-iter
cifs-local-user-modify
cifs-local-user-rename
cifs-local-user-set-password
cifs-nbalias-names-get
cifs-nbalias-names-set
cifs-nbtstat-get-iter
cifs-options-get-iter
cifs-options-modify
cifs-password-change
cifs-password-reset
cifs-preferred-dc-check-get-iter
cifs-privilege-add-privilege
cifs-privilege-get-iter

cifs-privilege-remove-privilege
cifs-privilege-reset-privilege
cifs-security-get-iter
cifs-security-modify
cifs-server-add-netbios-aliases
cifs-server-create
cifs-server-delete
cifs-server-get-iter
cifs-server-modify
cifs-server-remove-netbios-aliases
cifs-server-start
cifs-server-stop
cifs-session-close
cifs-session-file-close
cifs-session-file-get-iter
cifs-session-get-iter
cifs-session-list-iter-end
cifs-session-list-iter-next
cifs-session-list-iter-start
cifs-setup
cifs-setup-create-group-file
cifs-setup-create-passwd-file
cifs-setup-ou-list-iter-end
cifs-setup-ou-list-iter-next
cifs-setup-ou-list-iter-start
cifs-setup-site-list-iter-end
cifs-setup-site-list-iter-next
cifs-setup-site-list-iter-start
cifs-setup-verify-name
cifs-setup-verify-passwd-and-group
cifs-share-access-control-create
cifs-share-access-control-delete
cifs-share-access-control-get-iter
cifs-share-access-control-modify
cifs-share-ace-delete
cifs-share-ace-set
cifs-share-acl-list-iter-end
cifs-share-acl-list-iter-next
cifs-share-acl-list-iter-

start
cifs-share-add
cifs-share-change
cifs-share-create
cifs-share-delete
cifs-share-get-iter
cifs-share-list-iter-end
cifs-share-list-iter-next
cifs-share-list-iter-start
cifs-share-modify
cifs-start
cifs-status
cifs-stop
cifs-symlink-create
cifs-symlink-delete
cifs-symlink-get-iter
cifs-symlink-modify
cifs-top-iter-end
cifs-top-iter-next
cifs-top-iter-start
cifs-user-home-directory-path-get
cifs-user-home-directory-path-get-iter
cifs-users-and-group-local-group-members-get-iter
cifs-users-and-group-local-user-membership-get-iter
volume-charmap-get
volume-charmap-set

# cifs-branchcache-create

[top]

Create and setup the BranchCache service.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hash-store-max-size** | | size optional | Maximum size the hash store can grow to. |
| **hash-store-path** | | string | Path to the directory where hash files are stored. |
| **operating-mode** | | string optional | The mode in which the BranchCache service will operate. |
| **return-record** | | boolean optional | If set to true, returns the cifs-branchcache on successful creation. Default: false |
| **server-key** | | string optional | BranchCache server key. |
| **versions** | | cifs-bc-version-control[] optional | Versions of the BranchCache protocol that are supported. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| result | | cifs-branchcache optional | The cifs-branchcache created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# cifs-branchcache-flush

[top]

Flush (delete) all the BranchCache hashes that have been generated for a Vserver.

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# cifs-branchcache-get

[top]

Retrieve information about the BranchCache service.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | cifs-branchcache optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | cifs-branchcache | The attributes of the cifs-branchcache. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# cifs-branchcache-get-iter

[top]

Retrieve the per-Vserver BranchCache configurations for the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | cifs-branchcache optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-branchcache optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-branchcache object. All cifs-branchcache objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-branchcache[] optional | The list of attributes of cifs-branchcache objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-branchcache objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-branchcache-hash

[top]

Force the generation of BranchCache hashes for a file or path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of File or Directory to Hash |
| **recurse** | | boolean optional | If set to 'true', hashes will be recursively computed for all files in the directory |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-branchcache-hash-stat

[top]

Display the CIFS BranchCache statistics

| Input Name | Range | Type | Description |
|---|---|---|---|
| **include-filesize-stats** | | boolean optional | If true, it shows BranchCache hash stats of file sizes for which hashes were requested for. File sizes are <10K, 11K-100K, 101K-250K, 251K-1M, 1.1M-10M, 11M-100M, >100M. The default value of this is false. |
| **include-flush-stats** | | boolean optional | If true, returns BranchCache hash stats like how many hashes were flushed in multiples of BranchCache hash timeout duration. The default value of this field is false. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **filesize-more-than-100mb** | | integer optional | Number of files of size more than 100mb. |
| **filesize-range-0kb-to-10kb** | | integer optional | Number of files of size less than equal to 10k for which hashes were asked for. |
| **filesize-range-100kb-to-250kb** | | integer optional | Number of files of size more than 100kb and less than equal to 250kb for which hashes were asked for. |
| **filesize-range-10kb-to-100kb** | | integer optional | Number of files of size more than 10kb and less than equal to 100kb for which hashes were asked for. |
| **filesize-range-10mb-to-100mb** | | integer optional | Number of files of size more than 10mb and less than equal to 100mb for which hashes were asked for. |
| **filesize-range-1mb-to-10mb** | | integer optional | Number of files of size more than 1mb and less than equal to 10mb for which hashes were asked for. |
| **filesize-range-250kb-to-1mb** | | integer optional | Number of files of size more than 250kb and less than equal to 1mb for which hashes were asked for. |
| **hashes-flashed-post-fifth-timeout** | | integer optional | Number of hashes flushed after fifth timeout. |
| **hashes-flashed-post-first-timeout** | | integer optional | Number of hashes flushed in between first and second timeout. |
| **hashes-flashed-post-fourth-timeout** | | integer optional | Number of hashes flushed in between fourth and fifth timeout. |
| **hashes-flashed-post-second-timeout** | | integer optional | Number of hashes flushed in between second and third timeout. |
| **hashes-flashed-post-third-timeout** | | integer optional | Number of hashes flushed in between third and fourth timeout. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-branchcache-modify

[top]

Modify the CIFS BranchCache service settings

| Input Name | Range | Type | Description |
|---|---|---|---|
| **flush-hashes** | | boolean optional | Delete Existing Hashes |
| **hash-store-max-size** | | size optional | Maximum Size of the Hash Store |
| **hash-store-path** | | string optional | Path to Hash Store |
| **operating-mode** | | string optional | CIFS BranchCache Operating Modes |
| **server-key** | | string optional | Encryption Key Used to Secure the Hashes |
| **versions** | | cifs-bc-version-control[] optional | Supported BranchCache Versions |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-branchcache-remove

[top]

Remove the BranchCache service

| Input Name | Range | Type | Description |
|---|---|---|---|
| **flush-hashes** | | boolean | Delete Existing Hashes |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-branchcache-set-key

[top]

Sets the server secret for BranchCache.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **server-secret** | | string | A binary string that provides cryptographic data used by the BranchCache content server to generate hashes. Content servers that are serving the same data and are expected to provide the same hash values must use the same key. After changing this value, any existing cached content will be identified as stale and retrieved from the content server again. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EAPILICENSE** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| cifs |

# cifs-cache-settings-get

[top]

Get the CIFS name and SID cache configuration of the SVM

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **desired-attributes** | | cifs-cache-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **attributes** | | cifs-cache-settings-info | The attributes of the cifs-cache-settings. |

| Errno | Description |
| --- | --- |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-cache-settings-modify

[top]

Modify the CIFS name and SID cache configuration of the specified SVM. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **is-enabled** | | boolean optional | Is Cache Enabled? |
| **is-negative-cache-enabled** | | boolean optional | Is Negative Cache Enabled? |
| **is-propagation-enabled** | | boolean optional | Is Propagation Enabled? |
| **negative-ttl** | | time-interval optional | Negative Time to Live |
| **ttl** | | time-interval optional | Time to Live |

| Errno | Description |
| --- | --- |
| **EINVALIDINPUTERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |

| Errno | Description |
|---|---|
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-character-mapping-create

[top]

Create a character mapping. This API is not supported for FlexGroups or Vservers with Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **mapping** | | string[] | The mapping for invalid characters in the format XX:XXXX. |
| **return-record** | | boolean optional | If set to true, returns the cifs-character-mapping on successful creation. Default: false |
| **volume** | | string | The name of the volume for which character mapping needs to be applied. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | cifs-character-mapping optional | The cifs-character-mapping created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-character-mapping-destroy

[top]

Delete a character mapping. This API is not supported for FlexGroups or Vservers with Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | The name of the volume for which character mapping needs to be applied. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-character-mapping-get-iter

[top]

Display a character mapping

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-** | | cifs-character- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | mapping optional | present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-character-mapping optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-character-mapping object. All cifs-character-mapping objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-character-mapping[] optional | The list of attributes of cifs-character-mapping objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-character-mapping objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-character-mapping-modify

[top]

Modify a character mapping. This API is not supported for FlexGroups or Vservers with Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **mapping** | | string[] | The mapping for invalid characters in the format XX:XXXX. |
| **volume** | | string | The name of the volume for which character mapping needs to be applied. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-check-server-get-iter

[top]

Display the Status of Connectivity from Each Node to the CIFS Server for the Given Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-** | | cifs-check- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | info optional | present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-check-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the check-server object. All check-server objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |
| **vserver** | | string | Vserver For Checking the CIFS Server. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-check-info[] optional | The list of attributes of check-server objects. |
| **cifs-status** | | string | CIFS Server Status. |
| **netbios-name** | | string | The NetBIOS Name of the CIFS Server. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more check-server objects to return. |
| **node** | | string optional | The Node on Which the Command Will Be Run. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |
| **server** | | string | The FQDN of the DC, CIFS Server Belongs to. |
| **server-ip** | | string | The IP address of the DC, CIFS Server Belongs to. |
| **site** | | string | The Site CIFS Server Belongs to. |
| **status** | | string | Status of NETLOGON Connection from Node to the CIFS Server. |
| **status-details** | | string | Time for Establishing NETLOGON Connection from Node to the CIFS Server. |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_ERROR_VSERVER_OPSTATE_STOPPED** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |
| **EOBJECTNOTFOUND** | |

# cifs-connection-get-iter

[top]

Retrieve the list of the established CIFS connections.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-connection | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is |

| | | | |
|---|---|---|---|
| | | optional | available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-connection optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-connection object. All cifs-connection objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-connection[] optional | The list of attributes of cifs-connection objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-connection objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-domain-discovered-servers-get-iter

[top]

Retrieve the list of servers discovered by the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-domain-discovered-servers optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-domain-discovered-servers optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-domain-discovered-servers object. All cifs-domain-discovered-servers objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-domain-discovered-servers[] optional | The list of attributes of cifs-domain-discovered-servers objects. |
| | | string | Tag for the next call. Not present when there are no more cifs- |

| | | | |
|---|---|---|---|
| **next-tag** | | optional | domain-discovered-servers objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-domain-discovered-servers-reset

[top]

Command to trigger re-discovery of servers.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-domain-name-mapping-search-add

[top]

Add to the list of trusted domains for name-mapping search

| Input Name | Range | Type | Description |
|---|---|---|---|
| **trusted-domains** | | realm-name[] | Trusted Domains |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-domain-name-mapping-search-get-iter

[top]

Retrieve the list of trusted domains for name-mapping search.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-domain-name-mapping-search optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | cifs-domain- | A query that specifies which objects to return. A query could be |

| | | | |
|---|---|---|---|
| **query** | | name-mapping-search optional | specified on any number of attributes in the cifs-domain-name-mapping-search object. All cifs-domain-name-mapping-search objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-domain-name-mapping-search[] optional | The list of attributes of cifs-domain-name-mapping-search objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-domain-name-mapping-search objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |

# cifs-domain-name-mapping-search-modify

[top]

Modify the list of trusted domains for name-mapping search

| Input Name | Range | Type | Description |
|---|---|---|---|
| **trusted-domains** | | realm-name[] | Trusted Domains |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-domain-name-mapping-search-remove

[top]

Remove from the list of trusted domains for name-mapping search

| Input Name | Range | Type | Description |
|---|---|---|---|
| **trusted-domains** | | realm-name[] optional | Trusted Domains |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-domain-password-schedule-get-iter

[top]

Iterate over a list of cifs-domain-password-schedule objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-domain-password-schedule optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-domain-password-schedule optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-domain-password-schedule object. All cifs-domain-password-schedule objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-domain-password-schedule[] optional | The list of attributes of cifs-domain-password-schedule objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-domain-password-schedule objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# cifs-domain-password-schedule-modify

[top]

Modify the attributes of cifs-domain-password-schedule object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-schedule-enabled** | | boolean optional | Value of this field indicates whether domain account password change schedule is enabled or not. Value of true indicates schedule is enabled. |
| **schedule-day-of-week** | | cron-day-of-week optional | This field specifies the day of week when the scheduled domain account password change occurs |

| | | | |
|---|---|---|---|
| **schedule-randomized-minute** | **[1..180]** | integer optional | This field specifies the minutes within which the scheduled domain account password start time can be randomized beginning schedule-time-of-day |
| **schedule-time-of-day** | | time-of-day optional | This field specifies the time in HH:MM:SS at which the scheduled domain account password change starts |
| **schedule-weekly-interval** | **[1..52]** | integer optional | This field specifies the number of weeks after which the scheduled domain account password change must occur |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# cifs-domain-preferred-dc-add

[top]

Add to a list of preferred domain controllers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **domain** | | string | The fully qualified domain name of the Active Directory domain to which the domain controllers in the list belong. |
| **preferred-dc** | | string[] | Preferred Domain Controllers |
| **skip-config-validation** | | boolean | Skip Configuration Validation |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |

# cifs-domain-preferred-dc-get-iter

[top]

Retrieve the list of preferred domain controllers associated with Active Directory domains.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-domain-preferred-dc optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-domain-preferred-dc optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-domain-preferred-dc object. All cifs-domain-preferred-dc objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-domain-preferred-dc[] optional | The list of attributes of cifs-domain-preferred-dc objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-domain-preferred-dc objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |

# cifs-domain-preferred-dc-remove

[top]

Remove from a list of preferred domain controllers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **domain** | | string | The fully qualified domain name of the Active Directory domain to which the domain controllers in the list belong. |
| **preferred-dc** | | string[] optional | Preferred Domain Controllers |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |

# cifs-domain-server-discovery-mode-get

[top]

Get the CIFS server domain discovery mode of a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-domain-server-discovery-mode-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cifs-domain-server-discovery-mode-info | The attributes of the cifs-domain-server-discovery-mode. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# cifs-domain-server-discovery-mode-get-iter

[top]

Iterate through the CIFS server domain discovery mode of the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | cifs-domain-server-discovery-mode-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | cifs-domain-server-discovery-mode-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-domain-server-discovery-mode object. All cifs-domain-server-discovery-mode objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | cifs-domain-server-discovery-mode-info[] optional | The list of attributes of cifs-domain-server-discovery-mode objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more cifs-domain-server-discovery-mode objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# cifs-domain-server-discovery-mode-modify

[top]

Modify the CIFS server domain discovery mode of a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | cifs-domain-server- | Server discovery mode Possible values:<br>• "all" - Discover all the servers in the domain., |

| | | | |
|---|---|---|---|
| **mode** | | discovery-mode<br>optional | • "site" - Discover the servers local to the site.,<br>• "none" - Discover nothing. Expect admins to configure pref-dcs. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-domain-trusts-get-iter

[top]

Retrieve the list of discovered trusted domains.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-domain-trusts<br>optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer<br>optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-domain-trusts<br>optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-domain-trusts object. All cifs-domain-trusts objects matching this query up to 'max-records' will be returned. |
| **tag** | | string<br>optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-domain-trusts[]<br>optional | The list of attributes of cifs-domain-trusts objects. |
| **next-tag** | | string<br>optional | Tag for the next call. Not present when there are no more cifs-domain-trusts objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# cifs-domain-trusts-rediscover

[top]

Command to trigger re-discovery of trusted domains.

| Errno | Description |
|---|---|
| E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE | |
| E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE | |

# cifs-home-directory-get-iter

[top]

Displays CIFS home directory configurations

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | cifs-home-directory optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | cifs-home-directory optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-home-directory object. All cifs-home-directory objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | cifs-home-directory[] optional | The list of attributes of cifs-home-directory objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more cifs-home-directory objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# cifs-home-directory-modify

[top]

Modify CIFS home directory configurations

| Input Name | Range | Type | Description |
|---|---|---|---|
| is-home-dirs-access-for-admin-enabled | | boolean optional | Is home directory access is enabled to admin. Default value is true. |
| is-home-dirs-access-for-public-enabled | | boolean optional | Is home directory access is enabled to public. Default value is false. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |

| | |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-home-directory-search-path-add

[top]

Add a path to the list of paths that will be searched to find a CIFS user's home directory.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | The file system path that will be searched for finding a CIFS user's home directory. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-home-directory-search-path-delete

[top]

Delete a home directory search path. This API is deprecated in Data ONTAP 8.2 and later but retained for backwards compatibility. Use cifs-home-directory-search-path-remove instead of cifs-home-directory-search-path-delete.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | The file system path that will be searched for finding a CIFS user's home directory. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-home-directory-search-path-get-iter

[top]

Iterate over a list of cifs-home-directory-search-path objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-home-directory-search-path optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | cifs- | |

| | | | |
|---|---|---|---|
| **query** | | home-directory-search-path optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-home-directory-search-path object. All cifs-home-directory-search-path objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-home-directory-search-path[] optional | The list of attributes of cifs-home-directory-search-path objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-home-directory-search-path objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-home-directory-search-path-remove

[top]

Remove a home directory search path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | The file system path that will be searched for finding a CIFS user's home directory. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-home-directory-search-path-reorder

[top]

Change the position of this path in the list of paths that will be searched to find a CIFS user's home directory.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | The file system path that will be searched for finding a CIFS user's home directory. |
| **to-position** | **[0..2^32-1]** | integer | The target position this entry should be moved to, in the list of CIFS home directory search paths. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-homedir-path-get-for-user

[top]

Return path to the user's CIFS home directory if it exists.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **user-name** | | string | Name of the user. If the filer is using the "mapped" CIFS home directory naming style, then a mapped Unix name is provided. For the domain naming style, a domain/user is provided. Otherwise the filer will expect the NT name for the user. The filer's CIFS home directory naming style can be obtained with the "options-get" api, using input parameter "name cifs.home_dir_namestyle". |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **homedir-path-user** | | string optional | A Unix-style path to the user's CIFS homedir directory, if it exists, for example: /vol/volName/users/joe. |

| Errno | Description |
|---|---|
| **ESVCNOTAVAIL** | |
| **EONTAPI_ENOMEM** | |
| **EONTAPI_EINVAL** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-homedir-paths-get

[top]

Return the current list of paths to users' cifs home directories, if any.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **homedir-paths** | | homedir-path-info[] optional | An array, one entry per each cifs home directory path. |

| Errno | Description |
|---|---|
| **ESVCNOTAVAIL** | |
| **EONTAPI_ENOMEM** | |
| **EONTAPI_EINVAL** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| cifs |

# cifs-homedir-paths-set

[top]

Provides a list of CIFS home directory paths for the filer. Replaces the current list of paths in use by the filer. Note that supplying an empty path list causes the filer to delete any current entries.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **force** | | boolean optional | If true, the new set of homedir paths will be put into use even if some user homedir connections will be broken. This can cause users with open files in their home directories to lose access to the files. A user can lose data if there are updates not yet committed to disk. |
| **homedir-paths** | | homedir-path-info[] optional | An array, one entry per each cifs home directory path. note: homedir-path-info defined above |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **path-error** | | path-error-info[] optional | An array, one entry for each homedir path error detected. Note that normally the API will complete sucessfully and activate as many paths as possible even if some paths cannot be activated. |

| Errno | Description |
| --- | --- |
| ESVCNOTAVAIL | |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| cifs |

# cifs-list-config

[top]

This ZAPI is used to display the CIFS configuration.

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **AD-site** | | string optional | Active Directory site that the filer is in. |
| **DC-connection** | | connection-info[] | Information on the Domain Controller's connection. |

| | | | |
|---|---|---|---|
| | | optional | |
| **DNS-domainname** | | string optional | FQDN of DNS domain. |
| **LDAP-connection** | | connection-info[] optional | Information on the LDAP connection. |
| **NetBIOS-domainname** | | string optional | NetBIOS domain name. |
| **NetBIOS-servername** | | string | NetBIOS name of the server |
| **Windows-type** | | string optional | Windows type: "NT4" |
| **auth-type** | | string | String specifying the type of authentication, such as: "ad" Active Directory "nt4" Windows NT4 "workgroup" Workgroup "passwd" Password file, NIS or LDAP |
| **domain-controller-functionality** | | cifs-functional-level optional | Domain controller functionality indicates the functional level of the DC. |
| **domain-functionality** | | cifs-functional-level optional | Domain functionality enables features that will affect the entire domain and that domain only. It indicates the functional level of the domain. |
| **forest-functionality** | | cifs-functional-level optional | Forest functionality enables features across all the domains within your forest. It indicates the functional level of the forest. |
| **security-style** | | string | String specifying the security style, such as: "ntfs" NTFS "multiprotocol" Multiple Protocol |

| Errno | Description |
|---|---|
| **ECIFSNOTCONFIGURED** | |
| **EDNSNOTENABLED** | |
| **EHOSTNOTFOUND** | |
| **ELDAPSVRNOTFOUND** | |
| **EONTAPI_ENOMEM** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-local-group-create

[top]

Create a single local group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | The description of the local group |
| | | | |

| | | | |
|---|---|---|---|
| **group-name** | | cifs-name | The name of the local group |
| **return-record** | | boolean optional | If set to true, returns the cifs-local-group on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | cifs-local-group optional | The cifs-local-group created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **CIFS** |

# cifs-local-group-delete

[top]

Delete a single local group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | cifs-name | The name of the local group |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **CIFS** |

# cifs-local-group-get-iter

[top]

Retrieve the list of local groups

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-local-group optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-local- | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-local-group object. |

| | | | |
|---|---|---|---|
| | | group optional | All cifs-local-group objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-local-group[] optional | The list of attributes of cifs-local-group objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-local-group objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-local-group-members-add-members

[top]

Add local users or Active Directory users or groups to a local group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | cifs-name | Group Name |
| **member-names** | | cifs-name[] | Names of Users or Active Directory Groups to be Added |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-local-group-members-get-iter

[top]

Retrieve the list of local group members

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-local-group-members optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-local-group-members optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-local-group-members object. All cifs-local-group-members objects matching this query up to 'max-records' will be returned. |
| | | string | Specify the tag from the last call. It is usually not specified for |

| | | | |
|---|---|---|---|
| **tag** | | optional | the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-local-group-members[] optional | The list of attributes of cifs-local-group-members objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-local-group-members objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-local-group-members-remove-members

[top]

Remove local users or Active Directory users or groups from a local group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | cifs-name | Group Name |
| **member-names** | | cifs-name[] | Names of Users or Active Directory Groups to be Removed |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-local-group-modify

[top]

Modify a description of a single local group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | The description of the local group |
| **group-name** | | cifs-name | The name of the local group |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **CIFS** |

# cifs-local-group-rename

[top]

Rename a local group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | cifs-name | The name of the local group |
| **new-group-name** | | cifs-name | New Group Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-local-user-create

[top]

Configure and create a local user, associated with a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | The description of the local user |
| **full-name** | | string optional | The full name of the local user |
| **is-account-disabled** | | boolean optional | The local user account is disabled |
| **user-name** | | cifs-name | The name of the local user |
| **user-password** | | string | The password for the local user |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-local-user-delete

[top]

Delete a single local user

| Input Name | Range | Type | Description |
|---|---|---|---|
| **user-name** | | cifs-name | The name of the local user |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |

| EVSERVER_OPERATION_NOT_PERMITTED | |
|---|---|

| License |
|---|
| CIFS |

# cifs-local-user-get-iter

[top]

Retrieve the list of local users

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | cifs-local-user optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | cifs-local-user optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-local-user object. All cifs-local-user objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | cifs-local-user[] optional | The list of attributes of cifs-local-user objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more cifs-local-user objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# cifs-local-user-membership-get-iter

[top]

Retrieve local users' membership information

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | cifs-local-user-membership optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | cifs-local-user-membership optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-local-user-membership object. All cifs-local-user-membership objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-local-user-membership[] optional | The list of attributes of cifs-local-user-membership objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-local-user-membership objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-local-user-modify

[top]

Modify a single local user

| Input Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | The description of the local user |
| **full-name** | | string optional | Full name of the local user |
| **is-account-disabled** | | boolean optional | The user account is disabled |
| **user-name** | | cifs-name | The name of the local user |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **CIFS** |

# cifs-local-user-rename

[top]

Rename a local user

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-user-name** | | cifs-name | New User Name |
| **user-name** | | cifs-name | The name of the local user |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-local-user-set-password

[top]

Set password for a local user

| Input Name | Range | Type | Description |
|---|---|---|---|
| **user-name** | | cifs-name | The name of the local user |
| **user-password** | | string | The Password for a Local User |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-nbalias-names-get

[top]

Return the current list of NetBIOS alias names for the filer

| Output Name | Range | Type | Description |
|---|---|---|---|
| **nbalias-names** | | nbalias-name-info[] optional | An array, one entry for each NetBIOS alias name |

| Errno | Description |
|---|---|
| **ESVCNOTAVAIL** | |
| **EONTAPI_EINVAL** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-nbalias-names-set

[top]

Provides a list of NetBIOS alias names for the filer. The filer replaces the current list of aliases with with this list. Note that supplying an empty name list causes the filer to delete all current entries.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **nbalias-names** | | nbalias-name-info[] optional | An array, one entry for each NetBIOS alias name note: nbalias-name_info defined above |

| Errno | Description |
|---|---|
| **ESVCNOTAVAIL** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-nbtstat-get-iter

[top]

Retrieve the NetBIOS Name Service statistics for Vservers in cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-nbtstat optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-nbtstat optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NetBIOS statistics object. All NetBIOS statistics objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-nbtstat[] optional | The list of attributes of NetBIOS statistics objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more NetBIOS statistics objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-options-get-iter

[top]

Iterate over a list of cifs-options objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-options optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-options optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-options object. All cifs-options objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-options[] optional | The list of attributes of cifs-options objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-options objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |

# cifs-options-modify

[top]

Modify the attributes of cifs-options object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-session-timeout** | **[0..2^32-1]** | integer optional | This optional parameter specifies the amount of idle time (in seconds) before a CIFS session is disconnected |
| **default-unix-group** | | string optional | The default UNIX group used if the identity of a CIFS group cannot be mapped using normal group mapping rules. |
| **default-unix-user** | | string optional | The default UNIX user used if the identity of a CIFS user cannot be mapped using normal user mapping rules. |
| | | cifs- | This optional parameter specifies the size of file system sector in bytes reported to SMB Clients. Possible values: |

| | | | |
|---|---|---|---|
| **file-system-sector-size** | | filesystem-sector-size optional | • "512" - Reported file system sector size to SMB clients is 512 bytes,<br>• "4096" - Reported file system sector size to SMB clients is 4096 bytes |
| **grant-unix-group-perms-to-others** | | boolean optional | This optional parameter specifies whether UNIX group permissions should be granted to others when Windows clients access files on a UNIX security-style Volume/Qtree as well as mixed security style Volume/Qtree, as long as the effective security style on the file is UNIX. The default value for this parameter is false. |
| **guest-unix-user** | | string optional | This optional parameter specifies that a guest user coming from any untrusted domain can be mapped to specified UNIX user. |
| **is-admin-users-mapped-to-root-enabled** | | boolean optional | This optional parameter specifies that if name-mapping is not present for members of BUILTIN\Administrators group then whether they can be mapped to Unix User 'root'. The default value for this parameter is true. |
| **is-advanced-sparse-file-support-enabled** | | boolean optional | This optional parameter specifies whether advanced sparse file capabilities, such as Query Allocated Ranges and Set Zero Data, are enabled on the CIFS server. |
| **is-advertise-dfs-enabled** | | boolean optional | (DEPRECATED) This optional parameter specifies whether to advertise DFS referral of the CIFS protocol. The default value for this parameter is true. |
| **is-client-dup-detection-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server should detect duplicate sessions coming from the same SMB 1.0 client with VcNumber of zero (0). The default value for this parameter is true. |
| **is-client-version-reporting-enabled** | | boolean optional | This optional parameter specifies whether to report the client version through ASUP. The default value for this parameter is true. |
| **is-copy-offload-direct-copy-enabled** | | boolean optional | This optional parameter specifies whether the Direct-Copy Copy Offload mechanism is enabled or not. Default value for this parameter is true. |
| **is-copy-offload-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server is capable of performing copy offload operation. The default value for this parameter is true. |
| **is-dac-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server supports Dynamic Access Control. The default value for this parameter is false. |
| **is-exportpolicy-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server uses export policies to control client access. The default value for this parameter is false. |
| **is-fake-open-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server supports fake open requests. The default value for this parameter is true. |
| **is-fsctl-file-level-trim-enabled** | | boolean optional | This optional parameter specifies whether trim requests (FSCTL_FILE_LEVEL_TRIM) are supported on the cifs server. The default value for this parameter is true. |
| **is-hide-dotfiles-** | | boolean optional | This optional parameter specifies whether the CIFS server should hide files and directories beginning with a dot '.' during directory enumeration. The default |

| | | | |
|---|---|---|---|
| **enabled** | | | value for this parameter is false. |
| **is-inherit-modebits-with-nfsv4acl-enabled** | | boolean optional | This option Enables setting Modebits on file created by cifs user if it inherits nfs4acl. The default value for this parameter is false. |
| **is-large-mtu-enabled** | | boolean optional | This optional parameter specifies that the SMB 2.1 Large MTU feature is supported. The default value for this parameter is true. |
| **is-local-auth-enabled** | | boolean optional | This optional parameter specifies whether CIFS local users can authenticate. |
| **is-local-users-and-groups-enabled** | | boolean optional | This optional parameter specifies whether the CIFS local users and groups feature is enabled on the cluster. |
| **is-multichannel-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server supports Multichannel or not. The default value for this parameter is false. |
| **is-nbns-enabled** | | boolean optional | This optional parameter specifies that NBNS (port 137) is enabled or not. The default value for this parameter is false. |
| **is-netbios-over-tcp-enabled** | | boolean optional | This optional parameter specifies that the use of NetBIOS over TCP (port 139) is enabled or not. The default value for this parameter is true. |
| **is-path-component-cache-enabled** | | boolean optional | This optional parameter specifies whether the CIFS path component cache is enabled for SMB2 or not. The default value for this parameter is true. |
| **is-path-component-cache-symlink-enabled** | | boolean optional | This optional parameter specifies whether the CIFS symlink resolution for path component cache is enabled for SMB2 or not. The default value for this parameter is true. |
| **is-read-only-delete-enabled** | | enable optional | This optional parameter specifies that a file can be deleted using UNIX delete semantics when the DOS read-only bit is enabled. Possible values:<br>• "enabled" ,<br>• "disabled" |
| **is-referral-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server refers clients to more optimal data access paths (LIFs). The default value for this parameter is false. |
| **is-search-short-names-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server supports searching short names. The default value for this parameter is false. |
| **is-shadowcopy-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server is capable of performing shadow copy operations. Directories and files within a FlexGroup will not be shadow copied because FlexGroups do not support shadow copy. |
| **is-share-enum-permission-check-enabled** | | boolean optional | This option is used to control whether the NetShareEnum call should only respond with the shares the user has access to or with all shares. The default value is false which means it will respond with all shares. |
| | | | |

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|---|---|---|---|
| **is-smb1-enabled** | | boolean optional | (DEPRECATED) This optional parameter specifies whether the CIFS server negotiates the SMB1 versions of the CIFS protocol. The default value for this parameter is true for Vservers with Infinite Volume. For other data Vservers, the default value is false. |
| **is-smb2-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server negotiates the SMB2 versions of the CIFS protocol. The default value for this parameter is true. |
| **is-smb3-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server negotiates the SMB3 version of the CIFS protocol. The default value for this parameter is true. |
| **is-smb31-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server negotiates the SMB3.1 version of the CIFS protocol. The default value for this parameter is true. |
| **is-trusted-domain-enum-search-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server is capable of performing enumeration of trusted domains and search to map a UNIX user to a Windows user. |
| **is-unix-extensions-enabled** | | boolean optional | This optional parameter specifies whether CIFS server is capable of supporting UNIX Extensions. The default value for this parameter is false. |
| **is-unix-nt-acl-enabled** | | boolean optional | This optional parameter specifies whether NT ACLs can be set on a volume with UNIX security-style. |
| **is-use-junctions-as-reparse-points-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server exposes junction points as reparse points to Windows clients. |
| **map-sid-to-uid-on-set-owner** | | boolean optional | This option is used to control whether to map Windows SIDs to Unix UIDs when setting or restoring the owner SID. The default is true. Set this value to false to avoid performance-impacting SID lookups. It should be set true if your workflow involves converting the storage security style from 'ntfs' or 'mixed' to 'unix'. |
| **max-connections-per-session** | **[2..1024]** | integer optional | This optional parameter specifies the maximum number of connections allowed per Multichannel session. The default value for this parameter is 32. |
| **max-credits** | **[2..8192]** | integer optional | This optional parameter controls the maximum number of outstanding requests on a CIFS connection. The default value is 128. |
| **max-file-write-zero-length** | **[2^12..2^25]** | integer optional | This optional parameter specifies the maximum length of data in bytes that the CIFS server can write zero with one CIFS request. This parameter accepts data lengths between 4 KB and 32 MB. The default value for this option is 32 MB. |
| **max-lifs-per-session** | **[1..256]** | integer optional | This optional parameter specifies the maximum number of network interfaces advertised per Multichannel session. The default value for this parameter is 256. |
| **max-mpx** | **[2..65535]** | integer optional | This option controls maximum simultaneous operations the CIFS server reports it can process per TCP connection. The default value for this option is 255. |
| **max-opens-same-file-per-tree** | **[0..2^32-1]** | integer optional | This option controls maximum existing opens on the same file per CIFS Tree. The default value for this option is 1000. |
| **max-same-tree-connect-** | **[0..2^32-1]** | integer | This option controls maximum simultaneous CIFS connections to the same share per CIFS session. The |

| | | | |
|---|---|---|---|
| **per-session** | | optional | default value for this option is 5000. |
| **max-same-user-sessions-per-connection** | **[0..2^32-1]** | integer optional | This option controls maximum simultaneous sessions by the same user per TCP connection. The default value for this option is 2500. |
| **max-watches-set-per-tree** | **[0..2^32-1]** | integer optional | This option controls maximum watches that can be set per CIFS Tree. The default value for this option is 500. |
| **path-component-cache-entry-exp-time** | **[5000..3600000]** | integer optional | This optional parameter controls the time in milliseconds when the path component cache entry would be considered fresh. The default value for this parameter is 300000 milliseconds. |
| **path-component-cache-max-entries** | **[1000..1000000]** | integer optional | This optional parameter control the maximum number of cache entries in one instance of path component cache. The default value for this parameter is 100000. |
| **path-component-cache-max-session-token-size** | **[500..10000]** | integer optional | This optional parameter specifies maximum session token size for path component cache for SMB2. The default value for this parameter is 1000. |
| **path-component-cache-symlink-exp-time** | **[5000..3600000]** | integer optional | This optional parameter controls the time in milliseconds when the path component cache entry that is symlink would be considered fresh. The default value for this parameter is 300000 milliseconds. |
| **read-grants-execute** | | enable optional | On a file with UNIX Style security effective on it, if the file has read permission on it, a CIFS user would be allowed to execute permissions if this option is enabled. Possible values:<br>• "enabled" ,<br>• "disabled" |
| **restrict-anonymous** | | anonymous-restriction-level optional | This optional parameter specifies what level of access will a non authenticated user get Possible values:<br>• "no_restriction" - No Access Restriction for Anonymous User.,<br>• "no_enumeration" - Only Enumeration Is Restricted.,<br>• "no_access" - Access Restricted for Anonymous User. |
| **shadowcopy-dir-depth** | **[0..2^32-1]** | integer optional | This optional parameter specifies the maximum depth of directories to shadow copy. Directories and files within a FlexGroup will not be shadow copied because FlexGroups do not support shadow copy. |
| **smb1-max-buffer-size** | **[4356..65535]** | integer optional | This optional parameter specifies the maximum buffer size used for SMB1 message that the server can receive. The default value for this parameter is 65535. |
| **widelink-as-reparse-point-versions** | | cifs-dialects[] optional | This optional parameter specifies for which CIFS protocol versions widelink will be reported as reparse points. The default value for this parameter is SMB1. Possible values:<br>• "smb1" - SMB 1.0,<br>• "smb2" - SMB 2.0, |

| | | | |
|---|---|---|---|
| | | | • "smb2_1" - SMB 2.1,<br>• "smb3" - SMB 3.0,<br>• "smb3_1" - SMB 3.1 |
| **win-name-for-null-user** | | string<br>optional | This optional parameter specifies a valid Windows user or group name that will be added to the CIFS credentials for a NULL user Session. |
| **wins-servers** | | inet-address[]<br>optional | List of Windows Internet Name Service (WINS) IP addresses. The Vserver will send NetBIOS name resolution requests to these addresses. |

| Errno | Description |
|---|---|
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |

# cifs-password-change

[top]

Generate a new password for the CIFS server's machine account and change it in the Windows Active Directory domain.

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# cifs-password-reset

[top]

Reset the CIFS server's machine account password in the Windows Active Directory domain. This may be required if the password stored along with the machine account in the Windows Active Directory domain is changed or reset without the Vserver's knowledge. This operation requires the credentials for a user with permission to reset the password in the organizational unit (OU) that the machine account is a member of.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string | Account password for the admin-username. |
| **admin-username** | | string | Username of a user with permission to reset the password in the organizational unit (OU) that the machine account is a member of. This user is expected to be part of the same Windows Active Directory domain as the CIFS server. If the specified username is not part of the same domain but part of a domain that has a trust relationship with the CIFS server's domain, the username can be specified as ' @ ' where FQDN is the fully qualified domain name of the domain of which the user is a member. |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# cifs-preferred-dc-check-get-iter

[top]

Display the Status of the Preferred-DCs configured for the Given Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-preferred-dc-check-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-preferred-dc-check-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-preferred-dc-check object. All cifs-preferred-dc-check objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |
| **vserver** | | string | Vserver |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-preferred-dc-check-info[] optional | The list of attributes of cifs-preferred-dc-check objects. |
| **domain** | | string[] | Domain Name |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-preferred-dc-check objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |
| **server-ip** | | string[] | DC Address |
| **status** | | service-state[] | DC Status |
| **status-details** | | string[] | Status Details |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_ERROR_VSERVER_OPSTATE_STOPPED** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |
| **EOBJECTNOTFOUND** | |

# cifs-privilege-add-privilege

[top]

Add privileges to a local or Active Directory user or group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **privileges** | | cifs-privilege-entries[] | Privileges |
| **user-or-group-name** | | cifs-name | User or Group Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-privilege-get-iter

[top]

Retrieve the list of local groups

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-privilege optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-privilege optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-privilege object. All cifs-privilege objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-privilege[] optional | The list of attributes of cifs-privilege objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-privilege objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-privilege-remove-privilege

[top]

Remove privileges from a local or Active Directory user or group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **privileges** | | cifs-privilege-entries[] | Privileges |
| **user-or-group-name** | | cifs-name | User or Group Name |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# cifs-privilege-reset-privilege

[top]

Reset privileges for a local or Active Directory user or group

| Input Name | Range | Type | Description |
|---|---|---|---|
| user-or-group-name | | cifs-name | User or Group Name |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# cifs-security-get-iter

[top]

Iterate over a list of cifs-security objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | cifs-security optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | cifs-security optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-security object. All cifs-security objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | cifs-security[] optional | The list of attributes of cifs-security objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more cifs-security objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE | |

# cifs-security-modify

[top]

Modify the security configuration of a CIFS server.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string optional | The password of the account with administrative privilege for the Active Directory domain to which the CIFS server is joined. This part of the credential may need to be supplied if the AES encryption is being enabled or disabled. |
| **admin-username** | | string optional | The username of the account with administrative privilege for the Active Directory domain to which the CIFS server is joined. This part of the credential may need to be supplied if the AES encryption is being enabled or disabled. |
| **advertised-enc-types** | | cifskrbenctypes[] optional | This parameter determines which encryption types will be advertised to Kerberos. By default RC4 and DES will be advertised. Possible values:<br>• "des" ,<br>• "rc4" ,<br>• "aes_128" ,<br>• "aes_256" |
| **aes-enabled-for-netlogon-channel** | | boolean optional | This parameter determines whether to use AES session key as part of NetLogon secure channel establishment. By default this option is false. |
| **encryption-required-for-dc-connections** | | boolean optional | This parameter determines if encryption is required for connections to domain controllers. |
| **is-aes-encryption-enabled** | | boolean optional | (DEPRECATED) This parameter determines whether AES-128 and AES-256 encryption mechanisms are enabled for Kerberos-related CIFS communication. By default this option is false. |
| **is-password-complexity-required** | | boolean optional | This parameter determines whether password complexity is required for local users. By default this option is true. |
| **is-signing-required** | | boolean optional | This parameter determines whether signing is required for incoming CIFS traffic. By default this option is false. |
| **is-smb-encryption-required** | | boolean optional | This parameter determines whether SMB encryption is required for incoming CIFS traffic. By default this option is false. |
| **kerberos-clock-skew** | **[0..2^32-1]** | integer optional | The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock. |
| **kerberos-kdc-timeout** | **[0..2^32-1]** | integer optional | This parameter determines the timeout value in seconds for KDC connections. |
| **kerberos-renew-age** | **[0..2^32-1]** | integer optional | This parameter determines the maximum amount of time in days for which a ticket can be renewed. |
| **kerberos-ticket-age** | **[0..2^32-1]** | integer optional | This parameter determines the maximum amount of time in hours that a user's ticket may be used for the purpose of Kerberos authentication. |
| | | | This parameter determines the LM compatibility level. By default this option is 'LM, NTLM, NTLMv2 and Kerberos'. Possible values: |

| | | | |
|---|---|---|---|
| **lm-compatibility-level** | | lm-compatibility-level<br>optional | • "lm_ntlm_ntlmv2_krb" - Accepts LM, NTLM, NTLMv2 and Kerberos,<br>• "ntlm_ntlmv2_krb" - Accepts NTLM, NTLMv2 and Kerberos,<br>• "ntlmv2_krb" - Accepts NTLMv2 and Kerberos,<br>• "krb" - Accepts Kerberos only |
| **referral-enabled-for-ad-ldap** | | boolean<br>optional | This parameter determines whether LDAP referral chasing is enabled or not for AD LDAP connections. By default this option is false. |
| **session-security-for-ad-ldap** | | ldap-security<br>optional | This parameter determines the level of security required for LDAP communications. By default this option is none. Possible values:<br>• "none" - No Signing or Sealing.,<br>• "sign" - Sign LDAP traffic.,<br>• "seal" - Seal and Sign LDAP traffic |
| **smb1-enabled-for-dc-connections** | | system-default-bool<br>optional | (DEPRECATED) This parameter determines if SMB version 1 is used for connections to domain controllers. Possible values:<br>• "false" ,<br>• "true" ,<br>• "system_default" |
| **smb2-enabled-for-dc-connections** | | system-default-bool<br>optional | This parameter determines if SMB version 2 is used for connections to domain controllers. Possible values:<br>• "false" ,<br>• "true" ,<br>• "system_default" |
| **try-channel-binding-for-ad-ldap** | | boolean<br>optional | This parameter determines whether to try channel binding for AD LDAP connections. By default this option is true. |
| **use-ldaps-for-ad-ldap** | | boolean<br>optional | This parameter determines whether to use LDAPS for Secure Active Directory LDAP connections. By default this option is false. |
| **use-start-tls-for-ad-ldap** | | boolean<br>optional | This parameter determines whether to use start_tls for AD LDAP connections. By default this option is false. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **ECIFS_SERVER_SMB_ENCRYPTION_WITHOUT_SMB3** | |
| **ECIFS_SMB3_ENCRYPTION_NOT_ENABLED** | |
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_REALM_MODE** | |
| **E_CIFS_COMMAND_OPTION_CANNOT_MODIFY_IN_REALM_MODE** | |

# cifs-server-add-netbios-aliases

[top]

Add NetBIOS aliases for the CIFS server name

| Input Name | Range | Type | Description |
|---|---|---|---|
| **netbios-aliases** | | netbios-name[] | List of NetBIOS Aliases |

| Errno | Description |
|---|---|
| **ENBALIASMAXNUMREACHED** | |

# cifs-server-create

[top]

Configure and setup CIFS services on a Vserver. If joining a domain, this command may take several minutes to complete.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string optional | The password for the account used to add this CIFS server to the Active Directory. |
| **admin-username** | | string optional | The username of the account used to add this CIFS server to the Active Directory. |
| **administrative-status** | | service-state optional | CIFS Server Administrative Status Possible values:<br>• "down" ,<br>• "up" |
| **cifs-server** | | netbios-name | The NetBIOS name of the CIFS server. |
| **comment** | | string optional | CIFS Server Description |
| **default-site** | | string optional | The default site used by LIFs that do not have a site membership. |
| **domain** | | string optional | The fully qualified domain name of the Windows Active Directory this CIFS server belongs to. |
| **force-account-overwrite** | | boolean optional | If this is set and a machine account with the same name as specified in 'cifs-server' exists in the Active Directory, it will be overwritten and reused. The default value for this field is false. |
| **keytab-uri** | | uri optional | Kerberos Keytab File URI |
| **netbios-aliases** | | netbios-name[] optional | List of NetBIOS Aliases |
| **organizational-unit** | | string optional | The Organizational Unit (OU) within the Windows Active Directory this CIFS server belongs to. |
| **realm** | | string optional | The Kerberos realm this CIFS server belongs to. |
| **workgroup** | | netbios-name optional | The name of the workgroup this CIFS server belongs to |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **ECIFS_AD_ACCOUNT_ALREADY_EXISTS** | |
| **ENBALIASMAXNUMREACHED** | |

| | |
|---|---|
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_CREATE_IN_DOMAIN_MODE** | |
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_SERVER_AD_ADMINACCOUNT_ZEROLEN** | |

# cifs-server-delete

[top]

Delete a CIFS server. If the admin-username and admin-password are not specified, the CIFS server's machine account will not be deleted from the Windows Active Directory domain. The deletion of the CIFS server will also delete the CIFS shares associated with it.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string optional | Account password for the admin-username. |
| **admin-username** | | string optional | A user account name that has sufficient privileges in the Windows Active Directory domain to delete the CIFS server's machine account. |
| **force-account-delete** | | boolean optional | If this is set, the local CIFS configuration will be deleted irrespective of any communication errors. The default value for this field is false. |
| **keytab-uri** | | uri optional | Kerberos Keytab File URI |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-server-get-iter

[top]

Retrieve the list of CIFS servers on the cluster and their basic configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-server-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-server-config optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-server object. All cifs-server objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-server-config[] | The list of attributes of cifs-server objects. |

| | | | |
|---|---|---|---|
| | | optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-server objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-server-modify

[top]

Modify the basic properties of a CIFS server. If re-joining the current domain or joining a new one, this command may take several minutes to complete.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string optional | The password for the account used to add this CIFS server to the Active Directory. This part of the credential only needs to be supplied if the domain is being modified. |
| **admin-username** | | string optional | The username of the account used to add this CIFS server to the Active Directory. This part of the credential only needs to be supplied if the domain is being modified. |
| **administrative-status** | | service-state optional | CIFS Server Administrative Status. Possible values:<br>• "down" ,<br>• "up" |
| **cifs-server** | | netbios-name optional | The name of the CIFS server (up to 15 characters). |
| **comment** | | string optional | CIFS Server Description |
| **default-site** | | string optional | The default site used by LIFs that do not have a site membership. |
| **domain** | | string optional | The fully qualified domain name of the Windows Active Directory this CIFS server belongs to. Example: cifs.domain.com |
| **force-account-overwrite** | | boolean optional | If this is set and the domain is being modified, and a machine account with the same name as the current Vserver's CIFS server name exists in the Active Directory, it will be overwritten and reused. The default value for this field is false. |
| **keytab-uri** | | uri optional | Kerberos Keytab File URI |
| **ou** | | string optional | The organizational unit within the Active Directive domain to associate with the CIFS server. |
| **workgroup** | | netbios-name optional | The name of the workgroup this CIFS server belongs to. If this input is not specified, it is not modified. |

| Errno | Description |
|---|---|
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_MODIFY_IN_DOMAIN_MODE** | |

# cifs-server-remove-netbios-aliases

[top]

Remove NetBIOS aliases

| Input Name | Range | Type | Description |
|---|---|---|---|
| **netbios-aliases** | | netbios-name[] | List of NetBIOS Aliases |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-server-start

[top]

Start a CIFS server on the specified Vserver. The CIFS server must already exist. To create a CIFS server, use cifs-server-create.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-server-stop

[top]

Stop a CIFS server on the specified Vserver. Note that established sessions will be terminated and their open files closed. Workstations with cached data will not be able to save those changes, which could result in data loss.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-session-close

[top]

Close an open CIFS session

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | The ip address of the workstation from which the session is opened. |
| **auth-mechanism** | | auth-mechanism optional | The authentication mechanism used to establish the session. |
| **connection-id** | | integer optional | The connection that is used to establish the session. |

| | | | |
|---|---|---|---|
| **continuously-available** | | cifs-ca-protection optional | The type of continuous avalability protection provided to the session. |
| **is-session-signed** | | boolean optional | The status of SMB signing that is happening over the CIFS session. |
| **lif-address** | | ip-address optional | The data lif that is used to establish the session. |
| **node** | | node-name | The name of the node on which the session listing is done. |
| **protocol-version** | | cifs-dialects optional | The CIFS protocol version that is used to establish the session. |
| **session-id** | | integer optional | The unique identifier for the session. |
| **smb-encryption-status** | | smb-encryption optional | The status of SMB encryption that is happening over the CIFS session. |
| **unix-user** | | string optional | The name of the UNIX user for which the session is established. |
| **windows-user** | | string optional | The name of the CIFS user for which the session is established. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-session-file-close

[top]

Close an open CIFS file.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection-id** | | integer optional | The connection that is used to open the file. |
| **file-id** | | integer optional | The unique identifier for the opened file. |
| **node** | | node-name | The name of the node on which the file listing is done. |
| **session-id** | | integer optional | The session under which file is opened. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-session-file-get-iter

[top]

Retrieve the list of the opened CIFS files.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | cifs- | Specify the attributes that should be returned. If not present, all |

| | | | |
|---|---|---|---|
| **desired-attributes** | | session-file optional | attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-session-file optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-session-file object. All cifs-session-file objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-session-file[] optional | The list of attributes of cifs-session-file objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-session-file objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-session-get-iter

[top]

Retrieve the list of the established CIFS sessions.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-session optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-session optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-session object. All cifs-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-session[] optional | The list of attributes of cifs-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-session objects to return. |

| num-records | [0..2^32-1] | integer | The number of records returned in this call. |
|---|---|---|---|

| Errno | Description |
|---|---|
| EINTERNALERROR | |

## cifs-session-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| tag | | string | Tag from a previous cifs-session-list-iter-start. |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

## cifs-session-list-iter-next

[top]

Returns items from a previous call to cifs-session-list-iter-start.

| Input Name | Range | Type | Description |
|---|---|---|---|
| maximum | | integer | The maximum number of entries to retrieve. |
| tag | | string | Tag from a previous cifs-session-list-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| cifs-sessions | | cifs-session-info[] | An array, one entry per each cifs session. |
| records | | integer | This tells you how many records are being returned from this particular call to cifs-session-list-iter-next. When this value is 0, you have retrieved everything. Range: [0..2^32-1]. |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

## cifs-session-list-iter-start

[top]

Gives information on current CIFS activity. Without arguments, it returns a summary of information about the filer and lists the users who are connected to the filer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **host** | | string optional | IP address/machine name of the user's client machine. |
| **protocol** | | string optional | Filters the information on the basis of protocol version specified. When 'smb' is specified as the argument, this API retrieves information about only SMB 1.0 sessions. When 'smb2' is specified as the argument, this API retrieves information about only SMB 2.0 sessions. If this option is not specified, then information about both SMB 1.0 and SMB 2.0 sessions is retrieved. |
| **user** | | string optional | User name. If user is specified , this api returns information about the specified user, along with the names and access level of files that the user has opened. This api returns information about all the users, if the user is specified as '*' or is not specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number which tells you how many items have been saved for future retrieval with cifs-session-list-iter-next. |
| **tag** | | string | Tag to be used in subsequent calls to cifs-session-list-iter-next. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **ESERVICEDISABLED** | |
| **ESVCNOTAVAIL** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-setup

[top]

Configures the filer's CIFS service. The CIFS service will start automatically once this call completes successfully.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **auth-type** | | string | The authentication style that determines the method by which clients will be authenticated when connecting to this CIFS server. These styles are subject to change in a future release. Possible values: ad, nt4, workgroup, passwd Note: The domain-name, login-user and login-password fields are optional unless the auth-type is ad. |
| **domain-name** | | string optional | The name of the domain that the CIFS server will join. This can be the NetBIOS or fully qualified domain name. Examples: cifsdomain, cifs.domain.com |
| **login-password** | | string optional encrypted | The password for login-user. |

| | | | |
|---|---|---|---|
| **login-user** | | string optional | The name of a domain user that has the ability to add the CIFS server to the domain given in domain-name. Examples: username (assumes domain-name is the user's domain), cifsdomain\username, cifs.domain.com\username |
| **ou-name** | | string optional | The distinguished name of the organizational unit that the CIFS service will become a member of. This value must be one of the cifs-setup-ous retrieved from a call to the cifs-setup-container-list-iter APIs. By default, the filer will join the 'CN=Computers' organizational unit. Note: This information is only used when the auth-type is 'ad'. |
| **pdc-ip-address** | | ip-address optional | If this value is defined, CIFS will attempt to communicate with the domain controller directly using this address. Note: This information is only used when the auth-type is 'nt4'. |
| **security-style** | | string | The security style determines whether or not the CIFS service will support multiprotocol access. These styles are subject to change in a future release. Possible values: ntfs, multiprotocol |
| **server-name** | | string | The resulting CIFS server name. |
| **site-name** | | string optional | The name of the site that the CIFS service will become a member of. This value must be one of the cifs-setup-sites retrieved from a call to the cifs-setup-container-list-iter APIs. If a default-site was returned, it is the recommended choice. Sites will be ignored if this value is left blank. Note: This information is only used when the auth-type is 'ad'. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **ESVCNOTAVAIL** | |
| **ESVCDISABLED** | |
| **EINTERNALERROR** | |
| **ECIFS_LOGIN_FAILED** | |
| **ECIFS_BIND_FAILED** | |
| **ECIFS_DNS_REQUIRED** | |
| **ECIFS_KRB_CONFLICT** | |
| **ECIFS_AD_CLOCK_SKEW** | |
| **ECIFS_AD_RESET_REQUIRED** | |
| **ECIFS_LIST_UNAVAILABLE** | |
| **ECIFS_DC_CONNECT_FAILED** | |
| **ECIFS_PASSWD_AND_GROUP_REQUIRED** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-setup-create-group-file

[top]

Creates a basic /etc/group file. Note: This will overwrite an existing /etc/group file. See cifs-setup-verify-passwd-and-group for more information.

| Errno | Description |
|---|---|
| EAPILICENSE | |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |
| ECIFS_SETUP_CANNOT_WRITE | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-setup-create-passwd-file

[top]

Creates a basic /etc/passwd file including a root user with the specified password. Note: This will overwrite an existing /etc/passwd file. See cifs-setup-verify-passwd-and-group for more information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| default-root-password | | string encrypted | The password given to a locally defined root user which may be used in the event that other authentication services are unavailable. This will be defined in the filer's local /etc/passwd file. |

| Errno | Description |
|---|---|
| EAPILICENSE | |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |
| ECIFS_SETUP_CANNOT_WRITE | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-setup-ou-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| tag | | string | Tag from a previous cifs-setup-ou-list-iter-start. |

| Vfiler-enabled |
|---|
| Yes |

| License |
| --- |
| cifs |

# cifs-setup-ou-list-iter-next

[top]

Returns items from a previous call to cifs-setup-ou-list-iter-start

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| maximum | | integer | The maximum number of entries to retrieve. |
| tag | | string | Tag from a previous cifs-setup-ou-list-iter-start. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| cifs-setup-ous | | cifs-setup-ou[] | An array, one entry per each joinable organizational unit. |
| records | | integer | This tells you how many records are being returned from this particular call to cifs-setup-ou-list-iter-next. When this value is 0, you have retrieved everything. |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| cifs |

# cifs-setup-ou-list-iter-start

[top]

Gathers a list of joinable sites and organizational units from Active Directory for the login-user specified, which is retrieved by using cifs-setup-ou-list-iter-next. For more information regarding Active Directory organizational units and their use, please reference Microsoft's Active Directory documentation.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| domain-name | | string | The name of the domain that the CIFS server will join. Examples: cifsdomain, cifs.domain.com |
| login-password | | string encrypted | The password for login-user. |
| login-user | | string | The name of a domain user that has the ability to add the CIFS server to the domain given in domain-name. Examples: username (assumes domain-name is the user's domain), cifsdomain\username, cifs.domain.com\username |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| records | | integer | Number which tells you how many items have been saved for future retrieval with cifs-setup-ou-list-iter-next. |
| tag | | string | Tag to be used in subsequent calls to cifs-setup-ou-list-iter-next. |

| Errno | Description |
|---|---|
| EAPILICENSE | |
| EINVALIDINPUTERROR | |
| ESVCNOTAVAIL | |
| ESVCDISABLED | |
| EINTERNALERROR | |
| ECIFS_LOGIN_FAILED | |
| ECIFS_BIND_FAILED | |
| ECIFS_DNS_REQUIRED | |
| ECIFS_KRB_CONFLICT | |
| ECIFS_AD_CLOCK_SKEW | |
| ECIFS_AD_RESET_REQUIRED | |
| ECIFS_LIST_UNAVAILABLE | |
| ECIFS_DC_CONNECT_FAILED | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-setup-site-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| tag | | string | Tag from a previous cifs-setup-site-list-iter-start. |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-setup-site-list-iter-next

[top]

Returns items from a previous call to cifs-setup-site-list-iter-start

| Input Name | Range | Type | Description |
|---|---|---|---|
| maximum | | integer | The maximum number of entries to retrieve. |
| tag | | string | Tag from a previous cifs-setup-site-list-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | cifs- | |

| | | | |
|---|---|---|---|
| **cifs-setup-sites** | | setup-site[] | An array, one entry per each joinable organizational unit. |
| **default-site** | | string optional | If this subnet is part of a pre-defined site in Active Directory, this is the site name that would be used by default unless one of the other sites in cifs-setup-sites are specified instead. |
| **records** | | integer | This tells you how many records are being returned from this particular call to cifs-setup-site-list-iter-next. When this value is 0, you have retrieved everything. |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-setup-site-list-iter-start

[top]

Gathers a list of joinable sites and organizational units from Active Directory for the login-user specified, which is retrieved by using cifs-setup-site-list-iter-next. For more information regarding Active Directory sites and their use, please reference Microsoft's Active Directory documentation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **domain-name** | | string | The name of the domain that the CIFS server will join. Examples: cifsdomain, cifs.domain.com |
| **login-password** | | string encrypted | The password for login-user. |
| **login-user** | | string | The name of a domain user that has the ability to add the CIFS server to the domain given in domain-name. Examples: username (assumes domain-name is the user's domain), cifsdomain\username, cifs.domain.com\username |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **default-site** | | string optional | If this subnet is part of a pre-defined site in Active Directory, this is the site name that would be used by default unless one of the other sites in cifs-setup-sites are specified instead. |
| **records** | | integer | Number which tells you how many items have been saved for future retrieval with cifs-setup-site-list-iter-next. |
| **tag** | | string | Tag to be used in subsequent calls to cifs-setup-site-list-iter-next. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **ESVCNOTAVAIL** | |
| **ESVCDISABLED** | |
| **EINTERNALERROR** | |
| **ECIFS_LOGIN_FAILED** | |
| **ECIFS_BIND_FAILED** | |
| **ECIFS_DNS_REQUIRED** | |

| | |
|---|---|
| **ECIFS_KRB_CONFLICT** | |
| **ECIFS_AD_CLOCK_SKEW** | |
| **ECIFS_AD_RESET_REQUIRED** | |
| **ECIFS_LIST_UNAVAILABLE** | |
| **ECIFS_DC_CONNECT_FAILED** | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-setup-verify-name

[top]

Determines whether or not a particular CIFS server name is already in use on the network and a specified domain.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **auth-type** | | string | The authentication style that will be used in a subsequent call to cifs-setup. These styles are subject to change in a future release. Possible values: ad, nt4, workgroup, passwd Note: The domain-name, login-user and login-password fields are optional unless the auth-type is ad. |
| **domain-name** | | string | The name of the domain that the CIFS server will join. Examples: cifsdomain, cifs.domain.com |
| **login-password** | | string optional encrypted | The password for login-user. |
| **login-user** | | string optional | The name of a domain user that has the ability to add the CIFS server to the domain given in domain-name. Examples: username (assumes domain-name is the user's domain), cifsdomain\username, cifs.domain.com\username |
| **pdc-ip-address** | | ip-address optional | If this value is defined, CIFS will attempt to communicate with the domain controller directly using this address. Note: This information is only used when the auth-type is 'nt4'. |
| **server-name** | | string | The NetBIOS CIFS server name that will be verified. Example: cifsserver |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-in-domain** | | boolean | Returns 'true' if the name exists in the domain, otherwise returns 'false'. For 'ad'-style domains, if an entry exists a warning should be provided. For 'nt4'-style domains, an entry must exist or cifs-setup will fail. |
| **is-in-use** | | boolean | Returns 'true' if the name is in use on the network, otherwise returns 'false'. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **ESVCNOTAVAIL** | |
| **ESVCDISABLED** | |

| | |
|---|---|
| **EINTERNALERROR** | |
| **ECIFS_LOGIN_FAILED** | |
| **ECIFS_BIND_FAILED** | |
| **ECIFS_DNS_REQUIRED** | |
| **ECIFS_KRB_CONFLICT** | |
| **ECIFS_AD_CLOCK_SKEW** | |
| **ECIFS_AD_RESET_REQUIRED** | |
| **ECIFS_LIST_UNAVAILABLE** | |
| **ECIFS_DC_CONNECT_FAILED** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **cifs** |

# cifs-setup-verify-passwd-and-group

[top]

Determines whether or not the /etc/passwd and /etc/group files exist, which would be used in the event that the configured CIFS authentication method fails.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **group-file-exists** | | boolean | Returns 'true' if the /etc/group file exists, otherwise returns 'false'. |
| **passwd-file-exists** | | boolean | Returns 'true' if the /etc/passwd file exists, otherwise returns 'false'. |
| **required** | | boolean | Returns 'true' if the /etc/passwd and /etc/group files would be required before running the cifs-setup API. cifs-setup will require these files if neither LDAP nor NIS are enabled, as they will be used as a backup authentication method should the primary method (i.e. domain authentication) become unavailable. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **cifs** |

# cifs-share-access-control-create

[top]

Add permissions for a user or group for a defined CIFS share.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **permission** | | cifs-access-perms | The access rights that the user or group has on the defined CIFS share. Possible values:<br>• "no_access" - No access,<br>• "read" - Read,<br>• "change" - Change,<br>• "full_control" - Full Control,<br>• "custom" - Custom |
| **return-record** | | boolean optional | If set to true, returns the cifs-share-access-control on successful creation. Default: false |
| **share** | | string | The CIFS share for which the permissions are defined. |
| **user-group-type** | | string optional | The type of user for which ACL is configured. Default value is windows. Possible values:<br>• "windows" - Windows User or Group.,<br>• "unix_user" - Unix User.,<br>• "unix_group" - Unix Group. |
| **user-or-group** | | string | The user or group name for which the permissions are listed. |
| **winsid** | | windows-sid optional | The Windows SID for the user or group for which the permission is defined. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | cifs-share-access-control optional | The cifs-share-access-control created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-share-access-control-delete

[top]

Remove permissions for a user or group on a defined CIFS share.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **share** | | string | The CIFS share for which the permissions are defined. |
| **user-group-type** | | string optional | The type of user for which ACL is configured. Default value is windows. Possible values:<br>• "windows" - Windows User or Group.,<br>• "unix_user" - Unix User.,<br>• "unix_group" - Unix Group. |
| **user-or-group** | | string | The user or group name for which the permissions are listed. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-share-access-control-get-iter

[top]

Retrieve the list of permissions on defined CIFS shares.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-share-access-control optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-share-access-control optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-share-access-control object. All cifs-share-access-control objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-share-access-control[] optional | The list of attributes of cifs-share-access-control objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-share-access-control objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-share-access-control-modify

[top]

Modify the permissions for a user or group on a defined CIFS share.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **permission** | | cifs-access-perms optional | The access rights that the user or group has on the defined CIFS share. Possible values:<br>• "no_access" - No access,<br>• "read" - Read,<br>• "change" - Change,<br>• "full_control" - Full Control,<br>• "custom" - Custom |

| | | | |
|---|---|---|---|
| **share** | | string | The CIFS share for which the permissions are defined. |
| **user-group-type** | | string optional | The type of user for which ACL is configured. Default value is windows. Possible values:<br>• "windows" - Windows User or Group.,<br>• "unix_user" - Unix User.,<br>• "unix_group" - Unix Group. |
| **user-or-group** | | string | The user or group name for which the permissions are listed. |
| **winsid** | | windows-sid optional | The Windows SID for the user or group for which the permission is defined. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-share-ace-delete

[top]

Deletes the access control entry of the given share or the unix group. This API is equivalent to "cifs access [-g] " CLI.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-unixgroup** | | boolean optional | This filter is used to tell that the access rights of the unix group have to be deleted. If its value is true, uinx-group-name needs to be provided. Otherwise it fails with the reason "group-name missing". The default value of this is false. |
| **share-name** | | string | CIFS share name. It specifies name of the share of which the access rights have to be deleted. This is a case insensitive field. The maximum size of the share name is 256 characters. |
| **unix-group-name** | | string optional | Name of the unix group. This field specifies the unix group of which the access rights to be deleted. The format of this field . This is a case sensitive field. If the specified group name does not exist, it fails with the reason "Unknown Unix group " |
| **user-name** | | string optional | Name of the user. This API deletes the access rights of the specified user. This is a case sensitive field. The format of the field is . If specified user does not exist, It fails with the reason "Unknown user ". |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **ESVCDISABLED** | |
| **EAPILICENSE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-share-ace-set

[top]

Sets the ace to the share for the given user or unix group. This API is equivalent to "cifs access [-g] " CLI.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-rights** | | string | Access rights to be set to the above share and user. The format of the rights can be Unix-style combinations of r w x - or NT-style "No Access", "Read", "Change", and "Full Control" |
| **is-unixgroup** | | boolean optional | This filter is used to tell that the access rights are to be set to the unix group. If its value is true, unix-group-name needs to be provided. Otherwise API fails with the reason "group-name missing". The default value of this is false. |
| **share-name** | | string | CIFS share name. It specifies name of the share to which the access rights have to be set. This is a case insensitive field. The maximum size of the share name is 256 characters. |
| **unix-group-name** | | string optional | Name of the unix group. This field specifies the unix group to which the access rights are to be set. The format of this field . This is a case sensitive field. If the specified group name does not exist, it fails with the reason "Unknown Unix group : ". |
| **user-name** | | string optional | Name of the user. This API sets the access rights to the specified user. This is a case sensitive field. The format of the field . If specified user does not exist, It fails with the reason "Unknown user: ". |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **ESVCDISABLED** | |
| **EAPILICENSE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-share-acl-list-iter-end

[top]

Terminates a list iteration and cleans up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from the previous cifs-share-acl-list-iter-start |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|

**cifs**

# cifs-share-acl-list-iter-next

[top]

Returns items from a previous call to cifs-share-acl-list-iter-start.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maximum** | | integer | The maximum number of entries to retrieve. Range:[0..2^32-1] |
| **tag** | | string | Tag from the previous cifs-share-acl-list-iter-start |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **cifs-share-acls** | | cifs-share-acl-info[] | An array, one entry per each cifs share. |
| **records** | | integer | This tells you how many records are being returned from this particular call to cifs-share-acl-list-iter-next. When this value is 0, you have retrieved everything. Range:[0..2^32-1] |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-share-acl-list-iter-start

[top]

Gives information about one or more shares acl.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **share-name** | | string optional | Cifs share name. If share-name is specified, only information about that share is returned. If share-name is not specified, then information about all the shares is returned. If the name contains the wildcard characters * or ?, then all the shares matching the specified pattern are listed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number which tells you how many items have been saved for future retrieval with cifs-share-acl-list-iter-next. Range:[0..2^32-1] |
| **tag** | | string | Tag to be used in subsequent calls to cifs-share-acl-list-iter-next |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EAPIERROR** | |
| **ESVCNOTAVAIL** | |
| **EINTERNALERROR** | |
| | |

| ESVCDISABLED | |
|---|---|
| EAPILICENSE | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-share-add

[top]

Creates a new CIFS share rooted at the specified path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **caching** | | string optional | If specified, the following is done based on the value of the string: "no_caching": disallow Windows clients from caching any files on this share. This is the default value. "auto_document_caching": allow Windows clients to cache user documents on this share. "auto_program_caching": allow Windows clients to cache programs on this share. The actual caching behavior depends on the Windows client. "branchcache": clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office. |
| **comment** | | string optional | If specified, gives description of the new share. CIFS clients see this description when browsing the filer's shares. If not specified, the description is blank. |
| **dir-umask** | | integer optional | If specified, sets file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created directory. For directories, this mask overrides one set with "umask". |
| **file-umask** | | integer optional | If specified, sets file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created file. For files, this mask overrides one set with "umask". |
| **forcegroup** | | string optional | If specified, provides name of the group to which files to be created in the share belong. The groupname is the name of a group in the UNIX group database. If it is an empty string or else not specified, then files to be created in the share do not belong to a particular UNIX group. That is, each file belongs to the same group as the owner of the file. |
| **is-access-based-enum** | | boolean optional | If true Access Based Enumeration (ABE) is enabled, else it is disabled. ABE filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access. |
| **is-browse** | | boolean optional | If true or not specified, shares are visible to browsing clients and can be enumerated (e.g. "net view", SrvMgr, AD). |
| **is-namespace-caching-allowed** | | boolean optional | If true, namespace caching is enabled on the share. If namespace caching is enabled on a share, clients are allowed to cache the directory enumeration results for better performance. |
| **is-symlink-strict-security** | | boolean optional | If true or not specified, strict symlink security is enabled. If false, allows clients to follow symbolic links to destinations on this filer but outside of the current share. It is not checked if the client is authenticated to the |

| | | | |
|---|---|---|---|
| | | | symbolic link's destination. |
| **is-vscan** | | boolean optional | If true or not specified, virus scan is done when clients open files on this share, else no virus scan is done. |
| **is-vscanread** | | boolean optional | If true or not specified, virus scan is done when clients open files on this share for read access, else no virus scan is done for read access on this share. |
| **is-widelink** | | boolean optional | If true, allows clients to follow absolute symbolic links outside of this share, subject to NT security. This feature requires an entry in the /etc/symlink.translations file and it requires that the client supports Microsoft's Distributed File System (DFS). If false or not specified, widelinks in the share are disabled. |
| **maxusers** | | integer optional | If specified, gives the maximum number of simultaneous connections to the new share. It must be a positive number. If not specified, the filer does not impose a limit on the number of connections to the share. |
| **path** | | string | Full path name of the directory on the filer corresponding to the root of the new share. |
| **share-name** | | string | Name of the share to be added. The name cannot exceed 12 characters for DOS-style shares and 256 characters for others. |
| **umask** | | integer optional | If specified, sets file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created file or directory. If not specified, the file mode creation mask of the share is 0. This field is ignored when both dir-umask and file-umask are present. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EAPILICENSE** | |
| **EONTAPI_EINVAL** | |
| **ESHAREACCESSDENIED** | |
| **ESVCDISABLED** | |
| **ESVCNOTAVAIL** | |
| **ECIFSSHARINGVIOLATION** | |
| **EVOLUMEINUSE** | |
| **EONTAPI_ENOMEM** | |
| **ESHARETOOMANY** | |
| **ESHAREEXISTS** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-share-change

[top]

Changes settings of one or more CIFS shares at any time, even if the shares are in use.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | If specified, the following is done based on the value of the string: |

| | | | |
|---|---|---|---|
| **caching** | | string optional | "no_caching": disallow Windows clients from caching any files on this share. This is the default value. "auto_document_caching": allow Windows clients to cache user documents on this share. "auto_program_caching": allow Windows clients to cache programs on this share. The actual caching behavior depends on the Windows client. "manual_caching": allow users on Windows clients to manually select files to be cached. "branchcache": clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office. |
| **comment** | | string optional | If specified, changes description of the share. CIFS clients see this description when browsing the filer's shares. Specifying an empty string clears the previous description. |
| **dir-umask** | | integer optional | If specified, changes file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created directory. For directories, this mask overrides one set with "umask". Specifying an empty string resets (removes) this dir-umask. |
| **file-umask** | | integer optional | If specified, changes file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created file. For files, this mask overrides one set with "umask". Specifying an empty string resets (removes) this file-umask. |
| **forcegroup** | | string optional | If specified, changes name of the group to which files to be created in the share belong. The groupname is the name of a group in the UNIX group database. If the string is empty, files to be created in the share do not belong to a particular UNIX group. That is, each file belongs to the same group as the owner of the file. |
| **is-access-based-enum** | | boolean optional | If true Access Based Enumeration (ABE) is enabled, if false it is disabled. ABE filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access. |
| **is-browse** | | boolean optional | If true or undefined, share is visible to browsers and can be enumerated. |
| **is-namespace-caching-allowed** | | boolean optional | If true, namespace caching is enabled on the share. If false, namespace caching is disabled on the share. If namespace caching is enabled on a share, clients are allowed to cache the directory enumeration results for better performance. |
| **is-symlink-strict-security** | | boolean optional | If true, strict symlink security is enabled. If false, allows clients to follow symbolic links to destinations on this filer but outside of the current share. It is not checked if the client is authenticated to the symbolic link's destination. |
| **is-vscan** | | boolean optional | If true, virus scan is done when clients open files on this share, else virus scan is not done. |
| **is-vscanread** | | boolean optional | If true, virus scan is done when clients open files on this share for read access, else virus scan is not done for read access. |
| **is-widelink** | | boolean optional | If true, allows clients to follow absolute symbolic links outside of this share, subject to NT security. This feature requires an entry in the /etc/symlink.translations file and it requires that the client supports Microsoft's Distributed File System (DFS). If false, widelinks in the share are disabled. |
| **maxusers** | | integer optional | If specified, changes the maximum number of simultaneous connections to the new share. It must be a positive number or else zero, in which case no limit is imposed on the number of connections to the share. |
| **share-name** | | string | If fully specified, it's the name of the existing share to be changed. If the name contains the wildcard characters * or ?, then all the shares matching the specified name are to be changed. |
| | | | If specified, changes file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions |

| | | | |
|---|---|---|---|
| **umask** | | integer optional | setting of a newly created file or directory. Specifying a zero value resets (removes) the file mode creation mask. This field is ignored when both dir-umask and file-umask are present. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EAPILICENSE** | |
| **EONTAPI_EINVAL** | |
| **ESHAREACCESSDENIED** | |
| **ESVCDISABLED** | |
| **ESVCNOTAVAIL** | |
| **EONTAPI_ENOMEM** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-share-create

[top]

Creates a new CIFS share rooted at the specified path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attribute-cache-ttl** | **[0..2^32-1]** | integer optional | The lifetime of an entry in the file attribute cache, in seconds. This value is used if the share has the 'attributecache' property set, which improves the performance of certain metadata operations in common workloads. The default is 10 seconds. Raising this value may improve performance, but the likelihood that stale metadata will be served increases as well. The value of this field must be in the range of 1 to 86400. |
| **comment** | | string optional | This string gives a description of the CIFS share. CIFS clients see this description when browsing the Vserver's CIFS shares. |
| **dir-umask** | **[0..777]** | integer optional | The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created directory. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values. |
| **file-umask** | **[0..777]** | integer optional | The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created file. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the |

| | | | |
|---|---|---|---|
| | | | second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values. |
| **force-group-for-create** | | string<br>optional | If specified, all files created by CIFS users in a specific share belong to the same group (also called the "force-group"). The "force-group" must be a predefined group in the UNIX group database. This setting has no effect unless the security style of the volume is UNIX or mixed security style. By default this option will be disabled. |
| **is-path-validation-enabled** | | boolean<br>optional | This optional parameter specifies whether the CIFS Share Path validation is enabled or not. The default value for this parameter is true. |
| **max-connections-per-share** | **[1..2^32-1]** | integer<br>optional | If specified, gives the maximum number of simultaneous connections to the new share. It must be a positive number. The default value is 4294967295. |
| **offline-files-mode** | | string<br>optional | Mode of the offline file for the CIFS share. The default value is manual. Possible values:<br>• "none" - Clients are not permitted to cache files for offline access.,<br>• "manual" - Clients may cache files that are explicitly selected by the user for offline use.,<br>• "documents" - Clients may automatically cache files that are used by the user for offline access.,<br>• "programs" - Clients may automatically cache files that are used by the user for offline access and may use those files in an offline mode even if the share is available. |
| **path** | | string | The file system path that is shared through this CIFS share. |
| **return-record** | | boolean<br>optional | If set to true, returns the cifs-share on successful creation. Default: false |
| **share-name** | | string | The name of the CIFS share. The CIFS share name is a UTF-8 string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:\|<>+=;,?"* |
| | | | The list of properties for this CIFS share. Possible values:<br>• "oplocks" - This specifies that opportunistic locks (client-side caching) are enabled on this share.,<br>• "browsable" - This specifies that the share can be browsed by Windows clients.,<br>• "showsnapshot" - This specifies that Snapshots can be viewed and traversed by clients.,<br>• "changenotify" - This specifies that CIFS clients can request for change notifications for directories on this share. If the path of the share is within a FlexGroup, change notifications are not sent because FlexGroups do not support Change Notify.,<br>• "homedirectory" - This specifies that the share is added and enabled as part of the CIFS home directory feature. The configuration of this share should be done using CIFS home directory feature interface. This property can only be set during the create process and cannot be altered later.<br>• "attributecache" - This specifies that connections through this share are caching attributes for a short time to improve performance.<br>• "branchcache" - This specifies that clients connecting to this share can make requests using BranchCache |

| | | | |
|---|---|---|---|
| **share-properties** | | cifs-share-properties[] optional | technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office.<br>• "continuously_available" - This specifies that clients connecting to this share can open files in a persistent manner. Files opened this way are protected from disruptive events, such as failover and giveback. This property is not supported for FlexGroups.<br>• "shadowcopy" - This specifies that the share is pointing to a shadow copy. This attribute cannot be added nor removed from a share.<br>• "access_based_enumeration" - This specifies that Access Based Enumeration is enabled on this share. ABE-filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access.<br>• "namespace_caching" - This specifies that the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers.<br>• "encrypt_data" - This specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption will not be able to access this share.<br>• "show_previous_versions" - This property specifies that the previous version can be viewed and restored from the client. This property is enabled by default. |
| **symlink-properties** | | cifs-share-symlink-properties[] optional | This flag controls whether the symlinks under this shared directory are hidden (option 'hide'), accessible (option 'enable') or are accessible as read-only (option 'read-only' along with option 'enable'). It controls whether only symlinks which have targets on this server can be resolved by a CIFS client (option 'symlinks') or if all symlinks can be resolved (option 'symlinks_and_widelinks'). It controls whether symlinks can have targets outside the client's share (option 'no_strict_security'). It controls whether no symlinks can be resolved (option 'disable'). Possible values:<br>• "enable" (DEPRECATED) Enable both local symlinks and wide links for read-write,<br>• "hide" (DEPRECATED) Hide both symlinks and wide links,<br>• "read_only" (DEPRECATED) Enable symlinks for read-only,<br>• "symlinks" Enable symlinks only for read-write, DFS is not advertised,<br>• "symlinks_and_widelinks" Enable both local symlinks and wide links, DFS is advertised,<br>• "disable" Disable both local symlinks and wide links, DFS is not advertised<br>• "no_strict_security" Allow clients to follow symlinks beyond share boundaries |
| **vscan-fileop-profile** | | vscan-fileop-profile optional | Profile-set of file-ops to which Vscan On-Access scanning is applicable. The default value is standard. Possible values:<br>• "no_scan" - Virus scans are never triggered for accesses to this share,<br>• "standard" - Virus scans can be triggered by open, close, and rename operations,<br>• "strict" - Virus scans can be triggered by open, read, close, and rename operations,<br>• "writes_only" - Virus scans can be triggered only when a |

| | | | |
|---|---|---|---|
| | | | file that has been modified is closed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | cifs-share optional | The cifs-share created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-share-delete

[top]

Deletes the specified CIFS share.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **share-name** | | string | The name of the CIFS share. The CIFS share name is a UTF-8 string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:\|<>+=;,?"* |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EAPILICENSE** | |
| **EONTAPI_EINVAL** | |
| **ESHAREACCESSDENIED** | |
| **ESVCDISABLED** | |
| **ESVCNOTAVAIL** | |
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-share-get-iter

[top]

Gives information about one or more CIFS shares.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-share optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | | |

| | | | |
|---|---|---|---|
| **query** | | cifs-share optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-share object. All cifs-share objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-share[] optional | The list of attributes of cifs-share objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-share objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-share-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from a previous cifs-share-list-iter-start. |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-share-list-iter-next

[top]

Returns items from a previous call to cifs-share-list-iter-start

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maximum** | | integer | The maximum number of entries to retrieve. |
| **tag** | | string | Tag from a previous cifs-share-list-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **cifs-shares** | | cifs-share-info[] | An array, one entry per each cifs share. |
| | | | This tells you how many records are being returned from this particular |

| | | | |
|---|---|---|---|
| **records** | | integer | call to cifs-share-list-iter-next. When this value is 0, you have retrieved everything. Range:[0..2^32-1] |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-share-list-iter-start

[top]

Gives information about one or more shares, the results of which are retrieved by using cifs-share-list-iter-next.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **share-name** | | string optional | Cifs share name. If share-name is specified, only information about that share is returned. If share-name is not specified, then information about all the shares is returned. If the name contains the wildcard characters * or ?, then all the shares matching the specified name are listed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number which tells you how many items have been saved for future retrieval with cifs-share-list-iter-next. |
| **tag** | | string | Tag to be used in subsequent calls to cifs-share-list-iter-next. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EONTAPI_EINVAL** | |
| **ESHAREACCESSDENIED** | |
| **ESERVICEDISABLED** | |
| **ESVCNOTAVAIL** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-share-modify

[top]

Modifies settings of a CIFS share, even if the shares are in use.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | The lifetime of an entry in the file attribute cache, in seconds. |

| | | | |
|---|---|---|---|
| **attribute-cache-ttl** | **[0..2^32-1]** | integer optional | This value is used if the share has the 'attributecache' property set, which improves the performance of certain metadata operations in common workloads. The default is 10 seconds. Raising this value may improve performance, but the likelihood that stale metadata will be served increases as well. The value of this field must be in the range of 1 to 86400. |
| **comment** | | string optional | This string gives a description of the CIFS share. CIFS clients see this description when browsing the Vserver's CIFS shares. |
| **dir-umask** | **[0..777]** | integer optional | The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created directory. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values. |
| **file-umask** | **[0..777]** | integer optional | The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created file. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values. |
| **force-group-for-create** | | string optional | This optional parameter specifies that all files that CIFS users create in a specific share belong to the same group (also called the "force-group"). The "force-group" must be a predefined group in the UNIX group database. This setting has no effect unless the security style of the volume is UNIX or mixed security style. You can disable this option by passing a null string "". |
| **is-path-validation-enabled** | | boolean optional | This optional parameter specifies whether the CIFS Share Path validation is enabled or not. |
| **max-connections-per-share** | **[1..2^32-1]** | integer optional | If specified, gives the maximum number of simultaneous connections to the new share. It must be a positive number. |
| **offline-files-mode** | | string optional | Mode of the offline file for the CIFS share. The default value is manual. Possible values:<br>• "none" - Clients are not permitted to cache files for offline access.,<br>• "manual" - Clients may cache files that are explicitly selected by the user for offline use.,<br>• "documents" - Clients may automatically cache files that are used by the user for offline access.,<br>• "programs" - Clients may automatically cache files that are used by the user for offline access and may use those files in an offline mode even if the share is available. |
| **path** | | string optional | The file system path that is shared through this CIFS share. |
| **share-name** | | string | The name of the CIFS share. The CIFS share name is a UTF-8 string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double |

| | | | |
|---|---|---|---|
| | | | quotes) and the characters \/[]:\|<>+=;,?"* |
| **share-properties** | | cifs-share-properties[] optional | The list of properties for this CIFS share. Possible values:<br>• "oplocks" - This specifies that opportunistic locks (client-side caching) are enabled on this share.,<br>• "browsable" - This specifies that the share can be browsed by Windows clients.,<br>• "showsnapshot" - This specifies that Snapshots can be viewed and traversed by clients.,<br>• "changenotify" - This specifies that CIFS clients can request for change notifications for directories on this share. If the path of the share is within a FlexGroup, change notifications are not sent because FlexGroups do not support Change Notify.,<br>• "homedirectory" - This specifies that the share is added and enabled as part of the CIFS home directory feature. The configuration of this share should be done using CIFS home directory feature interface. This property cannot be added or removed from existing share.<br>• "attributecache" - This specifies that connections through this share are caching attributes for a short time to improve performance.<br>• "branchcache" - This specifies that clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office.<br>• "continuously_available" - This specifies that clients connecting to this share can open files in a persistent manner. Files opened this way are protected from disruptive events, such as failover and giveback. This property is not supported for FlexGroups.<br>• "shadowcopy" - This specifies that the share is pointing to a shadow copy. This attribute cannot be added nor removed from a share.<br>• "access_based_enumeration" - This specifies that Access Based Enumeration is enabled on this share. ABE-filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access.<br>• "namespace_caching" - This specifies that the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers.<br>• "encrypt_data" - This specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption will not be able to access this share.<br>• "show_previous_versions" - This property specifies that the previous version can be viewed and restored from the client. This property is enabled by default. |
| | | | This flag controls whether the symlinks under this shared directory are hidden (option 'hide'), accessible (option 'enable') or are accessible as read-only (option 'read-only' along with option 'enable'). It controls whether only symlinks which have targets on this server can be resolved by a CIFS client (option 'symlinks') or if all symlinks can be resolved (option 'symlinks_and_widelinks'). It controls whether symlinks can have targets outside the client's share (option 'no_strict_security'). It controls whether no symlinks can be resolved (option 'disable'). Possible values: |

| | | | |
|---|---|---|---|
| **symlink-properties** | | cifs-share-symlink-properties[] optional | • "enable" (DEPRECATED) Enable both local symlinks and wide links for read-write,<br>• "hide" (DEPRECATED) Hide both symlinks and wide links,<br>• "read_only" (DEPRECATED) Enable symlinks for read-only,<br>• "symlinks" Enable symlinks only for read-write, DFS is not advertised,<br>• "symlinks_and_widelinks" Enable both local symlinks and wide links, DFS is advertised,<br>• "disable" Disable both local symlinks and wide links, DFS is not advertised<br>• "no_strict_security" Allow clients to follow symlinks beyond share boundaries |
| **vscan-fileop-profile** | | vscan-fileop-profile optional | Profile-set of file-ops to which Vscan On-Access scanning is applicable. Possible values:<br>• "no_scan" - Virus scans are never triggered for accesses to this share,<br>• "standard" - Virus scans can be triggered by open, close, and rename operations,<br>• "strict" - Virus scans can be triggered by open, read, close, and rename operations,<br>• "writes_only" - Virus scans can be triggered only when a file that has been modified is closed. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-start

[top]

Starts the CIFS service, usually after a previous call to cifs-stop as the CIFS service starts automatically when cifs-setup completes successfully or the system reboots.

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **ESVCNOTAVAIL** | |
| **ESVCDISABLED** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-status

[top]

Returns the running state of the CIFS service.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **status** | | string | The current status of the CIFS service, which will be one of the following: STOPPED, STARTED, STOPPING, STARTING |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-stop

[top]

Stops the CIFS service for all users or a particular workstation, if specified. Appropriate warning should be given to connected clients before calling this API, as it will immediately terminate those sessions regardless of their current state. See the cifs-sessions API for the list of clients that are currently connected.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **workstation** | | string optional | The name or IP address of a workstation that will be disconnected from the CIFS service. Note that the CIFS service does not stop if this value is specified, it simply disconnects related sessions. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **ESVCNOTAVAIL** | |
| **ESVCDISABLED** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-symlink-create

[top]

Create a new CIFS symbolic link path mapping from a UNIX symlink to a target CIFS path. This symbolic link path mapping will be effective on symbolic links that have a prefix match with the value of 'unix-path'. e.g.: if the value of 'unix-path' is '/usr/local/' and there exists a symbolic link on the file

system at '/home/user/link' which points to '/usr/local/share/dest'. If a CIFS client accesses the symbolic link 'link', this entry of path mapping would have a prefix match '/usr/local/'. The CIFS client would be redirected to the location pointed to by this path mapping's 'cifs-server', 'share-name' and 'cifs-path' fields.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cifs-path** | | string | This field specifies the CIFS path on the destination to which the symbolic link maps. The final path is generated by concatenating the CIFS server name, the share name, the cifs-path and the remaining path in the symbolic link left after the prefix match. This value is specified by using a UNIX-style path name. The trailing forward slash is required for the full path name to be properly interpreted. This is a UTF-8 string and supports localization. |
| **cifs-server** | | string optional | This field specifies the destination CIFS server name for the mapping to which the symbolic link is mapped. The default is the local CIFS server. The field needs to be specified if the locality of the symbolic link is 'widelink'. This can be either a DNS name, NetBIOS name or an IP address. If a DNS name or a NetBIOS name are specified, the CIFS client configuration should be such that it is capable of resolving the CIFS server name to the correct IP address. |
| **home-directory** | | boolean optional | This field specifies whether the destination share is a home directory. If the value of this field is true, wildcard path elements in the destination path are replaced with specific values for the user accessing the symbolic link. Wildcard %w is replaced by the user's Windows name. Wildcard %u is replaced by the user's mapped Unix name. Wildcard %d is replaced by the domain to which the user belongs. The default value is false. |
| **locality** | | cifs-symlink-locality optional | This field specifies whether the CIFS symbolic link is a local link, free link or wide link. A local symbolic link maps to the local CIFS share. A free symlink maps to the local vserver. A wide symbolic link maps to any CIFS share on the network. If the CIFS server matches the VServer's NetBIOS name then the default value is local otherwise wide link. The symlink option 'freelink' is obsolete. Possible values:<br>• "local" - Share on This VServer,<br>• "widelink" - Share on Another CIFS Server,<br>• "freelink" - Anywhere on This VServer (OBSOLETE) |
| **return-record** | | boolean optional | If set to true, returns the cifs-symlink on successful creation. Default: false |
| **share-name** | | string optional | This field specifies the CIFS share name on the destination CIFS server to which the symbolic link is mapped. This is a UTF-8 string and supports localization. |
| **unix-path** | | string | This field specifies the UNIX path prefix to be matched for the mapping. If the prefix of the target path in the symbolic link matches against this field, this entry of symbolic link path mapping would be used. The path is a UTF-8 string and supports localization. The path must start and end with a forward slash ('/'). For example '/usr/local/'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | cifs-symlink optional | The cifs-symlink created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |

| Errno | Description |
|---|---|
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-symlink-delete

[top]

Delete a CIFS symbolic link path mapping.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **unix-path** | | string | This field specifies the UNIX path prefix to be matched for the mapping. If the prefix of the target path in the symbolic link matches against this field, this entry of symbolic link path mapping would be used. The path is a UTF-8 string and supports localization. The path must start and end with a forward slash ('/'). For example '/usr/local/'. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-symlink-get-iter

[top]

Retrieve the list of CIFS symbolic link path mappings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-symlink optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-symlink optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-symlink object. All cifs-symlink objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-symlink[] optional | The list of attributes of cifs-symlink objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-symlink objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# cifs-symlink-modify

[top]

Modify a CIFS symbolic link path mapping parameters.

| Input Name | Range | Type | Description |
|---|---|---|---|
| cifs-path | | string optional | This field specifies the CIFS path on the destination to which the symbolic link maps. The final path is generated by concatenating the CIFS server name, the share name, the cifs-path and the remaining path in the symbolic link left after the prefix match. This value is specified by using a UNIX-style path name. The trailing forward slash is required for the full path name to be properly interpreted. This is a UTF-8 string and supports localization. |
| cifs-server | | string optional | This field specifies the destination CIFS server name for the mapping to which the symbolic link is mapped. The default is the local CIFS server. The field needs to be specified if the locality of the symbolic link is 'widelink'. This can be either a DNS name, NetBIOS name or an IP address. If a DNS name or a NetBIOS name are specified, the CIFS client configuration should be such that it is capable of resolving the CIFS server name to the correct IP address. |
| home-directory | | boolean optional | This field specifies whether the destination share is a home directory. If the value of this field is true, wildcard path elements in the destination path are replaced with specific values for the user accessing the symbolic link. Wildcard %w is replaced by the user's Windows name. Wildcard %u is replaced by the user's mapped Unix name. Wildcard %d is replaced by the domain to which the user belongs. The default value is false. |
| locality | | cifs-symlink-locality optional | This field specifies whether the CIFS symbolic link is a local link, free link or wide link. A local symbolic link maps to the local CIFS share. A free symlink maps to the local vserver. A wide symbolic link maps to any CIFS share on the network. If the CIFS server matches the VServer's NetBIOS name then the default value is local otherwise wide link. The symlink option 'freelink' is obsolete. Possible values:<br>• "local" - Share on This VServer,<br>• "widelink" - Share on Another CIFS Server,<br>• "freelink" - Anywhere on This VServer (OBSOLETE) |
| share-name | | string optional | This field specifies the CIFS share name on the destination CIFS server to which the symbolic link is mapped. This is a UTF-8 string and supports localization. |
| unix-path | | string | This field specifies the UNIX path prefix to be matched for the mapping. If the prefix of the target path in the symbolic link matches against this field, this entry of symbolic link path mapping would be used. The path is a UTF-8 string and supports localization. The path must start and end with a forward slash ('/'). For example '/usr/local/'. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# cifs-top-iter-end

[top]

Terminate a list iteration and clean up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from a previous cifs-top-iter-start. |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-top-iter-next

[top]

Returns items from a previous call to cifs-top-iter-start.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maximum** | | integer | The maximum number of entries to retrieve. |
| **tag** | | string | Tag from a previous cifs-top-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **cifs-top** | | cifs-top-info[] | An array, one entry per cifs top. |
| **records** | | integer | This tells you how many records are being returned from this particular call to cifs-top-iter-next. When this value is 0, you have retrieved everything. |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-top-iter-start

[top]

Display CIFS client statistics

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Specifies how the client statistics are to be averaged for display: "smooth": Use a smoothed average which is weighted towards recent behavior but takes into account previous history of the client. "now": |

| | | | |
|---|---|---|---|
| **avgtype** | | string optional | Use a one-second sample taken immediately and no history is taken into account. "total": Use the total count of each statistic divided by the total time since sampling started. If the is-verbose option is also set, the totals are given without dividing by the sample time. |
| **maxclients** | | integer optional | Specifies the maximum number of top clients to display (the default is 20). |
| **sortgroup** | | string optional | If specified, the client statistics are sorted by the value of the string: "ops": Sort by the number of operations per second of any type. "reads": Sort by kbytes/sec of data in response to read requests. "writes": Sort by kbytes/sec of data written to the filer. "ios": Sort by the combined total of reads plus writes for each client. "suspicious": Sort by the number of "suspicious" events per second by each client. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number which tells you how many items have been saved for future retrieval with cifs-session-list-iter-next. Range:[0..2^32-1] |
| **tag** | | string | Tag to be used in subsequent calls to cifs-session-list-iter-next. |

| Errno | Description |
|---|---|
| **ECLIENTSTATSVFILER** | |
| **ECLIENTSTATSNOTENABLED** | |
| **ENOACTIVECLIENTS** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-user-home-directory-path-get

[top]

Find the user's home directory based on user name

| Input Name | Range | Type | Description |
|---|---|---|---|
| **username** | | string | The name of CIFS user for which home directory path has to be found out. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **out-username** | | string optional | Output User Name |
| **path** | | string optional | The path of home directory for the specified user name. |
| **share-name** | | string optional | The expanded share name for the user. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# cifs-user-home-directory-path-get-iter

[top]

Find the user's home directory based on user name

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-user-home-directory-path optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-user-home-directory-path optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-user-home-directory-path object. All cifs-user-home-directory-path objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |
| **username** | | string | The name of CIFS user for which home directory path has to be found out. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-user-home-directory-path[] optional | The list of attributes of cifs-user-home-directory-path objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-user-home-directory-path objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |
| **out-username** | | string optional | Output User Name |
| **path** | | string optional | The path of home directory for the specified user name. |
| **share-name** | | string optional | The expanded share name for the user. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# cifs-users-and-group-local-group-members-get-iter

[top]

Retrieve the list of local group members

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-users-and-group-local-group-members optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-users-and-group-local-group-members optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-users-and-group-local-group-members object. All cifs-users-and-group-local-group-members objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-users-and-group-local-group-members[] optional | The list of attributes of cifs-users-and-group-local-group-members objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-users-and-group-local-group-members objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-users-and-group-local-user-membership-get-iter

[top]

Retrieve local users' membership information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-users-and-group-local-user-membership optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-users-and-group-local-user-membership | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-users-and-group-local-user-membership object. All cifs-users-and-group-local-user-membership objects matching this query up to |

| | | | |
|---|---|---|---|
| | | optional | 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-users-and-group-local-user-membership[] optional | The list of attributes of cifs-users-and-group-local-user-membership objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-users-and-group-local-user-membership objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-charmap-get

[top]

Return charmap information for a specified volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume on which to list the charmap information. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **charmap** | | string optional | A comma separated list of Unicode characters in the format of XX:XXXX. For example: 3f:ff76,3a:f3f4 wherein character 3f/3a which is invalid for windows, gets mapped to a character whose Unicode value is ff76/f3f4 respectively. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EOPNOTSUPPORTED** | |
| **EVOLUMEBUSY** | |

# volume-charmap-set

[top]

Set the character mapping on a volume

| Input Name | Range | Type | Description |
|---|---|---|---|
| **charmap** | | string optional | A comma separated list of Unicode characters in the format of XX:XXXX. For example: 3f:ff76,3a:f3f4 wherein character 3f/3a which is invalid for windows, gets mapped to a character whose Unicode value is ff76/f3f4 respectively. |
| **volume** | | volume- | The name of the volume for which character mapping needs to be |

| | | | |
|---|---|---|---|
| | | name | applied. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## Element definition: **anonymous-restriction-level** [top]

Classification of the CIFS null user restriction. Possible values:

- "no_restriction" - No Access Restriction for Anonymous User.,
- "no_enumeration" - Only Enumeration Is Restricted.,
- "no_access" - Access Restricted for Anonymous User.

[none]

## Element definition: **auth-mechanism** [top]

The list of possible known authentication mechanisms supported by the CIFS server. Possible values:

- "None" - None
- "NTLMv1" - NTLMv1
- "NTLMv2" - NTLMv2
- "Kerberos" - Kerberos
- "Anonymous" - Anonymous

[none]

## Element definition: **cifs-access-perms** [top]

access rights Possible values:

- "no_access" - No access,
- "read" - Read,
- "change" - Change,
- "full_control" - Full Control,
- "custom" - Custom

[none]

## Element definition: **cifs-bc-version-control** [top]

Versions of CIFS BranchCache that are currently supported.

[none]

# Element definition: **cifs-branchcache**

[top]

CIFS BranchCache configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **hash-store-max-size** | | size optional | Maximum size the hash store can grow to. Attributes: optional-for-create, modifiable |
| **hash-store-path** | | string optional | Path to the directory where hash files are stored. Attributes: required-for-create, modifiable |
| **operating-mode** | | string optional | The mode in which the BranchCache service will operate. Attributes: optional-for-create, modifiable |
| **server-key** | | string optional | BranchCache server key. Attributes: optional-for-create, modifiable |
| **versions** | | cifs-bc-version-control[] optional | Versions of the BranchCache protocol that are supported. Attributes: optional-for-create, modifiable |
| **vserver** | | vserver-name optional | The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-ca-protection**

[top]

The list of possible protection levels. Open files are "Continuously Available" if they are opened from an SMB 3 client through a share with the "continuously_available" property set. These open files are capable of non-disruptively recovering from takeover and giveback as well as general aggregate relocation between partners in a high-availability relationship. This is in addition to the traditional SMB 2 capability allowing clients to recover from LIF migration and other brief network interruptions. Note: The CA protection levels depicts the continuous availability at the connection level so it might not be accurate for a session if the connection has multiple sessions. Streams opened through a continuously available share are permitted, but are not currently made continuously available. Directories may be opened through a continuously available share, but will not appear continuously available as clients do not open them that way by design. These protection levels are applicable to the sessions/files on read/write volumes on SFO aggregates. Possible values:

- "No" - The open file is not continuously available. For sessions, it contains one or more open files but none of them are continuously available.
- "Yes" - The open file is continuously available. For sessions, it contains one or more open files and all of them are continuously available.

"Partial" - This value is used for sessions only. It contains at least one continuously available open file but other open files that are not.

[none]

# Element definition: **cifs-cache-settings-info**

[top]

Contains CIFS name and SID cache configuration information of a SVM When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Is Cache Enabled? Attributes: optional-for-create, modifiable |
| **is-negative-cache-enabled** | | boolean optional | Is Negative Cache Enabled? Attributes: optional-for-create, modifiable |
| **is-propagation-enabled** | | boolean optional | Is Propagation Enabled? Attributes: optional-for-create, modifiable |
| **negative-ttl** | | time-interval optional | Negative Time to Live Attributes: optional-for-create, modifiable |
| **ttl** | | time-interval optional | Time to Live Attributes: optional-for-create, modifiable |
| **vserver-name** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-character-mapping**

[top]

Display a character mapping When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | string[] | The mapping for invalid characters in the format XX:XXXX. Attributes: |

| | | | |
|---|---|---|---|
| **mapping** | | optional | required-for-create, modifiable |
| **volume** | | string optional | The name of the volume for which character mapping needs to be applied. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | string optional | Vserver Name on which the volume exists. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-check-info**

[top]

Basic configuration information for the CIFS Server. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cifs-domain-ip-addr** | | string optional | The IP address of the DC, CIFS Server Belongs to. Attributes: non-creatable, non-modifiable |
| **cifs-domain-name** | | string optional | The FQDN of the DC, CIFS Server Belongs to. Attributes: non-creatable, non-modifiable |
| **cifs-netbios-name** | | string optional | The NetBIOS Name of the CIFS Server. Attributes: non-creatable, non-modifiable |
| **cifs-server-site** | | string optional | The Site CIFS Server Belongs to. Attributes: non-creatable, non-modifiable |
| **cifs-server-status** | | string optional | CIFS Server Status. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The Node on Which the Command Will Be Run. Attributes: key, non-creatable, non-modifiable |
| **status** | | service-state optional | Status of NETLOGON Connection from Node to the CIFS Server. Attributes: non-creatable, non-modifiable Possible values:<br>• "down" ,<br>• "up" |
| **status-details** | | string optional | Time for Establishing NETLOGON Connection from Node to the CIFS Server. Attributes: non-creatable, non-modifiable |
| **vserver-name** | | string optional | Vserver For Checking the CIFS Server. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-connection**

[top]

Displays established CIFS connections When returned as part of the output, all elements of this typedef

are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **connection-id** | **[0..2^32-1]** | integer optional | The unique identifier for the connection. Attributes: key, optional-for-create, non-modifiable |
| **lif-ip** | | ip-address optional | The data lif that is used to establish the connection. Attributes: non-creatable, non-modifiable |
| **network-context-id** | **[0..2^32-1]** | integer optional | The network context id associated with the connection. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | The name of the node on which the connection listing is done. Attributes: key, required-for-create, non-modifiable |
| **session-id** | **[0..2^64-1]** | integer[] optional | The sessions that are associated with this connection. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | The Vserver name on which the connection listing is done. Attributes: key, required-for-create, non-modifiable |
| **workstation-ip** | | ip-address optional | The ip address of the workstation from which the connection is established. Attributes: non-creatable, non-modifiable |
| **workstation-port** | **[0..2^32-1]** | integer optional | The TCP port of the workstation through which the connection is established. Attributes: non-creatable, non-modifiable |

# Element definition: **cifs-dialects**

[top]

The list of possible known dialects Dialects negotiated by CIFS servers. Possible values:

- "SMB1" - SMB 1.0
- "SMB2" - SMB 2.0
- "SMB2_1" - SMB 2.1
- "SMB3" - SMB 3.0

[none]

# Element definition: **cifs-domain-discovered-servers**

[top]

List of servers discovered by the cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | inet-address optional | The IP address of the server that was discovered. Attributes: key, non-creatable, non-modifiable |
| **dc-functional-level** | | cifs-domain-discovered-server-funclvl optional | DC Functional Level Attributes: non-creatable, non-modifiable Possible values:<br>• "win2000" - WIN2000,<br>• "unknown" - The DC functionality level is unknown,<br>• "win2003" - WIN2003,<br>• "win2008" - WIN2008,<br>• "win2008r2" - WIN2008R2,<br>• "win2012" - WIN2012,<br>• "win2012r2" - WIN2012R2,<br>• "win2016" - WIN2016,<br>• "winthreshold" - WINTHRESHOLD |
| **domain** | | string optional | The Active Directory domain that the discovered server is a member of. Attributes: key, non-creatable, non-modifiable |
| **is-dc-read-only** | | boolean optional | Is DC Read Only Attributes: non-creatable, non-modifiable |
| **name** | | string optional | The hostname of the server that was discovered. Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | The name of the node on which server discovery was done. Attributes: key, non-creatable, non-modifiable |
| **prefer-type** | | cifs-domain-server-prefer-type optional | The preference level of the server that was discovered. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The preference level of this server is unknown.,<br>• "preferred" - This server was administratively marked as a preferred server due to its presence in the list of preferred servers.,<br>• "favored" - This server was marked as favored by the server discovery process by virtue of site membership.,<br>• "adequate" - This server was discovered by the server discovery process and can be used, but has no preference associated with it. |
| **server-type** | | cifs-domain-discovered-server-type optional | The type of the server that was discovered. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "unknown" - The server type is not known,<br>• "kerberos" - Kerberos server,<br>• "ms_ldap" - Microsoft Lightweight Directory Access Protocol (LDAP) server,<br>• "ms_dc" - Microsoft Domain Controller,<br>• "ldap" - Lightweight Directory Access Protocol (LDAP) server |
| | | cifs-domain- | The status of the connection to the server that was discovered. Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" - The connection to this server is usable., |

| | | | |
|---|---|---|---|
| **status** | | discovered-server-status optional | • "unavailable" - This server is currently unavailable for use.,<br>• "slow" - The connection to this server is usable but slow.,<br>• "expired" - The connection to this server has expired.,<br>• "undetermined" - A connection to this server has not been attempted.,<br>• "unreachable" - This server is currently unreachable. |
| **vserver** | | vserver-name optional | The name of the Vserver which scopes the discovered servers. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-domain-name-mapping-search**

[top]

List of trusted domains, organized by Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **trusted-domains** | | realm-name[] optional | The list of trusted domains used for name-mapping. Attributes: required-for-create, modifiable |
| **vserver** | | vserver-name optional | Vserver containing the CIFS server. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-domain-password-schedule**

[top]

CIFS domain password schedule parameters When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-schedule-enabled** | | boolean optional | Value of this field indicates whether domain account password change schedule is enabled or not. Value of true indicates schedule is enabled. Attributes: non-creatable, modifiable |
| **schedule-day-of-week** | | cron-day-of-week | This field specifies the day of week when the scheduled domain account password change occurs Attributes: non-creatable, modifiable |

| | | | |
|---|---|---|---|
| | | optional | |
| **schedule-randomized-minute** | **[1..180]** | integer optional | This field specifies the minutes within which the scheduled domain account password start time can be randomized beginning schedule-time-of-day Attributes: non-creatable, modifiable |
| **schedule-time-of-day** | | time-of-day optional | This field specifies the time in HH:MM:SS at which the scheduled domain account password change starts Attributes: non-creatable, modifiable |
| **schedule-weekly-interval** | **[1..52]** | integer optional | This field specifies the number of weeks after which the scheduled domain account password change must occur Attributes: non-creatable, modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-domain-preferred-dc**

[top]

List of preferred domain controllers associated with an Active Directory domain, organized by Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **domain** | | string optional | The fully qualified domain name of the Active Directory domain to which the domain controllers in the list belong. Attributes: key, required-for-create, non-modifiable |
| **preferred-dc** | | inet-address[] optional | The list of preferred domain controller IP addresses. Attributes: required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | Vserver containing the CIFS server. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-domain-server-discovery-mode**

[top]

The mode of server discovery. Possible values:

- "all" - Discover all the servers in the domain.,
- "site" - Discover the servers local to the site.,
- "none" - Discover nothing. Expect admins to configure pref-dcs.

[none]

# Element definition: **cifs-domain-server-discovery-mode-info**

[top]

CIFS domain server discovery mode When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **mode** | | cifs-domain-server-discovery-mode optional | Server discovery mode Attributes: required-for-create, modifiable Possible values:<br>• "all" - Discover all the servers in the domain.,<br>• "site" - Discover the servers local to the site.,<br>• "none" - Discover nothing. Expect admins to configure pref-dcs. |
| **vserver** | | vserver-name optional | Vserver name Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-domain-trusts**

[top]

List of trusted domains discovered. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **home-domain** | | realm-name optional | The fully-qualified domain name of the Active Directory domain the CIFS server is joined to. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | The name of the node on which discovery was done. Attributes: key, non-creatable, non-modifiable |
| **trusted-domain** | | realm-name[] optional | A domain that has a trust relationship with the home domain. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | The name of the Vserver which scopes the discovered trusted domains. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-filesystem-sector-size**

[top]

CIFS File System Sector sizes reported to SMB Clients (in bytes). Possible values:

- "512" - Reported file system sector size to SMB clients is 512 bytes,
- "4096" - Reported file system sector size to SMB clients is 4096 bytes

[none]

# Element definition: **cifs-functional-level**

[top]

Possible values are:

- "windows_2000"
- "windows_2003_with_mixed_domain"
- "windows_2003"
- "windows_2008"
- "windows_2008R2"
- "windows_8"

[none]

# Element definition: **cifs-home-directory**

[top]

Handle cifs home directory related configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-home-dirs-access-for-admin-enabled** | | boolean optional | Is home directory access is enabled to admin. Default value is true. Attributes: optional-for-create, modifiable |
| **is-home-dirs-access-for-public-enabled** | | boolean optional | Is home directory access is enabled to public. Default value is false. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver containing the CIFS server. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-home-directory-search-path**

[top]

This is a list of CIFS Home Directory search paths. When a CIFS client connects to a home directory share, these paths are searched in the order indicated by the 'position' field to find the user's home directory. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string optional | The file system path that will be searched for finding a CIFS user's home directory. Attributes: key, required-for-create, non-modifiable |
| **position** | **[1..1024]** | integer optional | The position of this entry in the list of paths that will be searched for finding a CIFS user's home directory. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-local-group**

[top]

List of local groups, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | The description of the local group Attributes: optional-for-create, modifiable |
| **group-name** | | cifs-name optional | The name of the local group Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-local-group-members**

[top]

List of local groups, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | cifs-name optional | The name of the local group Attributes: key, non-creatable, non-modifiable |
| **member** | | cifs-name optional | The member of a local group Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-local-user**

[top]

List of local users, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | The description of the local user Attributes: optional-for-create, modifiable |
| **full-name** | | string optional | Full name of the local user Attributes: optional-for-create, modifiable |
| **is-account-disabled** | | boolean optional | The user account is disabled Attributes: optional-for-create, modifiable |
| **user-name** | | cifs-name optional | The name of the local user Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-local-user-membership**

[top]

List of local users' membership information, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **membership** | | cifs-name optional | The membership of the local user Attributes: non-creatable, non-modifiable |
| **user-name** | | cifs-name optional | The name of the local user Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-name**

[top]

[none]

# Element definition: **cifs-nbtstat**

[top]

Display NetBIOS Statistics. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **nbt-mode** | | string optional | Mode in which the NetBIOS Name Service is configured. Possible values: 'p' - Point to Point, 'h' - Hybrid, 'm' - Mixed or 'b' - Broadcast. Attributes: non-creatable, non-modifiable |
| **nbt-name-state** | | string optional | Registration State of NetBIOS Name. Possible values: 'must_register', 'must_unregister', 'wins', 'broadcast', 'name_released', 'wins_conflict', 'broadcast_conflict. Attributes: non-creatable, non-modifiable |
| **nbt-scope** | | string optional | Scope is used as a name for the set of NetBIOS nodes that participate in an NBT virtual LAN. Attributes: non-creatable, non-modifiable |
| **netbios-name** | | string optional | NetBIOS Name. Attributes: key, non-creatable, non-modifiable |
| **netbios-suffix** | | string optional | A NetBIOS suffix is the 16th character of the 16-character NetBIOS name. The NetBIOS suffix is used by Microsoft Networking software to identify functionality installed on the registered device. Attributes: key, non-creatable, non-modifiable |
| | | string | The name of the node on which nbtstat was done. Attributes: key, |

| | | | |
|---|---|---|---|
| **node** | | optional | non-creatable, non-modifiable |
| **registered-addresses** | | ip-address[] optional | List of interface IP Addresses for which the NetBIOS Name is registered. Attributes: non-creatable, non-modifiable |
| **registered-type** | | string optional | Name registration type. Possible values: 'registered', 'active', 'permanent', 'group'. Attributes: non-creatable, non-modifiable |
| **registration-time-left-minutes** | **[0..2^32-1]** | integer optional | Time left in minutes for a name registered with WINS. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | The Vserver name on which nbtstat was done. Attributes: key, non-creatable, non-modifiable |
| **wins-entries** | | wins-entry-info[] optional | Windows Internet Name Server (WINS) information |

# Element definition: **cifs-options**

[top]

The CIFS specific tunables that can be set on a Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-session-timeout** | **[0..2^32-1]** | integer optional | This optional parameter specifies the amount of idle time (in seconds) before a CIFS session is disconnected Attributes: optional-for-create, modifiable |
| **default-unix-group** | | string optional | The default UNIX group used if the identity of a CIFS group cannot be mapped using normal group mapping rules. Attributes: optional-for-create, modifiable |
| **default-unix-user** | | string optional | The default UNIX user used if the identity of a CIFS user cannot be mapped using normal user mapping rules. Attributes: optional-for-create, modifiable |
| **file-system-sector-size** | | cifs-filesystem-sector-size optional | This optional parameter specifies the size of file system sector in bytes reported to SMB Clients. Attributes: optional-for-create, modifiable Possible values:<br>• "512" - Reported file system sector size to SMB clients is 512 bytes,<br>• "4096" - Reported file system sector size to SMB clients is 4096 bytes |
| **grant-unix-group-perms-to-others** | | boolean optional | This optional parameter specifies whether UNIX group permissions should be granted to others when Windows clients access files on a UNIX security-style Volume/Qtree as well as mixed security style Volume/Qtree, as long as the effective security style on the file is UNIX. The default value for this parameter is |

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|---|---|---|---|
| | | | false. Attributes: optional-for-create, modifiable |
| **guest-unix-user** | | string optional | This optional parameter specifies that a guest user coming from any untrusted domain can be mapped to specified UNIX user. Attributes: optional-for-create, modifiable |
| **is-admin-users-mapped-to-root-enabled** | | boolean optional | This optional parameter specifies that if name-mapping is not present for members of BUILTIN\Administrators group then whether they can be mapped to Unix User 'root'. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-advanced-sparse-file-support-enabled** | | boolean optional | This optional parameter specifies whether advanced sparse file capabilities, such as Query Allocated Ranges and Set Zero Data, are enabled on the CIFS server. Attributes: optional-for-create, modifiable |
| **is-advertise-dfs-enabled** | | boolean optional | (DEPRECATED) This optional parameter specifies whether to advertise DFS referral of the CIFS protocol. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-client-dup-detection-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server should detect duplicate sessions coming from the same SMB 1.0 client with VcNumber of zero (0). The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-client-version-reporting-enabled** | | boolean optional | This optional parameter specifies whether to report the client version through ASUP. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-copy-offload-direct-copy-enabled** | | boolean optional | This optional parameter specifies whether the Direct-Copy Copy Offload mechanism is enabled or not. Default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-copy-offload-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server is capable of performing copy offload operation. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-dac-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server supports Dynamic Access Control. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **is-exportpolicy-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server uses export policies to control client access. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **is-fake-open-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server supports fake open requests. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-fsctl-file-level-trim-enabled** | | boolean optional | This optional parameter specifies whether trim requests (FSCTL_FILE_LEVEL_TRIM) are supported on the cifs server. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-hide-dotfiles-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server should hide files and directories beginning with a dot '.' during directory enumeration. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **is-inherit-** | | | |

| | | | |
|---|---|---|---|
| **modebits-with-nfsv4acl-enabled** | | boolean optional | This option Enables setting Modebits on file created by cifs user if it inherits nfs4acl. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **is-large-mtu-enabled** | | boolean optional | This optional parameter specifies that the SMB 2.1 Large MTU feature is supported. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-local-auth-enabled** | | boolean optional | This optional parameter specifies whether CIFS local users can authenticate. Attributes: optional-for-create, modifiable |
| **is-local-users-and-groups-enabled** | | boolean optional | This optional parameter specifies whether the CIFS local users and groups feature is enabled on the cluster. Attributes: optional-for-create, modifiable |
| **is-multichannel-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server supports Multichannel or not. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **is-nbns-enabled** | | boolean optional | This optional parameter specifies that NBNS (port 137) is enabled or not. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **is-netbios-over-tcp-enabled** | | boolean optional | This optional parameter specifies that the use of NetBIOS over TCP (port 139) is enabled or not. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-path-component-cache-enabled** | | boolean optional | This optional parameter specifies whether the CIFS path component cache is enabled for SMB2 or not. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-path-component-cache-symlink-enabled** | | boolean optional | This optional parameter specifies whether the CIFS symlink resolution for path component cache is enabled for SMB2 or not. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-read-only-delete-enabled** | | enable optional | This optional parameter specifies that a file can be deleted using UNIX delete semantics when the DOS read-only bit is enabled. Attributes: optional-for-create, modifiable Possible values:<br>• "enabled" ,<br>• "disabled" |
| **is-referral-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server refers clients to more optimal data access paths (LIFs). The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **is-search-short-names-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server supports searching short names. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **is-shadowcopy-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server is capable of performing shadow copy operations. Directories and files within a FlexGroup will not be shadow copied because FlexGroups do not support shadow copy. Attributes: optional-for-create, modifiable |

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|---|---|---|---|
| **is-share-enum-permission-check-enabled** | | boolean optional | This option is used to control whether the NetShareEnum call should only respond with the shares the user has access to or with all shares. The default value is false which means it will respond with all shares. Attributes: optional-for-create, modifiable |
| **is-smb1-enabled** | | boolean optional | (DEPRECATED) This optional parameter specifies whether the CIFS server negotiates the SMB1 versions of the CIFS protocol. The default value for this parameter is true for Vservers with Infinite Volume. For other data Vservers, the default value is false. Attributes: optional-for-create, modifiable |
| **is-smb2-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server negotiates the SMB2 versions of the CIFS protocol. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-smb3-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server negotiates the SMB3 version of the CIFS protocol. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-smb31-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server negotiates the SMB3.1 version of the CIFS protocol. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-trusted-domain-enum-search-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server is capable of performing enumeration of trusted domains and search to map a UNIX user to a Windows user. Attributes: optional-for-create, modifiable |
| **is-unix-extensions-enabled** | | boolean optional | This optional parameter specifies whether CIFS server is capable of supporting UNIX Extensions. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **is-unix-nt-acl-enabled** | | boolean optional | This optional parameter specifies whether NT ACLs can be set on a volume with UNIX security-style. Attributes: optional-for-create, modifiable |
| **is-use-junctions-as-reparse-points-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server exposes junction points as reparse points to Windows clients. Attributes: optional-for-create, modifiable |
| **map-sid-to-uid-on-set-owner** | | boolean optional | This option is used to control whether to map Windows SIDs to Unix UIDs when setting or restoring the owner SID. The default is true. Set this value to false to avoid performance-impacting SID lookups. It should be set true if your workflow involves converting the storage security style from 'ntfs' or 'mixed' to 'unix'. Attributes: optional-for-create, modifiable |
| **max-connections-per-session** | **[2..1024]** | integer optional | This optional parameter specifies the maximum number of connections allowed per Multichannel session. The default value for this parameter is 32. Attributes: optional-for-create, modifiable |
| **max-credits** | **[2..8192]** | integer optional | This optional parameter controls the maximum number of outstanding requests on a CIFS connection. The default value is 128. Attributes: optional-for-create, modifiable |
| **max-file-write-zero-** | **[2^12..2^25]** | integer | This optional parameter specifies the maximum length of data in bytes that the CIFS server can write zero with one CIFS request. This parameter accepts data |

| | | | |
|---|---|---|---|
| **length** | | optional | lengths between 4 KB and 32 MB. The default value for this option is 32 MB. Attributes: optional-for-create, modifiable |
| **max-lifs-per-session** | **[1..256]** | integer optional | This optional parameter specifies the maximum number of network interfaces advertised per Multichannel session. The default value for this parameter is 256. Attributes: optional-for-create, modifiable |
| **max-mpx** | **[2..65535]** | integer optional | This option controls maximum simultaneous operations the CIFS server reports it can process per TCP connection. The default value for this option is 255. Attributes: optional-for-create, modifiable |
| **max-opens-same-file-per-tree** | **[0..2^32-1]** | integer optional | This option controls maximum existing opens on the same file per CIFS Tree. The default value for this option is 1000. Attributes: optional-for-create, modifiable |
| **max-same-tree-connect-per-session** | **[0..2^32-1]** | integer optional | This option controls maximum simultaneous CIFS connections to the same share per CIFS session. The default value for this option is 5000. Attributes: optional-for-create, modifiable |
| **max-same-user-sessions-per-connection** | **[0..2^32-1]** | integer optional | This option controls maximum simultaneous sessions by the same user per TCP connection. The default value for this option is 2500. Attributes: optional-for-create, modifiable |
| **max-watches-set-per-tree** | **[0..2^32-1]** | integer optional | This option controls maximum watches that can be set per CIFS Tree. The default value for this option is 500. Attributes: optional-for-create, modifiable |
| **path-component-cache-entry-exp-time** | **[5000..3600000]** | integer optional | This optional parameter controls the time in milliseconds when the path component cache entry would be considered fresh. The default value for this parameter is 300000 milliseconds. Attributes: optional-for-create, modifiable |
| **path-component-cache-max-entries** | **[1000..1000000]** | integer optional | This optional parameter control the maximum number of cache entries in one instance of path component cache. The default value for this parameter is 100000. Attributes: optional-for-create, modifiable |
| **path-component-cache-max-session-token-size** | **[500..10000]** | integer optional | This optional parameter specifies maximum session token size for path component cache for SMB2. The default value for this parameter is 1000. Attributes: optional-for-create, modifiable |
| **path-component-cache-symlink-exp-time** | **[5000..3600000]** | integer optional | This optional parameter controls the time in milliseconds when the path component cache entry that is symlink would be considered fresh. The default value for this parameter is 300000 milliseconds. Attributes: optional-for-create, modifiable |
| **read-grants-execute** | | enable optional | On a file with UNIX Style security effective on it, if the file has read permission on it, a CIFS user would be allowed to execute permissions if this option is enabled. Attributes: optional-for-create, modifiable Possible values:<br>• "enabled" ,<br>• "disabled" |
| | | | This optional parameter specifies what level of access will a non authenticated user get Attributes: optional-for-create, modifiable Possible values: |

| | | | |
|---|---|---|---|
| **restrict-anonymous** | | anonymous-restriction-level optional | • "no_restriction" - No Access Restriction for Anonymous User.,<br>• "no_enumeration" - Only Enumeration Is Restricted.,<br>• "no_access" - Access Restricted for Anonymous User. |
| **shadowcopy-dir-depth** | **[0..2^32-1]** | integer optional | This optional parameter specifies the maximum depth of directories to shadow copy. Directories and files within a FlexGroup will not be shadow copied because FlexGroups do not support shadow copy. Attributes: optional-for-create, modifiable |
| **smb1-max-buffer-size** | **[4356..65535]** | integer optional | This optional parameter specifies the maximum buffer size used for SMB1 message that the server can receive. The default value for this parameter is 65535. Attributes: optional-for-create, modifiable |
| **vserver** | | vserver-name optional | The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable |
| **widelink-as-reparse-point-versions** | | cifs-dialects[] optional | This optional parameter specifies for which CIFS protocol versions widelink will be reported as reparse points. The default value for this parameter is SMB1. Attributes: optional-for-create, modifiable Possible values:<br>• "smb1" - SMB 1.0,<br>• "smb2" - SMB 2.0,<br>• "smb2_1" - SMB 2.1,<br>• "smb3" - SMB 3.0,<br>• "smb3_1" - SMB 3.1 |
| **win-name-for-null-user** | | string optional | This optional parameter specifies a valid Windows user or group name that will be added to the CIFS credentials for a NULL user Session. Attributes: optional-for-create, modifiable |
| **wins-servers** | | inet-address[] optional | List of Windows Internet Name Service (WINS) IP addresses. The Vserver will send NetBIOS name resolution requests to these addresses. Attributes: optional-for-create, modifiable |

# Element definition: **cifs-preferred-dc-check-info**

[top]

Basic configuration information for the Preferred DC. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | string[] | |

| | | | |
|---|---|---|---|
| **dc-ip-addr** | | optional | DC Address Attributes: key, non-creatable, non-modifiable |
| **domain-name** | | string[] optional | Domain Name Attributes: non-creatable, non-modifiable |
| **status** | | service-state[] optional | DC Status Attributes: non-creatable, non-modifiable Possible values:<br>• "down" ,<br>• "up" |
| **status-details** | | string[] optional | Status Details Attributes: non-creatable, non-modifiable |
| **vserver-name** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-privilege**

[top]

List of privileges assigned to local or Active Directory users or groups, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **privileges** | | cifs-privilege-entries[] optional | The privileges associated with a local or Active Directory user or group Attributes: non-creatable, non-modifiable Possible values:<br>• "setcbprivilege" - Act as part of the operating system,<br>• "sebackupprivilege" - Back up files and directories, overriding any ACLs,<br>• "serestoreprivilege" - Restore files and directories, overriding any ACLs,<br>• "setakeownershipprivilege" - Take ownership of files or other objects,<br>• "sesecurityprivilege" - Manage auditing and viewing/dumping/clearing the security log,<br>• "sechangenotifyprivilege" - Bypass traverse checking |
| **user-or-group-name** | | cifs-name optional | The name of the local or Active Directory user or group Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-privilege-entries**

[top]

Privilege Possible values:

- "setcbprivilege" - Act as part of the operating system,
- "sebackupprivilege" - Back up files and directories, overriding any ACLs,
- "serestoreprivilege" - Restore files and directories, overriding any ACLs,
- "setakeownershipprivilege" - Take ownership of files or other objects,
- "sesecurityprivilege" - Manage auditing and viewing/dumping/clearing the security log,
- "sechangenotifyprivilege" - Bypass traverse checking

[none]

# Element definition: **cifs-security**

[top]

CIFS security tunable parameters. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **advertised-enc-types** | | cifskrbenctypes[] optional | This parameter determines which encryption types will be advertised to Kerberos. By default RC4 and DES will be advertised. Attributes: non-creatable, modifiable Possible values:<br>• "des" ,<br>• "rc4" ,<br>• "aes_128" ,<br>• "aes_256" |
| **aes-enabled-for-netlogon-channel** | | boolean optional | This parameter determines whether to use AES session key as part of NetLogon secure channel establishment. By default this option is false. Attributes: non-creatable, modifiable |
| **encryption-required-for-dc-connections** | | boolean optional | This parameter determines if encryption is required for connections to domain controllers. Attributes: non-creatable, modifiable |
| **is-aes-encryption-enabled** | | boolean optional | This parameter determines whether AES-128 and AES-256 encryption mechanisms are enabled for Kerberos-related CIFS communication. By default this option is false. Attributes: non-creatable, modifiable |
| **is-password-complexity-required** | | boolean optional | This parameter determines whether password complexity is required for local users. By default this option is true. Attributes: non-creatable, modifiable |
| **is-signing-required** | | boolean optional | This parameter determines whether signing is required for incoming CIFS traffic. By default this option is false. Attributes: non-creatable, modifiable |
| **is-smb-** | | boolean | This parameter determines whether SMB encryption is |

| | | | |
|---|---|---|---|
| **encryption-required** | | optional | required for incoming CIFS traffic. By default this option is false. Attributes: non-creatable, modifiable |
| **kerberos-clock-skew** | **[0..2^32-1]** | integer optional | The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock. Attributes: non-creatable, modifiable |
| **kerberos-kdc-timeout** | **[1..23]** | integer optional | This parameter determines the timeout value in seconds for KDC connections. Attributes: non-creatable, modifiable |
| **kerberos-renew-age** | **[0..2^32-1]** | integer optional | This parameter determines the maximum amount of time in days for which a ticket can be renewed. Attributes: non-creatable, modifiable |
| **kerberos-ticket-age** | **[0..2^32-1]** | integer optional | This parameter determines the maximum amount of time in hours that a user's ticket may be used for the purpose of Kerberos authentication. Attributes: non-creatable, modifiable |
| **lm-compatibility-level** | | lm-compatibility-level optional | This parameter determines the LM compatibility level. By default this option is 'LM, NTLM, NTLMv2 and Kerberos'. Attributes: non-creatable, modifiable Possible values:<br>• "lm_ntlm_ntlmv2_krb" - Accepts LM, NTLM, NTLMv2 and Kerberos,<br>• "ntlm_ntlmv2_krb" - Accepts NTLM, NTLMv2 and Kerberos,<br>• "ntlmv2_krb" - Accepts NTLMv2 and Kerberos,<br>• "krb" - Accepts Kerberos only |
| **referral-enabled-for-ad-ldap** | | boolean optional | This parameter determines whether LDAP referral chasing is enabled or not for AD LDAP connections. By default this option is false. Attributes: non-creatable, modifiable |
| **session-security-for-ad-ldap** | | ldap-security optional | This parameter determines the level of security for LDAP communications. By default this option is none. Attributes: non-creatable, modifiable Possible values:<br>• "none" - No Signing or Sealing.,<br>• "sign" - Sign LDAP traffic.,<br>• "seal" - Seal and Sign LDAP traffic |
| **smb1-enabled-for-dc-connections** | | system-default-bool optional | (DEPRECATED) This parameter determines if SMB version 1 is used for connections to domain controllers. Attributes: non-creatable, modifiable Possible values:<br>• "false" ,<br>• "true" ,<br>• "system_default" |
| **smb2-enabled-for-dc-connections** | | system-default-bool optional | This parameter determines if SMB version 2 is used for connections to domain controllers. Attributes: non-creatable, modifiable Possible values:<br>• "false" ,<br>• "true" ,<br>• "system_default" |
| **try-channel-binding-for-ad-ldap** | | boolean optional | This parameter determines whether to try channel binding for AD LDAP connections. By default this option is true. Attributes: non-creatable, modifiable |
| **use-ldaps-for-ad-ldap** | | boolean optional | This parameter determines whether to use LDAPS(port 636) for Secure Active Directory LDAP connections. By default this option is false. Attributes: non-creatable, modifiable |

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| **use-start-tls-for-ad-ldap** | | boolean optional | This parameter determines whether to use start_tls for AD LDAP connections. By default this option is false. Attributes: non-creatable, modifiable |
| **vserver** | | vserver-name optional | The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-server-config**

[top]

Basic configuration information for the CIFS Server. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **administrative-status** | | service-state optional | CIFS Server Administrative Status. Attributes: optional-for-create, modifiable Possible values:<br>• "down" ,<br>• "up" |
| **auth-style** | | cifs-auth-style optional | The authentication style to be used for CIFS clients connecting to this CIFS server. Attributes: non-creatable, non-modifiable Possible values:<br>• "domain" - DOMAIN,<br>• "workgroup" - WORKGROUP,<br>• "realm" - KERBEROS REALM |
| **cifs-server** | | netbios-name optional | The NetBIOS name of the CIFS server. Attributes: required-for-create, modifiable |
| **comment** | | string optional | CIFS Server Description. Attributes: optional-for-create, modifiable |
| **default-site** | | string optional | The default site used by LIFs that do not have a site membership. Attributes: optional-for-create, modifiable |
| **domain** | | string optional | The Fully Qualified Domain Name of the Windows Active Directory this CIFS server belongs to. Attributes: optional-for-create, modifiable |
| **domain-workgroup** | | domain-name optional | The NetBIOS name of the domain or workgroup this CIFS server belongs to. Attributes: non-creatable, non-modifiable |
| **netbios-aliases** | | netbios-name[] optional | List of NetBIOS Aliases Attributes: optional-for-create, non-modifiable |
| **organizational-unit** | | string optional | The Organizational Unit (OU) within the Windows Active Directory this CIFS server belongs to. Attributes: optional-for-create, modifiable |
| **realm** | | string optional | The Kerberos realm this CIFS server belongs to. Attributes: optional-for-create, modifiable |
| **vserver** | | string | Vserver containing the CIFS server. Attributes: key, non-creatable, |

| | | | |
|---|---|---|---|
| | | optional | non-modifiable |
| **workgroup** | | netbios-name optional | The name of the workgroup this CIFS server belongs to. Attributes: optional-for-create, modifiable |

# Element definition: **cifs-session**

[top]

Displays the established CIFS sessions When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | The ip address of the workstation from which the session is opened. Attributes: non-creatable, non-modifiable |
| **auth-mechanism** | | auth-mechanism optional | The authentication mechanism used to establish the session. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" ,<br>• "ntlmv1" ,<br>• "ntlmv2" ,<br>• "kerberos" ,<br>• "anonymous" |
| **connected-time** | | elapsed-time-ext optional | The time duration since the session was established. Attributes: non-creatable, non-modifiable |
| **connection-count** | **[0..2^32-1]** | integer optional | The number of CIFS connections associated with the CIFS session. Attributes: non-creatable, non-modifiable |
| **connection-id** | **[0..2^32-1]** | integer optional | The connection that is used to establish the session. Attributes: key, optional-for-create, non-modifiable |
| **continuously-available** | | cifs-ca-protection optional | The type of continuous avalability protection provided to the session. Attributes: non-creatable, non-modifiable Possible values:<br>• "no" - The open file is not continuously available. For sessions, it contains one or more open file but none of them are continuously available.,<br>• "yes" - The open file is continuously available. For sessions, it contains one or more open files and all of them are continuously available.,<br>• "partial" - This value is used for sessions only. It contains at least one continuously available open file but other open files that are not. |
| **files** | **[0..2^64-1]** | integer optional | The number of the regular files that are opened under the session. Attributes: non-creatable, non-modifiable |
| **idle-time** | | elapsed-time-ext | The time duration since there was last activity on the session. |

| | | | |
|---|---|---|---|
| | | optional | Attributes: non-creatable, non-modifiable |
| **is-large-mtu-enabled** | | boolean optional | This optional parameter specifies the status of the Large MTU over the CIFS session. Attributes: non-creatable, non-modifiable |
| **is-session-signed** | | boolean optional | Displays if a CIFS session is SMB Signed. If true, the CIFS session is signed. If false, the CIFS session is not signed. Attributes: non-creatable, non-modifiable |
| **lif-address** | | ip-address optional | The data lif that is used to establish the session. Attributes: non-creatable, non-modifiable |
| **netbios-name** | | string optional | Displays the NetBIOS name client used for connecting to the share. Attributes: non-creatable, non-modifiable |
| **node** | | string optional | The name of the node on which the session listing is done. Attributes: key, required-for-create, non-modifiable |
| **other** | **[0..2^64-1]** | integer optional | The number of the special files that are opened under the session. Attributes: non-creatable, non-modifiable |
| **protocol-version** | | cifs-dialects optional | The CIFS protocol version that is used to establish the session. Attributes: non-creatable, non-modifiable Possible values:<br>• "smb1" - SMB 1.0,<br>• "smb2" - SMB 2.0,<br>• "smb2_1" - SMB 2.1,<br>• "smb3" - SMB 3.0,<br>• "smb3_1" - SMB 3.1 |
| **session-id** | **[0..2^64-1]** | integer optional | The unique identifier for the session. Attributes: key, optional-for-create, non-modifiable |
| **shares** | **[0..2^32-1]** | integer optional | The number of the CIFS shares that are opened under the session. Attributes: non-creatable, non-modifiable |
| **smb-encryption-status** | | smb-encryption optional | Displays the status of SMB encryption that is happening over the CIFS session. Attributes: non-creatable, non-modifiable Possible values:<br>• "unencrypted" - CIFS session is not encrypted.,<br>• "encrypted" - CIFS session is fully encrypted. Vserver level encryption is enabled and encryption happens for the entire session.,<br>• "partially_encrypted" - CIFS session is partially encrypted. Share level encryption is enabled and encryption is initiated when the tree-connect occurs. |
| **unix-user** | | string optional | The name of the UNIX user for which the session is established. Attributes: non-creatable, non-modifiable |
| **user-type** | | string optional | The Classification of the Authenticated user. Attributes: non-creatable, non-modifiable Possible values:<br>• "local_user" ,<br>• "domain_user" ,<br>• "guest_user" ,<br>• "anonymous_user" |
| **vserver** | | string optional | The Vserver name on which the session listing is done. Attributes: key, non-creatable, non-modifiable |
| **win-unix-creds** | | string optional | Display the Windows and UNIX credentials. This field is not returned by default and must be requested via desired-attributes. Attributes: non-creatable, non-modifiable |
| **windows-user** | | string optional | The name of the CIFS user for which the session is established. Attributes: non-creatable, non-modifiable |

# Element definition: **cifs-session-file**

[top]

Displays the opened CIFS files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **connection-count** | **[0..2^32-1]** | integer optional | The number of CIFS connections associated with the CIFS session. Attributes: non-creatable, non-modifiable |
| **connection-id** | **[0..2^32-1]** | integer optional | The connection that is used to open the file. Attributes: key, optional-for-create, non-modifiable |
| **continuously-available** | | cifs-ca-protection optional | The type of continuous availability protection provided to the file. Attributes: non-creatable, non-modifiable Possible values:<br>• "no" - The open file is not continuously available. For sessions, it contains one or more open file but none of them are continuously available.,<br>• "yes" - The open file is continuously available. For sessions, it contains one or more open files and all of them are continuously available.,<br>• "partial" - This value is used for sessions only. It contains at least one continuously available open file but other open files that are not. |
| **file-id** | **[0..2^64-1]** | integer optional | The unique identifier for the opened file. Attributes: key, optional-for-create, non-modifiable |
| **file-type** | | cifs-file-type optional | The type of opened file. Attributes: non-creatable, non-modifiable Possible values:<br>• "regular" ,<br>• "symlink" ,<br>• "stream" ,<br>• "directory" |
| **flexgroup-msid** | **[0..2^64-1]** | integer optional | The FlexGroup MSID of the volume on which the file resides. Attributes: non-creatable, non-modifiable |
| **hosting-aggregate** | | aggr-name optional | The name of the aggregate on which the file resides. Attributes: non-creatable, non-modifiable |
| **hosting-volume** | | volume-name optional | The name of the volume on which the file resides. Attributes: non-creatable, non-modifiable |
| **node** | | string optional | The name of the node on which the file listing is done. Attributes: key, required-for-create, non-modifiable |
| **open-mode** | | cifs-open-mode | The mode in which the file is opened. Attributes: non-creatable, non-modifiable Possible values:<br>• "r" - Read, |

| | | | |
|---|---|---|---|
| | | optional | "w" - Write,<br>• "d" - Delete |
| **path** | | string optional | The path of the file. Attributes: non-creatable, non-modifiable |
| **range-locks** | **[0..2^32-1]** | integer optional | The number of range locks granted on the file. Attributes: non-creatable, non-modifiable |
| **reconnected** | | string optional | The state that represents if the file was opened after network disconnect. Attributes: non-creatable, non-modifiable |
| **session-id** | **[0..2^64-1]** | integer optional | The session under which file is opened. Attributes: key, optional-for-create, non-modifiable |
| **share** | | cifs-share-name optional | The share name where the file resides. Attributes: non-creatable, non-modifiable |
| **share-mode** | | cifs-open-mode optional | The share mode used to open the file. Attributes: non-creatable, non-modifiable Possible values:<br>• "r" - Read,<br>• "w" - Write,<br>• "d" - Delete |
| **vserver** | | string optional | The Vserver name on which the file listing is done. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-session-info**

[top]

Information about a single cifs session.

| Name | Range | Type | Description |
|---|---|---|---|
| **change-notifies** | | integer | Number of active ChangeNotify requests. |
| **dirs** | | integer | Number of open directories. |
| **files** | | integer | Number of open files. |
| **host-ip** | | ip-address | IP address, in dotted-decimal format, of the CIFS client. |
| **host-name** | | string optional | NetBios name of the CIFS client. This may be unavailable in certain situations. In such cases, the ONTAPI element 'host-ip' alone provides identity of the host. |
| **shares** | | integer | Number of open shares. |
| **user** | | string optional | Name of the user. |
| **volumes-list** | | volumes-list-info[] | List of volumes being accessed during the session. |

# Element definition: **cifs-setup-ou**

[top]

The fully qualified name of a single joinable organizational unit.

[none]

# Element definition: **cifs-setup-site**

[top]

The fully qualified name of a single joinable organizational unit.

[none]

# Element definition: **cifs-share**

[top]

CIFS share configuration. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **acl** | | string[] optional | This string list gives the applicable Access Control list for the CIFS share. Each list entry is a '/' separated pair of the User or Group name and the effective permissions. The permission could be 'Full Control', Change', 'Read' or 'No access'. e.g.: If the group is 'Everyone' and the effective permission for this group is 'Change', the entry would be 'Everyone / Change'. Attributes: non-creatable, non-modifiable |
| **attribute-cache-ttl** | **[0..2^32-1]** | integer optional | The lifetime of an entry in the file attribute cache, in seconds. This value is used if the share has the 'attributecache' property set, which improves the performance of certain metadata operations in common workloads. The default is 10 seconds. Raising this value may improve performance, but the likelihood that stale metadata will be served increases as well. The value of this field must be in the range of 1 to 86400. Attributes: optional-for-create, modifiable |
| **cifs-server** | | string optional | The NetBIOS name of the CIFS server that owns this share. Attributes: non-creatable, non-modifiable |
| **comment** | | string optional | This string gives a description of the CIFS share. CIFS clients see this description when browsing the Vserver's CIFS shares. Attributes: optional-for-create, modifiable |
| **dir-umask** | **[0..777]** | integer optional | The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created directory. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values. Attributes: optional-for- |

| | | | |
|---|---|---|---|
| | | | create, modifiable |
| **file-umask** | **[0..777]** | integer optional | The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created file. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values. Attributes: optional-for-create, modifiable |
| **force-group-for-create** | | string optional | This option specifies a predefined UNIX group name for which all files created by CIFS users in that share will be assigned group owenership to. Attributes: optional-for-create, modifiable |
| **max-connections-per-share** | **[1..2^32-1]** | integer optional | The maximum number of simultaneous connections allowed to the share. Attributes: optional-for-create, modifiable |
| **offline-files-mode** | | string optional | Mode of the offline file for the CIFS share. The default value is manual. Possible values:<br>• "none" - Clients are not permitted to cache files for offline access.,<br>• "manual" - Clients may cache files that are explicitly selected by the user for offline use.,<br>• "documents" - Clients may automatically cache files that are used by the user for offline access.,<br>• "programs" - Clients may automatically cache files that are used by the user for offline access and may use those files in an offline mode even if the share is available. |
| **path** | | string optional | The file system path that is shared through this CIFS share. The path is the full, user visible path relative to the vserver root, and it might be crossing junction mount points. The path is in UTF8 and uses forward slash as directory separator. Attributes: required-for-create, modifiable |
| **share-name** | | string optional | The name of the CIFS share. The CIFS share name is a UTF-8 string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:\|<>+=;,?"* Attributes: key, required-for-create, non-modifiable |
| | | | The list of properties for this CIFS share. Attributes: optional-for-create, modifiable Possible values:<br>• "oplocks" - This specifies that opportunistic locks (client-side caching) are enabled on this share.,<br>• "browsable" - This specifies that the share can be browsed by Windows clients.,<br>• "showsnapshot" - This specifies that Snapshots can be viewed and traversed by clients.,<br>• "changenotify" - This specifies that CIFS clients can request for change notifications for directories on this share. If the path of the share is within a FlexGroup, change notifications are not sent because FlexGroups do not support Change Notify.,<br>• "homedirectory" - This specifies that the share is added and enabled as part of the CIFS home directory feature. The configuration of this share should be done using CIFS home directory feature interface.,<br>• "attributecache" - This specifies that connections through |

| | | | |
|---|---|---|---|
| **share-properties** | | cifs-share-properties[] optional | this share are caching attributes for a short time to improve performance.<br>• "branchcache" - This specifies that clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office.<br>• "continuously_available" - This specifies that clients connecting to this share can open files in a persistent manner. Files opened this way are protected from disruptive events, such as failover and giveback. This property is not supported for FlexGroups.<br>• "shadowcopy" - This specifies that the share is pointing to a shadow copy. This attribute cannot be added nor removed from a share.<br>• "access_based_enumeration" - This specifies that Access Based Enumeration is enabled on this share. ABE-filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access.<br>• "namespace_caching" - This specifies that the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers.<br>• "encrypt_data" - This specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption will not be able to access this share.<br>• "show_previous_versions" - This property specifies that the previous version can be viewed and restored from the client. This property is enabled by default. |
| **symlink-properties** | | cifs-share-symlink-properties[] optional | This flag controls whether the symlinks under this shared directory are hidden (option 'hide'), accessible (option 'enable') or are accessible as read-only (option 'read-only' along with option 'enable'). It controls whether only symlinks which have targets on this server can be resolved by a CIFS client (option 'symlinks') or if all symlinks can be resolved (option 'symlinks_and_widelinks'). It controls whether symlinks can have targets outside the client's share (option 'no_strict_security'). It controls whether no symlinks can be resolved (option 'disable'). Attributes: optional-for-create, modifiable Possible values:<br>• "enable" (DEPRECATED) Enable both local symlinks and wide links for read-write,<br>• "hide" (DEPRECATED) Hide both symlinks and widelinks,<br>• "read_only" (DEPRECATED) Enable symlinks for read-only,<br>• "symlinks" Enable symlinks only for read-write, DFS is not advertised,<br>• "symlinks_and_widelinks" Enable both local symlinks and wide links, DFS is advertised,<br>• "disable" Disable both local symlinks and wide links, DFS is not advertised<br>• "no_strict_security" Allow clients to follow symlinks beyond share boundaries |
| **volume** | | string optional | The name of the volume where the root of the CIFS share resides. |
| | | | Profile-set of file-ops to which Vscan On-Access scanning is applicable. The default value is standard. Possible values:<br>• "no_scan" - Virus scans are never triggered for accesses to |

| | | | |
|---|---|---|---|
| **vscan-fileop-profile** | | vscan-fileop-profile optional | this share,<br>• "standard" - Virus scans can be triggered by open, close, and rename operations,<br>• "strict" - Virus scans can be triggered by open, read, close, and rename operations,<br>• "writes_only" - Virus scans can be triggered only when a file that has been modified is closed. |
| **vserver** | | string optional | The name of the Vserver. Attributes: key, required-for-create, non-modifiable |

# Element definition: **cifs-share-access-control**

[top]

The permissions that users and groups have to a CIFS share. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **permission** | | cifs-access-perms optional | The access rights that the user or group has on the defined CIFS share. Attributes: required-for-create, modifiable Possible values:<br>• "no_access" - No access,<br>• "read" - Read,<br>• "change" - Change,<br>• "full_control" - Full Control,<br>• "custom" - Custom |
| **share** | | string optional | The CIFS share for which the permissions are defined. Attributes: key, required-for-create, non-modifiable |
| **user-group-type** | | string optional | The type of user for which ACL is configured. Default value is windows. Attributes: key, optional-for-create, non-modifiable Possible values:<br>• "windows" - Windows User or Group.,<br>• "unix_user" - Unix User.,<br>• "unix_group" - Unix Group. |
| **user-or-group** | | string optional | The user or group name for which the permissions are listed. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable |
| **winsid** | | windows-sid optional | The Windows SID for the user or group for which the permission is defined. Attributes: optional-for-create, modifiable |

[top]

# Element definition: **cifs-share-acl-info**

Information about single share.

| Name | Range | Type | Description |
|---|---|---|---|
| **share-name** | | string | Name of the share. |
| **user-acl-info** | | access-rights-info[] | List of users or Unix groups that have access to this share. |

# Element definition: **cifs-share-info**

[top]

Information about a single cifs share.

| Name | Range | Type | Description |
|---|---|---|---|
| **caching** | | string optional | String specifying the type of caching: "no_caching", "auto_document_caching", "auto_program_caching" and "manual_caching". |
| **description** | | string optional | description of the share. |
| **dir-umask** | | integer optional | File mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created directory. This mask overrides one set with "umask". |
| **file-umask** | | integer optional | File mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created file. This mask overrides one set with "umask". |
| **forcegroup** | | string optional | name of the group to which files to be created in the share belong to. |
| **is-access-based-enum** | | boolean optional | If true Access Based Enumeration (ABE) is enabled, else it is disabled. ABE filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access. Its value is returned only if it is non-default value. Its default value is false. |
| **is-browse** | | boolean optional | if true, this share can be browsed. Its values is returned only if it is non-default value. Its default value is true. |
| **is-namespace-caching-allowed** | | boolean optional | If true, namespace caching is enabled on the share. If false or not specified, namespace caching is disabled. If namespace caching is enabled on a share, clients are allowed to cache the directory enumeration results for better performance. |
| **is-symlink-strict-security** | | boolean optional | If true or not specified, strict symlink security is enabled. If false, allows clients to follow symbolic links to destinations on this filer but outside of the current share. Its value is returned only if it is non-default value. Its default value is true. |
| **is-vol-offline** | | boolean optional | If true, volume is offline and the shares are not available. Its value is returned only if it is non-default value. Its default value is false. |
| **is-vscan** | | boolean optional | If true or not specified, virus scan is done when clients open files on this share. Its value is returned only if it is non-default value. Its default value is true. |
| **is-vscanread** | | boolean optional | If true or not specified, virus scan is done when clients open files on this share for read access. Its value is returned only if it is non-default value. Its defalut value is true. |
| **is-widelink** | | boolean | If true, allows clients to follow absolute symbolic links outside of this share, subject to NT security. Its value is returned only if it is non-default |

| | | | |
|---|---|---|---|
| | | optional | value. Its default value is false. |
| **maxusers** | | integer optional | max no. of simultaneous connections to the share. |
| **mount-point** | | string | mount point of the share. |
| **share-name** | | string | name of the cifs share. |
| **umask** | | integer optional | File mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of newly created files and directories. This field is ignored when both dir-umask and file-umask are present. |

# Element definition: **cifs-share-properties**

[top]

The list of properties on a CIFS share. Possible values:

- "oplocks" - This specifies that opportunistic locks (client-side caching) are enabled on this share.,
- "browsable" - This specifies that the share can be browsed by Windows clients.,
- "showsnapshot" - This specifies that Snapshots can be viewed and traversed by clients.,
- "changenotify" - This specifies that CIFS clients can request for change notifications for directories on this share. If the path of the share is within a FlexGroup, change notifications are not sent because FlexGroups do not support Change Notify.,
- "homedirectory" - This specifies that the share is added and enabled as part of the CIFS home directory feature. The configuration of this share should be done using CIFS home directory feature interface.,
- "attributecache" - This specifies that connections through this share are caching attributes for a short time to improve performance.
- "branchcache" - This specifies that clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office.
- "continuously_available" - This specifies that clients connecting to this share can open files in a persistent manner. Files opened this way are protected from disruptive events, such as failover and giveback.
- "shadowcopy" - This specifies that the share is pointing to a shadow copy. This attribute cannot be added nor removed from a share.
- "access_based_enumeration" - This specifies that Access Based Enumeration is enabled on this share. ABE-filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access.
- "namespace_caching" - This specifies that the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers.
- "encrypt_data" - This specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption will not be able to access this share.
- "show_previous_versions" - This property specifies that the previous version can be viewed and restored from the client. This property is enabled by default.

[none]

# Element definition: **cifs-share-symlink-properties**

[top]

enable|hide|read-only|symlinks|symlinks-and-widelinks|disable|no-strict-security Possible values:

- "enable" - (DEPRECATED)-Enable both local symlinks and wide links for read-write,
- "hide" - (DEPRECATED)-Hide both symlinks and wide links,
- "read_only" - (DEPRECATED)-Enable symlinks for read-only,
- "symlinks" - Enable symlinks only for read-write, DFS is not advertised,
- "symlinks_and_widelinks" - Enable both local symlinks and wide links, DFS is advertised,
- "disable" - Disable both local symlinks and wide links, DFS is not advertised,
- "no_strict_security" - Allow clients to follow symlinks outside share boundaries

[none]

# Element definition: **cifs-symlink**

[top]

CIFS symbolic link path mapping configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cifs-path** | | string optional | This field specifies the CIFS path on the destination to which the symbolic link maps. The final path is generated by concatenating the CIFS server name, the share name, the cifs-path and the remaining path in the symbolic link left after the prefix match. This value is specified by using a UNIX-style path name. The trailing forward slash is required for the full path name to be properly interpreted. This is a UTF-8 string and supports localization. Attributes: required-for-create, modifiable |
| **cifs-server** | | string optional | This field specifies the destination CIFS server name for the mapping to which the symbolic link is mapped. The default is the local CIFS server. The field needs to be specified if the locality of the symbolic link is 'widelink'. This can be either a DNS name, NetBIOS name or an IP address. If a DNS name or a NetBIOS name are specified, the CIFS client configuration should be such that it is capable of resolving the CIFS server name to the correct IP address. Attributes: optional-for-create, modifiable |
| **home-directory** | | boolean optional | This field specifies whether the destination share is a home directory. If the value of this field is true, wildcard path elements in the destination path are replaced with specific values for the user accessing the symbolic link. Wildcard %w is replaced by the user's Windows name. Wildcard %u is replaced by the user's mapped Unix name. Wildcard %d is replaced by the domain to which the user belongs. The default value is false. Attributes: optional-for-create, modifiable |
| **locality** | | cifs-symlink-locality optional | This field specifies whether the CIFS symbolic link is a local link, free link or wide link. A local symbolic link maps to the local CIFS share. A free symlink maps to the local vserver. A wide symbolic link maps to any CIFS share on the network. If the CIFS server matches the VServer's NetBIOS name then the default value is local otherwise wide link. The symlink option 'freelink' is obsolete. Attributes: optional-for-create, modifiable Possible values:<br>• "local" - Share on This VServer,<br>• "widelink" - Share on Another CIFS Server,<br>• "freelink" - Anywhere on This VServer (OBSOLETE) |

| | | | |
|---|---|---|---|
| **share-name** | | string optional | This field specifies the CIFS share name on the destination CIFS server to which the symbolic link is mapped. This is a UTF-8 string and supports localization. Attributes: optional-for-create, modifiable |
| **unix-path** | | string optional | This field specifies the UNIX path prefix to be matched for the mapping. If the prefix of the target path in the symbolic link matches against this field, this entry of symbolic link path mapping would be used. The path is a UTF-8 string and supports localization. The path must start and end with a forward slash ('/'). For example '/usr/local/'. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-symlink-locality**

[top]

Locality of the destination where this symbolic link points. Possible values:

- "local" - Share on This VServer,
- "widelink" - Share on Another CIFS Server,
- "freelink" - Anywhere on This VServer (OBSOLETE)

[none]

# Element definition: **cifs-top-info**

[top]

Information about a single cifs top.

| Name | Range | Type | Description |
|---|---|---|---|
| **ops-per-sec** | | integer | The number of operations of any type per second. |
| **read-ops** | | integer | The number of read requests. |
| **read-size** | | integer | The size in kbytes per second of data of read requests. |
| **suspicious-per-sec** | | integer | The number of "suspicious" events per second due to the following conditions: ACCESS-DENIED returned for FindFirst ACCESS-DENIED returned for Open/CreateFile ACCESS-DENIED returned for DeleteFile SUCCESS returned for DeleteFile SUCCESS returned for TruncateFile |
| **user-info** | | string | Information on the client with its IP address and user account. |
| **write-ops** | | integer | The number of write requests. |
| **write-size** | | integer | The size in kbytes per second of data of write requests. |

# Element definition: **cifs-user-home-directory-path**

[top]

This commands finds the home directory of a user specified in the command in all the home directory search path configured. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes

specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string optional | The path of home directory for the specified user name. Attributes: non-creatable, non-modifiable |
| **share-name** | | string optional | The expanded share name for the user. Attributes: non-creatable, non-modifiable |
| **username** | | string optional | Output User Name Attributes: non-creatable, non-modifiable |
| **vserver** | | vserverid optional | The name of the Vserver in which home directory for a user has to be searched. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-users-and-group-local-group-members**

[top]

List of local groups, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | cifs-name optional | The name of the local group Attributes: key, non-creatable, non-modifiable |
| **member** | | cifs-name[] optional | The member of a local group Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-users-and-group-local-user-membership**

[top]

List of local users' membership information, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **membership** | | cifs-name[] optional | The membership of the local user Attributes: non-creatable, non-modifiable |
| **user-name** | | cifs-name optional | The name of the local user Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifskrbenctypes**

[top]

CIFS Kerberos Encryption Type Possible values:

- "des" ,
- "rc4" ,
- "aes_128" ,
- "aes_256"

[none]

# Element definition: **connection-info**

[top]

Structure containing information on the connection.

| Name | Range | Type | Description |
|---|---|---|---|
| **connected-address** | | address-info[] optional | An address list of currently connected servers. |
| **favored-address** | | address-info[] optional | An address list of favored servers. |
| **other-address** | | address-info[] optional | An address list of other servers. |
| **preferred-address** | | address-info[] optional | An address list of preferred servers. |

# Element definition: **cron-day-of-week**

[top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

## Element definition: **enable** [top]

'enabled' or 'disabled'

[none]

## Element definition: **homedir-path-info** [top]

path to user home directory paths Unix style path to user home directories, example: /vol/vol1/users1 The paths are listed in the same order that the filer will use to evaluate whether a user has a cifs home directory.

[none]

## Element definition: **inet-address** [top]

Internet Address

[none]

## Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

## Element definition: **ldap-security** [top]

The list of possible values for LDAP Security. Possible values:

- "none" - No Signing or Sealing.
- "sign" - Sign LDAP traffic.
- "seal" - Seal and Sign LDAP traffic.

[none]

## Element definition: **lm-compatibility-level** [top]

LM compatibility level. Possible values:

- "lm_ntlm_ntlmv2_krb" - Accepts LM, NTLM, NTLMv2 and Kerberos,
- "ntlm_ntlmv2_krb" - Accepts NTLM, NTLMv2 and Kerberos,
- "ntlmv2_krb" - Accepts NTLMv2 and Kerberos,
- "krb" - Accepts Kerberos only

[none]

# Element definition: **nbalias-name-info**

[top]

NetBIOS alias for the filer

[none]

# Element definition: **netbios-name**

[top]

Name of a client or a server participating in a NetBIOS Windows File sharing service network. This can be different from the host name.

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **path-error-info**

[top]

Error description

| Name | Range | Type | Description |
|---|---|---|---|
| **error-path** | | string | Homedir path, if any, which had the error. This value is set to NULL if there is no path associated with the error. |
| **error-path-desc** | | string | A description of the error. |

# Element definition: **realm-name**

[top]

[none]

## Element definition: **service-state**

[top]

down|up Possible values:

- "down" ,
- "up"

[none]

## Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **smb-encryption**

[top]

The list of possible values for SMB Encryption status. Possible values:

- "unencrypted" - CIFS session is not encrypted.
- "encrypted" - CIFS session is fully encrypted. Vserver level encryption is enabled and encryption happens for the entire session.
- "partially_encrypted" - CIFS session is partially encrypted. Share level encryption is enabled and encryption is initiated when the tree-connect occurs.

[none]

## Element definition: **system-default-bool**

[top]

false|true|system-default Possible values:

- "false" ,
- "true" ,
- "system_default"

[none]

# Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

# Element definition: **time-of-day**

[top]

Time of day in HH::MM::SS

[none]

# Element definition: **uri**

[top]

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **vscan-fileop-profile**

[top]

Profile-set of file-ops to which Vscan On-Access scanning is applicable. Possible values:

- "no_scan" - Virus scans are never triggered for accesses to this share,
- "standard" - Virus scans can be triggered by open, close, and rename operations,
- "strict" - Virus scans can be triggered by open, read, close, and rename operations,
- "writes_only" - Virus scans can be triggered only when a file that has been modified is closed.

[none]

## Element definition: **windows-sid**

[top]

Unique Windows Security Identifier that identifies a User or Group or Machine account.

[none]

## Element definition: **access-rights-info**

[top]

Access rights of single user or single Unix group.

| Name | Range | Type | Description |
|---|---|---|---|
| **access-rights** | | string | User access rights. The format of the rights can be Unix-style combinations of r w x - or NT-style "No Access", "Read", "Change", and "Full Control". |
| **unix-group-name** | | string optional | Name of the Unix group. |
| **user-name** | | string optional | Name of the user. |

## Element definition: **address-info**

[top]

Structure containing address information of servers.

| Name | Range | Type | Description |
|---|---|---|---|
| **has-nossl** | | boolean optional | If true, the protocol SSL is not supported. |
| **hostname** | | string optional | The resolved hostname of the IP address. |
| **ip-address** | | string optional | The IP address in canonical form. |
| **is-broken** | | boolean optional | If true, the address is not responding. |
| **is-multihomed** | | boolean optional | If true, the address is a multi-homed server. |
| **is-primary** | | boolean optional | If true, the address is a primary server. |

## Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

## Element definition: **anonymous-restriction-level**

[top]

Classification of the CIFS null user restriction. Possible values:

- "no_restriction" - No Access Restriction for Anonymous User.,
- "no_enumeration" - Only Enumeration Is Restricted.,
- "no_access" - Access Restricted for Anonymous User.

[none]

## Element definition: **auth-mechanism**

[top]

The list of possible known authentication mechanisms supported by the CIFS server. Possible values:

- "None" - None
- "NTLMv1" - NTLMv1
- "NTLMv2" - NTLMv2
- "Kerberos" - Kerberos
- "Anonymous" - Anonymous

[none]

## Element definition: **cifs-access-perms**

[top]

access rights Possible values:

- "no_access" - No access,
- "read" - Read,
- "change" - Change,
- "full_control" - Full Control,
- "custom" - Custom

[none]

## Element definition: **cifs-auth-style**

[top]

domain|workgroup|realm Possible values:

- "domain" - DOMAIN,
- "workgroup" - WORKGROUP,
- "realm" - KERBEROS REALM

[none]

## Element definition: **cifs-bc-version-control** [top]

Versions of CIFS BranchCache that are currently supported.

[none]

## Element definition: **cifs-ca-protection** [top]

The list of possible protection levels. Open files are "Continuously Available" if they are opened from an SMB 3 client through a share with the "continuously_available" property set. These open files are capable of non-disruptively recovering from takeover and giveback as well as general aggregate relocation between partners in a high-availability relationship. This is in addition to the traditional SMB 2 capability allowing clients to recover from LIF migration and other brief network interruptions. Note: The CA protection levels depicts the continuous availability at the connection level so it might not be accurate for a session if the connection has multiple sessions. Streams opened through a continuously available share are permitted, but are not currently made continuously available. Directories may be opened through a continuously available share, but will not appear continuously available as clients do not open them that way by design. These protection levels are applicable to the sessions/files on read/write volumes on SFO aggregates. Possible values:

- "No" - The open file is not continuously available. For sessions, it contains one or more open files but none of them are continuously available.
- "Yes" - The open file is continuously available. For sessions, it contains one or more open files and all of them are continuously available.
- "Partial" - This value is used for sessions only. It contains at least one continuously available open file but other open files that are not.

[none]

## Element definition: **cifs-dialects** [top]

The list of possible known dialects Dialects negotiated by CIFS servers. Possible values:

- "SMB1" - SMB 1.0
- "SMB2" - SMB 2.0
- "SMB2_1" - SMB 2.1
- "SMB3" - SMB 3.0

[none]

## Element definition: **cifs-domain-discovered-server-funclvl** [top]

win2000|unknown|win2003|win2008|win2008r2|win2012|win2012r2|win2016|winthreshold Possible values:

- "win2000" - WIN2000,
- "unknown" - The DC functionality level is unknown,
- "win2003" - WIN2003,
- "win2008" - WIN2008,
- "win2008r2" - WIN2008R2,
- "win2012" - WIN2012,
- "win2012r2" - WIN2012R2,
- "win2016" - WIN2016,
- "winthreshold" - WINTHRESHOLD

[none]

## Element definition: **cifs-domain-discovered-server-status**

[top]

Classification of server based on the status of the connection. Possible values:

- "ok" - The connection to this server is usable.,
- "unavailable" - This server is currently unavailable for use.,
- "slow" - The connection to this server is usable but slow.,
- "expired" - The connection to this server has expired.,
- "undetermined" - A connection to this server has not been attempted.,
- "unreachable" - This server is currently unreachable.

[none]

## Element definition: **cifs-domain-discovered-server-type**

[top]

The classification of servers based on service provided. Possible values:

- "unknown" - The server type is not known,
- "kerberos" - Kerberos server,
- "ms_ldap" - Microsoft Lightweight Directory Access Protocol (LDAP) server,
- "ms_dc" - Microsoft Domain Controller,
- "ldap" - Lightweight Directory Access Protocol (LDAP) server

[none]

## Element definition: **cifs-domain-server-discovery-mode**

[top]

The mode of server discovery. Possible values:

- "all" - Discover all the servers in the domain.,
- "site" - Discover the servers local to the site.,

"none" - Discover nothing. Expect admins to configure pref-dcs.

[none]

## Element definition: **cifs-domain-server-prefer-type**

[top]

The preference level of the server either set due to configuration or due to the site membership determined by server discovery. Possible values:

- "unknown" - The preference level of this server is unknown.,
- "preferred" - This server was administratively marked as a preferred server due to its presence in the list of preferred servers.,
- "favored" - This server was marked as favored by the server discovery process by virtue of site membership.,
- "adequate" - This server was discovered by the server discovery process and can be used, but has no preference associated with it.

[none]

## Element definition: **cifs-file-type**

[top]

The list of possible types of files opened through CIFS servers. Possible values:

- "Regular" - Regular file
- "Symlink" - Symlink file
- "Stream" - Stream file
- "Directory" - Directory

[none]

## Element definition: **cifs-filesystem-sector-size**

[top]

CIFS File System Sector sizes reported to SMB Clients (in bytes). Possible values:

- "512" - Reported file system sector size to SMB clients is 512 bytes,
- "4096" - Reported file system sector size to SMB clients is 4096 bytes

[none]

## Element definition: **cifs-name**

[top]

[none]

## Element definition: **cifs-open-mode** [top]

The list of possible modes used when opening files over CIFS servers. Possible values:

- "R" - The file opened for read operation.
- "W" - The file opened for write operation.
- "D" - The file opened for delete operation.

[none]

## Element definition: **cifs-share-name** [top]

The name of the CIFS share. The CIFS share name is a Unicode string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:|<>+=;,?

[none]

## Element definition: **domain-name** [top]

The domain name is an identification label that defines a realm based on Domain Name Service (DNS).

[none]

## Element definition: **elapsed-time-ext** [top]

The difference between the two points in time.

[none]

## Element definition: **volumes-list-info** [top]

Information about a single volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume. |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **vserverid**

[top]

Vserver Id

[none]

# Element definition: **wins-entry-info**

[top]

Windows Internet Name Server (WINS) information

| Name | Range | Type | Description |
|---|---|---|---|
| **wins-address** | | ip-address optional | Windows Internet Name Service (WINS) Server address. Attributes: non-creatable, non-modifiable |
| **wins-state** | | string optional | WINS Server State. Possible values: 'active', 'inactive'. Attributes: non-creatable, non-modifiable |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# APIs in Category: **clock**


clock-get-clock
clock-get-timezone
clock-set-clock
clock-set-timezone


These APIs allow for manipulation of timezone and date on the filer. Timezone and date can be set on the filer as well as we can get the current date, timezone and compliance clock time on the filer.

## clock-get-clock

[top]

gets current date and time from filer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-compliance-clock** | | boolean optional | If true, then local-time and utc-time are values for the compliance clock, otherwise they are values for the local clock. Default is false. Note: This field is deprecated in Data ONTAP 8.1 and later. If true, the operation will fail with error EOPNOTSUPPORTED. Clients should use the API snaplock-get-system-compliance-clock or snaplock-get-volume-compliance-clock as applicable to get the compliance clock time. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **local-time** | **[-43200..2^31-1]** | integer | Local date and time of the filer in seconds since Midnight, 1/1/1970. Depending on the time zone and clock settings, this might be negative by up to 12 hours. |
| **utc-time** | **[0..2^31-1]** | integer | Current date and time of the filer in seconds since Midnight, 1/1/1970. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |

## clock-get-timezone

[top]

Gets current timezone and timezone file version.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **timezone** | | string | Current timezone name where the storage system is operating. A timezone can have one of the two formats:<br>1. "Using a location string specified in Arthur David Olsen's public domain time zone database. For example, "Americas/New_York" represents most of the Eastern Time Zone.";<br>2. "A traditional time zone abbreviation incorporating default rules for daylight savings time. For example, "EST5EDT" for the US Eastern |

| | | | |
|---|---|---|---|
| | | | Time Zone.";<br> |
| **timezone-UTC** | | string | Current timezone of the storage system in UTC +/-hhmm format. This indicates that the local time zone is hh hours and mm minutes ahead or behind UTC. For example, Central European Time(CET) is +0100 and U.S./Canadian Eastern Standard Time(EST) is -0500. |
| **timezone-version** | | string | Version of the time zone database. "YYYY" is the year the data base was released and "v" is the version within that year. "YYYY" will be four decimal digits and "v" will be an ASCII letter starting with "a" and increasing with each version. For example, the second 2007 version is "2007b". |

| Errno | Description |
|---|---|
| **ENOTIMEZONESET** | |
| **ENOTIMEZONEVERSION** | |

# clock-set-clock

[top]

Set current date and time to the specified date and time.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-utc-clock** | | boolean | If this is true, then clock is given in UTC (universal time) instead of local time. |
| **time** | **[-43200..2^31-1]** | integer | Actual value of the date and time which has to be set as the current date and time on filer. Value will be seconds since Midnight, 1/1/1970. Depending on the time zone and clock settings, this might be negative by up to 12 hours. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **ETAKENOVER** | |
| **EDATENOTSETONPARTNER** | |

# clock-set-timezone

[top]

Set current timezone to the specified timezone.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **timezone** | | string | Name of the timezone value which has to be set as current timezone value. A timezone can have one of the two formats:<br>1. "Using a location string specified in Arthur David Olsen's public domain time zone database. For example, "Americas/New_York" represents most of the Eastern Time Zone.";<br>2. "A traditional time zone abbreviation incorporating default rules for daylight savings time. For example, "EST5EDT" for the US Eastern Time Zone."; |

| Errno | Description |
| --- | --- |
| **EINVALIDTIMEZONE** | |
| **EINTERNALERROR** | |
| **ETIMEZONEDIFFERENTINRC** | |

# APIs in Category: **clone**


clone-autodelete
clone-autodelete-status
clone-create
clone-deletion-add-extension
clone-deletion-get-iter
clone-deletion-minimum-size
clone-deletion-remove-extension
clone-split-enable
clone-split-load-get-iter
clone-split-status
clone-start
clone-token-create
clone-token-delete
clone-token-get
clone-token-get-iter
clone-token-modify-expiry-limit


The cloning feature is based on constant time sis cloning storage (SIS) implementation and is the the block sharing infrastructure provided by Data ONTAP. The feature allows for the cloning from a file, LUN or NVMe namespace. Also the user can clone the entire file, LUN, or NVMe namespace (full range) or a portion of the file, LUN, or NVMe namespace (sub range). In case of full range cloning, a new file/LUN/NVMe namespace will always be created in the same volume where the source file/LUN/NVMe namespace exists. In case of sub range cloning, the destination file can either be same as the source file/LUN/NVMe namespace or can be a different file/LUN/NVMe namespace within the same volume where the source file/LUN/NVMe namespace exists. In case of sub range cloning, the LBA block size of a LUN or NVMe namespace is derived from the LUN or NVMe namespace's block size. Sub range cloning is supported only between LUNs or NVMe namespaces with equal block sizes and is supported from source LUN to destination NVMe namespace and from source NVMe namespace to destination LUN. Constant time SIS cloning supersedes the implementation of cloning in versions older than Data ONTAP 8.1. In Data ONTAP 8.0 the cloning implementation is an asynchronous operation. The clone-start API is used to start a clone operation. It returns an clone-id which is used for polling to get the status of the clone operation using the clone-list-status API. If this API returns success, the user can consider that clone operation has completed; if it returns failure, the user should clear the status of clone operation using clone-clear API. A clone operation in progress can be aborted using the clone-stop API. In Data ONTAP 8.1 the cloning implementation is a synchronous operation. The APIs to manage ongoing synchronous operations are deprecated, but retained for backwards compatibility.

## clone-autodelete

[top]

Enable autodelete on a file, LUN, or NVMe namespace clone. This command is only supported for flexible volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **clone-path** | | string | Path of the file, LUN, or NVMe namespace inside the volume. It's relative if the volume name is specified; otherwise it's absolute. |
| **enable** | | boolean | If this field is true, autodelete will be allowed to delete the clone in try/disrupt mode. and if it is false, autodelete will not be allowed to delete the clone in try/disrupt mode. Note that this will be done only if the clone entry is already present in the clone auto delete metafile. |
| **force** | | boolean optional | If this field is true, autodelete will be enabled on specified file, LUN, or NVMe namespace by adding an entry in the clone auto delete metafile if it is not there, even if the specified file, LUN, or NVMe namespace is not a clone. By default value is false. |
| **volume** | | string optional | Name of the volume where the clone file, LUN, or NVMe namespace resides. |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |
| EVOLUMEDOESNOTEXIST | |
| EVOLUMENOTONLINE | |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |
| EFILENOTFOUND | |
| EVOLUMEBUSY | |
| EVOLUMEOFFLINE | |
| EONTAPI_EPERM | |
| EONTAPI_EVOLOPNOTSUPP | |

# clone-autodelete-status

[top]

Get the information about file or LUN clone autodeletion

| Input Name | Range | Type | Description |
|---|---|---|---|
| clone-path | | string | Path of the file or LUN clone. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| clone-autodelete-info | | clone-autodelete-info | Information about file or LUN clone autodeletion. |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |
| EVOLUMEDOESNOTEXIST | |
| EFILENOTFOUND | |
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |

# clone-create

[top]

Create a file/sub file, LUN/sub LUN, or NVMe namespace/sub NVMe namespace clone. This command is only supported for flexible volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| autodelete | | boolean optional | Mark file, LUN, or NVMe namespace clones for auto deletion. When set to true, file, LUN, or NVMe namespace clones will be autodeleted to reclaim space when the volume runs out of space. By default value is false. |
| | | | List of block ranges for sub-file/sub-LUN/sub-NVMe namespace cloning. For sub-LUN or sub-NVMe namespace cloning the block range specified will be considered as LBA range. If only one block range is supplied, the source and destination range must not overlap and both ranges must not extend past the end of the file. If multiple block ranges are specified in one operation, the user must ensure all source and destination ranges do not overlap, otherwise the result is undefined. In case of sub-LUN cloning, the API will copy data in case the LBAs are not block aligned. In |

| | | | |
|---|---|---|---|
| **block-ranges** | | block-range[] optional | case of sub-LUN/sub-NVMe namespace cloning, the LBA block size of a LUN or NVMe namespace is derived from the LUN or NVMe namespace's block size. Sub range cloning is supported only between LUNs or NVMe namespaces with equal block sizes, and the API returns an error if the block sizes do not match. Sub range cloning is supported from source LUN to destination NVMe namespace and from source NVMe namespace to destination LUN. If the user provides LBAs such that actual number of blocks to be cloned is zero, then API will return error. The API will fail if the source range overlaps with the destination range or if the source and the destination ranges overlap amongst themselves. If block range is not provided then the file/LUN/NVMe namespace is fully cloned. |
| **destination-exists** | | boolean optional | Allow clone creation if the destination exists. By default value is false. |
| **destination-path** | | string optional | Full path of the destination file, LUN, or NVMe namespace relative to the volume. The destination file must be in same volume as "source-path". If not specified, a sub-range clone of the source file, LUN, or NVMe namespace will be performed on itself. Either "destination-path" or "block-ranges" must be specified. For sub-file clone operation from snapshot copy, "destination-path" is mandatory. |
| **destination-volume** | | string optional | Name of the volume where the destination file resides. This option is supported only for Metawafl volumes, where the source and destination volumes for the clone operation can be different. |
| **ignore-locks** | | boolean optional | Clone even if (advisory/mandatory) byte_range locks or share_mode locks exist on the source or destination. By default value is false. |
| **ignore-streams** | | boolean optional | Clone only the base file and ignore streams on source or destination. By default value is false so streams are also cloned from source and existing destination streams are deleted. |
| **is-backup** | | boolean optional | This option is only to be used with full-file clone creates for backups, where source file gets periodically modified and clone file is not modified. By default, value is false. |
| **qos-adaptive-policy-group-name** | | string optional | QoS adaptive policy group defines measurable Service Level Objectives (SLOs) that adjust based on the flexclone file's allocated space or used space. This field is available in Data ONTAP 9.4 and later |
| **qos-policy-group-name** | | string optional | QoS policy group defines measurable Service Level Objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a flexclone file, the system will not monitor and control the traffic to it. This field is available in Data ONTAP 8.2 and later |
| **snapshot-name** | | string optional | Snapshot name from which to clone the source file, LUN, or NVMe namespace. If not specified, the contents of the active filesystem will be used. |
| **source-path** | | string | Relative path of the source file, LUN, or NVMe namespace inside the volume. |
| **space-reserve** | | boolean optional | Set the space reservation of the destination clone. By default space reservation is inherited from source. The API errors out if used in conjunction with block range arguments, since space reservations cannot be set for a block range. |
| **token-uuid** | | string optional | Use the split load reserved by the token to create file, LUN, or NVMe namespace clones. This will guarantee clone create requests from not getting throttled. If this option is not specified, available split load in the node will be used for clone creation. |
| **volume** | | string | Name of the volume where the source and destination files, LUNs, or NVMe namespaces reside. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **ESIS_CLONE_LICENSE_EXPIRED** | |
| **ESIS_CLONE_CLONE_INVALID_SPC_RSRV** | |
| **ESIS_CLONE_STALE_INODE** | |
| **ESIS_CLONE_DECOMP_ACTIVE** | |
| **ESIS_CLONE_SPLIT_MAP** | |
| **ESIS_CLONE_SOURCE_TOO_SMALL** | |
| **EDENSE_CLONE_NOT_LICENSED** | |
| **EONTAPI_EBUSY** | |
| **EONTAPI_ESTALE** | |
| **EONTAPI_EDQUOT** | |
| **EONTAPI_EACCES** | |
| **EONTAPI_ENOSPC** | |
| **ESIS_CLONE_DOWNGRADE** | |
| **EINTERNALERROR** | |
| **E_QOS_OBJECT_OVERLAP_ERROR** | |
| **E_QOS_NO_SUCH_PG** | |
| **E_QOS_GENERAL_OP_ERROR** | |
| **E_QOS_TOO_MANY_USER_WIDS** | |
| **E_QOS_VSERVERIZATION_VIOLATION** | |
| **E_QOS_CLONE_WITH_RANGE_PROHIBITED** | |
| **EVDISK_ERROR_7MODE_LUN** | |
| **EONTAPI_ENOMEM** | |
| **EVDISK_ERROR_TOO_MANY_LUNS** | |
| **ESIS_CLONE_BKPR_ENOSPC** | |
| **ESIS_CLONE_BKPR_TOKEN_EXPIRED** | |
| **ESIS_CLONE_CC_MISMATCH** | |
| **ESIS_CLONE_CC_SETFAIL** | |
| **EOP_DISALLOWED_FILE_FENCED** | |
| **ESIS_CLONE_SRC_VDISK_NOTSUP** | |
| **ESIS_CLONE_SRC_VDISK_INCONSISTENT** | |
| **ESIS_CLONE_MW_SUB_FILE_NOTSUP** | |
| **ESIS_CLONE_MW_X_VOL_CLONE_FAILURE** | |
| **EVDISK_INVALID_SECTOR_SIZE** | |
| **EVDISK_LUN_CROSS_NVME_NS** | |
| **EVDISK_NVME_NS_CROSS_LUN** | |

# clone-deletion-add-extension

[top]

Add new supported file extensions for file(s) and lun(s) on the specified volume to be deleted with clone-delete. This command is only supported for flexible volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **extensions** | | string | Add new supported file extensions for file(s) and lun(s) on the specified volume to be deleted with clone-delete |
| **volume** | | volume-name | Volume Name |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |

# clone-deletion-get-iter

[top]

List the clone deletion info

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | clone-deletion-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 10 |
| query | | clone-deletion-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the clone object. All clone objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | clone-deletion-info[] optional | The list of attributes of clone objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more clone objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# clone-deletion-minimum-size

[top]

Required minimum size of the file(s) and lun(s) on the specified volume to be deleted with clone-delete.

| Input Name | Range | Type | Description |
|---|---|---|---|
| minimum-size | | string | Minimum size of the file(s) to be deleted using the clone-delete. The format to use is: < number > k\|m\|g\|t. Where 'k' means kilobytes, 'm' means mega bytes, 'g' means gigabytes and 't' mean terabytes. If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes |
| | | volume- | |

| | | | |
|---|---|---|---|
| **volume** | | name | Volume Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

| License |
|---|
| **FlexClone** |

# clone-deletion-remove-extension

[top]

Remove the no longer supported file extensions for file(s) and lun(s) on the specified volume to be deleted with clone-delete. This command is only supported for flexible volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **extensions** | | string optional | Existing file extension that is no longer supported for clone-delete. If this value is not specified, then it will remove all the existing file extensions |
| **volume** | | volume-name | Volume Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# clone-split-enable

[top]

Enable clone split on split disabled entry

| Input Name | Range | Type | Description |
|---|---|---|---|
| **clone-path** | | string | Name of the clone file. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENOTONLINE** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EFILENOTFOUND** | |
| **EAPIMISSINGARGUMENT** | |

| License |
|---|
| **FlexClone** |

# clone-split-load-get-iter

[top]

Gets information about load on all nodes due to file or LUN clone split operations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | clone-split-load-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 10 |
| **query** | | clone-split-load-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the clone object. All clone objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | clone-split-load-info[] optional | The list of attributes of clone objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more clone objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **ENODENOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# clone-split-status

[top]

Get the information about unsplit file or LUN clones in a volume

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string | Name of the volume where the file or LUN clone resides. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **clone-split-info** | | clone-split-info | Information about unsplit file or LUN clones. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# clone-start

[top]

In Data ONTAP 8.0 and earlier this API starts a file/LUN/NVMe namespace or sub-file/sub-LUN/sub-NVMe namespace clone operation asynchronously. If clone operation starts successfully, a unique clone-id is returned. User is supposed to poll clone-list-status specifying clone-id to get the status of the clone operation. When clone-list-status returns status as completed, user can consider that the clone operation has been completed successfully. If user gets status as failed, user is responsible for doing clone-clear which will clean the status of the clone operation. In Data ONTAP 8.1 and later, this API performs a file/LUN/NVMe namespace or sub-file/sub-LUN/sub-NVMe namespace clone operation synchronously. When this API returns successfully, the destination file is ready for use.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **autodelete** | | boolean optional | Mark file, LUN, or NVMe namespace clones for auto deletion. When set to true, file, LUN, or NVMe namespace clones will be autodeleted to reclaim space when the volume runs out of space. By default value is false. |
| **block-ranges** | | block-range[] optional | List of block ranges for sub-file/sub-LUN/sub-NVMe namespace cloning. The number of block ranges is limited to 32. For sub-LUN/sub-NVMe namespace cloning the block range specified will be considered as LBA range. If only one block range is supplied, the source and destination range must not overlap and both ranges must not extend past the end of the file If multiple block ranges are specified in one operation, the user must ensure all source and destination ranges do not overlap, otherwise the result is undefined. In case of sub-LUN/sub-NVMe namespace cloning, the API will copy data in case the LBAs are not block aligned. If the user provides LBAs such that actual number of blocks to be cloned is zero, then API will return error. If the source and destination block sizes do not match for sub-LUN/sub-NVMe namespace cloning, then API will return error. The API will fail if the source range overlaps with the destination range or if the source and the destination ranges overlap amongst themselves. If block range is not provided then the file/LUN/NVMe namespace is fully cloned. |
| **change-log** | | boolean optional | If this option is "true", fingerprints of data blocks of the destination file/block ranges created will be change logged to the change log file if A-SIS is enabled on the volume. With change logging clone operation will be slow, as to get fingerprints all the data blocks will be read. Without change logging clone operation deals with only indirect blocks without reading data blocks. Without change logging, fingerprints of the clone blocks are not recorded. The clone blocks are shared with the source blocks, but as later the source blocks are modified, corresponding clone blocks will no longer be shared. If change logging option is not used, clone blocks, which could be involved in sharing with rest of the file system, can not be shared in next sis operation. The only option, in case user had not used change logging while creating clone, will be to start sis from beginning using "sis start -s" to gather fingerprints of clone blocks. In Data ONTAP 8.1 and later, this field is accepted for backwards compatibility and is ignored. |
| **destination-** | | boolean | Allow clone creation if the destination exists. By default value is false. |

| | | | |
|---|---|---|---|
| **exists** | | optional | |
| **destination-path** | | string optional | Full path of the Destination file, LUN, or NVMe namespace in //file-path format. Destination path should be in same flexible volume as "source-path". If not specified, a sub-range clone of the source file, LUN, or NVMe namespace will be performed on itself. Either "destination-path" or "block-ranges" must be specified. For sub-file/sub-LUN/sub-NVMe namespace clone operation from snapshot copy, "destination-path" is mandatory. |
| **destination-volume** | | string optional | Name of the volume where the destination files resides. This option is supported only for Metawafl volumes, where the source and destination volumes for the clone operation can be different. |
| **ignore-locks** | | boolean optional | Clone even if (advisory/mandatory) byte_range locks or share_mode locks exist on the source or destination. By default value is false. |
| **ignore-streams** | | boolean optional | Clone only the base file and ignore streams on source or destination. By default value is false so streams are also cloned from source and existing destination streams are deleted. |
| **is-backup** | | boolean optional | This option is only to be used with full-file clone creates for backups, where source file gets periodically modified, and clone file is not modified. By default, value is false. |
| **no-snap** | | boolean optional | If no-snap is FALSE or unspecified, then a temporary snapshot will be taken and source file locked in snapshot will be considered for cloning. So that the clone operation does not get affected by writes to the source file in parallel to the clone operation. User will get atomic point in time copy of the source. Irrespective of clone operation completes successfully or unsuccessfully, any temporary snapshot taken for cloning will be deleted automatically. If no-snap is "true", then the source file in AFS will be used for cloning. In this case user may get random data in clone if source file is modified while clone operation is in progress. This option should only be used when user is assured that the source file will remain consistent during the clone operation. Destination file is not protected against any modification while clone operation is in progress. User should use the destination file or destination block ranges after clone operation is finished. In Data ONTAP 8.1 and later, this field is accepted for backwards compatibility and is ignored. |
| **snapshot-name** | | string optional | Snapshot name from which to clone the source file, LUN, or NVMe namespace. If not specified, the contents of in the active filesystem will be used. This field is available in Data ONTAP 8.1 or later |
| **source-path** | | string | Full path of the source file, LUN, or NVMe namespace in //file-path format. |
| **space-reserve** | | boolean optional | Set the space reservation of the destination clone. By default space reservation is inherited from source. The API errors out if used in conjunction with block range arguments, since space reservations cannot be set for a block range. |
| **token-uuid** | | string optional | Use the split load reserved by the token to create file, LUN, or NVMe namespace clones. This will guarantee clone create requests from not getting throttled. If this option is not specified, available split load in the node will be used for clone creation. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **clone-id** | | clone-id-info | Unique ID information for the clone operation returned if clone operation starts successfully. This field is deprecated in Data ONTAP 8.1 and later, the returned value is guaranteed to be a completed clone operation if supplied to clone-list-info. |

| Errno | Description |
|---|---|
| **ESIS_CLONE_CLONE_INVALID_SPC_RSRV** | |
| | |

| | |
|---|---|
| **ESIS_CLONE_NLCSR_INPROG** | |
| **ESIS_CLONE_VOL_NONEXIST** | |
| **ESIS_CLONE_VOL_OFFLINE** | |
| **ESIS_CLONE_VOL_NOTSUP** | |
| **ESIS_CLONE_VOL_RDONLY** | |
| **ESIS_CLONE_VOL_TRANSITING** | |
| **ESIS_CLONE_STALE_INODE** | |
| **ESIS_CLONE_STALE_DINODE** | |
| **ESIS_CLONE_STALE_RINODE** | |
| **ESIS_CLONE_SHUTDOWN** | |
| **ESIS_CLONE_FAILOVER** | |
| **ESIS_CLONE_CLONE_EXIST** | |
| **ESIS_CLONE_CLONE_SFILE_NONEXIST** | |
| **ESIS_CLONE_CLONE_CFILE_NONEXIST** | |
| **ESIS_CLONE_CLONE_DIFF_VOLUME** | |
| **ESIS_CLONE_CLONE_SFILE_ATTR** | |
| **ESIS_CLONE_CLONE_CFILE_ATTR** | |
| **ESIS_CLONE_CLONE_FH** | |
| **ESIS_CLONE_CLONE_SOURCE_FH** | |
| **ESIS_CLONE_CLONE_TYPE_SUPP** | |
| **ESIS_CLONE_CLONE_OVERLAP_RANGE** | |
| **ESIS_CLONE_CLONE_INVALID_RANGE** | |
| **ESIS_CLONE_CLONE_INVALID_SOURCE** | |
| **ESIS_CLONE_CLONE_INVALID_CLONE** | |
| **ESIS_CLONE_CLONE_INVALID_DIR** | |
| **ESIS_CLONE_CLONE_WORM_VOL** | |
| **ESIS_CLONE_VDISK_INVALID_NAME** | |
| **ESIS_CLONE_LICENSE_EXPIRED** | |
| **ESIS_CLONE_NOT_LICENSED** | |
| **ESIS_CLONE_LICENSE_EXPIRED** | |
| **ESIS_CLONE_NOT_LICENSED** | |
| **ESIS_CLONE_DECOMP_ACTIVE** | |
| **ESIS_CLONE_SPLIT_MAP** | |
| **ESIS_CLONE_SOURCE_TOO_SMALL** | |
| **EONTAPI_EBUSY** | |
| **EONTAPI_ESTALE** | |
| **EONTAPI_EDQUOT** | |
| **EONTAPI_EACCES** | |
| **EONTAPI_ENOSPC** | |
| **ESIS_CLONE_DOWNGRADE** | |
| **ESIS_CLONE_VFILER_ACCESS** | |
| **ESIS_CLONE_MAX_RANGES** | |
| **ESIS_CLONE_MAX_BLKS** | |
| **ESIS_CLONE_MAX_BLKS_EXT** | |
| **ESIS_CLONE_SRC_DST_CIFS_MISMATCH** | |
| **EINTERNALERROR** | |
| **ESIS_CLONE_MAX_DENSE_LIMIT_REACHED** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |
| | |

| | |
|---|---|
| **EOP_DISALLOWED_FILE_FENCED** | |
| **EONTAPI_ENAMETOOLONG** | |
| **ESIS_CLONE_NOSPLIT_NOT_ALLOWED** | |
| **ESIS_CLONE_MW_SUB_FILE_NOTSUP** | |
| **ESIS_CLONE_MW_X_VOL_CLONE_FAILURE** | |
| **EVDISK_INVALID_SECTOR_SIZE** | |
| **EVDISK_LUN_CROSS_NVME_NS** | |
| **EVDISK_NVME_NS_CROSS_LUN** | |

# clone-token-create

[top]

Create a token to reserve available split load on a node. This token can be used with clone-create api to use up the reserved split load. This will to allow clone creates from getting throttled.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **expiry-limit** | | integer optional | The duration (in seconds) for which the reserved token is valid. |
| **node** | | node-name | Node name on which split load is reserved. |
| **reserve-size** | | size | Available reserve in split load reserved by token where split load is the number of bytes reserved for creation of clones. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **token-uuid** | | string | Token UUID for which the split load is reserved. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# clone-token-delete

[top]

Delete token(s) to increase the allowed split load by a node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node name on which split load is reserved. |
| **token-uuid** | | string optional | Token UUID for which the split load is reserved. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# clone-token-get

[top]

Get the information about a specified token.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node name on which split load is reserved. |
| **token-uuid** | | string | Token UUID for which the split load is reserved. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **clone-token-info** | | clone-token-info | Information about token reserved for file or LUN clone creates. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# clone-token-get-iter

[top]

Get the information about all reserved tokens.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | clone-token-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **node** | | node-name | Node name on which split load is reserved. |
| **query** | | clone-token-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the clone object. All clone objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | clone-token-info[] optional | The list of attributes of clone objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more clone objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

## clone-token-modify-expiry-limit

[top]

Modify the allowed expiry limit for token(s).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node name on which split load is reserved. |
| **reservation-duration-limit** | **[0..2^64-1]** | integer | The duration (in seconds) for which the reserved token is valid. |
| **token-uuid** | | string optional | Token UUID for which the split load is reserved. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

## Element definition: **block-range**

[top]

Structure containing source and destination block range for sub-file/sub-LUN/sub-NVMe namespace cloning.

| Name | Range | Type | Description |
|---|---|---|---|
| **block-count** | **[1..2^27]** | integer | Number of blocks to be cloned. |
| **destination-block-number** | **[0..2^63-1]** | integer | Starting file block number of destination block range. |
| **source-block-number** | **[0..2^63-1]** | integer | Starting file block number of source block range. Block size is 4096 bytes. |

## Element definition: **clone-autodelete-info**

[top]

Information about file or LUN clone autodeletion. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-autodelete-enabled** | | boolean optional | If this field is true, autodelete will delete the clone in try/disrupt mode. If it is false, autodelete will delete the clone only in destroy mode. Attributes: non-creatable, non-modifiable |

# Element definition: **clone-deletion-info**

[top]

Structure containing the clone deletion information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **extension-info-list** | | extension-info[] optional | List of file extensions that needs to be added/removed for clone-delete |
| **minimum-size** | | string optional | Minimum size of the file(s) to be deleted using the clone-delete. The format to use is: < number > k\|m\|g\|t. Where 'k' means kilobytes, 'm' means mega bytes, 'g' means gigabytes and 't' mean terabytes. If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes Attributes: non-creatable, modifiable |
| **volume** | | volume-name optional | Volume Name Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **clone-id-info**

[top]

Structure containing clone ID information.

| Name | Range | Type | Description |
|---|---|---|---|
| **clone-op-id** | **[0..2^63-1]** | integer | ID of the clone operation. |
| **volume-uuid** | | string | uuid of the volume. |

# Element definition: **clone-split-info**

[top]

Information about unsplit file or LUN clones. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of

desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **unsplit-clone-count** | **[0..2^32-1]** | integer optional | Number of file clones or LUN clones present in the the volume that are not split. Attributes: non-creatable, non-modifiable |
| **unsplit-size** | | size optional | Total size (in bytes) of file or LUN clones in the volume that are not split. Attributes: non-creatable, non-modifiable |

# Element definition: **clone-split-load-info**

[top]

Information about load on the node due to file or LUN clone split operations. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **available-split-load** | | size optional | Remaining allowable load on the node. Load is specified in number of bytes. Attributes: non-creatable, non-modifiable |
| **current-split-load** | | size optional | Current clone split load on the node. Load is specified in number of bytes. Attributes: non-creatable, non-modifiable |
| **max-split-load** | | size optional | Maximum clone split load allowed on the node. Load is specified in number of bytes. Attributes: non-creatable, modifiable |
| **node** | | node-name optional | Node name for which the clone split load is required. Attributes: key, non-creatable, non-modifiable |
| **token-reserved-load** | | size optional | Load reserved by tokens on the node for clone creation. Load is specified in number of bytes. Attributes: non-creatable, non-modifiable |

# Element definition: **clone-token-info**

[top]

Information about token reserved for file or LUN clone creates. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **expiry-limit** | **[0..2^64-1]** | integer optional | The duration (in seconds) for which the reserved token is valid. Attributes: optional-for-create, modifiable |
| **node** | | node-name optional | Node name on which split load is reserved. Attributes: key, required-for-create, non-modifiable |
| **reserve-size** | | size optional | Available reserve in split load reserved by token where split load is the number of bytes reserved for creation of clones. Attributes: required-for-create, non-modifiable |
| **time-left** | **[0..2^64-1]** | integer optional | The remaining duration (in seconds) for which the reserved token is valid. Attributes: non-creatable, non-modifiable |
| **token-uuid** | | string optional | Token UUID for which the split load is reserved. Attributes: key, required-for-create, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **extension-info**

[top]

File extensions for clone-delete

| Name | Range | Type | Description |
|---|---|---|---|
| **extensions** | | string optional | Supported file extensions for clone-delete Attributes: non-creatable, non-modifiable |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **cluster**


cluster-add-node
cluster-add-node-status-get-iter
cluster-contact-get
cluster-contact-modify
cluster-create
cluster-create-join-progress-get
cluster-identity-get
cluster-identity-modify
cluster-join
cluster-log-forward-create
cluster-log-forward-destroy
cluster-log-forward-get
cluster-log-forward-get-iter
cluster-log-forward-modify
cluster-log-forward-statistics-get
cluster-log-forward-statistics-get-iter
cluster-node-get
cluster-node-get-iter
cluster-node-modify
cluster-remove-node
cluster-zoneinfo-get
cluster-zoneinfo-load-from-uri


This set of APIs allows managing the cluster and its attributes.

## cluster-add-node

[top]

Use this API to add new nodes to cluster. Provide only one of node-count, node-ip, or cluster-ips. To watch the progress use cluster-add-node-status-get-iter API. A job will be spawned to operate on the cluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-ips** | | ip-address[] optional | Use this option to add a set of nodes based on their cluster IP addresses. |
| **discovery-timeout** | | integer optional | Max Time to Discover Nodes to Be Added (in Secs) |
| **node-count** | | integer optional | Use this option to discover and add new nodes. It is only supported on non-shared architecture platforms. This parameter has been deprecated in Data ONTAP 9.4. |

| | | | |
|---|---|---|---|
| **node-ip** | | ip-address optional | Use this option to add a specific node based on its cluster IP address. This parameter has been deprecated in Data ONTAP 9.4. |
| **node-names** | | string[] optional | Use this option to specify the names to use for the nodes added using the cluster-ips argument. |
| **node-uuids** | | uuid[] optional | List of Node UUIDs |
| **retry** | | boolean optional | Retry a failed cluster add-node operation |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | | integer optional | Job ID of Node Add |
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **E_UNSUPPORTED_PLATFORM** | |

# cluster-add-node-status-get-iter

[top]

Get Progress of Cluster Create or Node Add Operation

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-create-add-node-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-create-add-node-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster object. All cluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-** | | cluster-create-add-node- | |

| | | | |
|---|---|---|---|
| **list** | | status-info[] optional | The list of attributes of cluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cluster objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cluster-contact-get

[top]

Returns the contact information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-contact optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-contact | The attributes of the cluster-contact. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-contact-modify

[top]

Modifies the contact information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | string optional | Business Address |
| **business-name** | | string optional | Business Name |
| **city** | | string optional | City Where Business Resides |
| | | | 2-Character Country Code Possible values:<br>• "99" - Unknown,<br>• "ad" - Andorra,<br>• "ae" - United Arab Emirates,<br>• "af" - Afghanistan,<br>• "ag" - Antigua and Barbuda,<br>• "ai" - Anguilla, |

| | | | |
|---|---|---|---|
| | | | • "al" - Albania,<br>• "am" - Armenia,<br>• "an" - Netherlands Antilles,<br>• "ao" - Angola,<br>• "aq" - Antarctia,<br>• "ar" - Argentina,<br>• "as" - American Samoa,<br>• "at" - Austria,<br>• "au" - Australia,<br>• "aw" - Aruba,<br>• "az" - Azerbaijan,<br>• "ba" - Bosnia and Herzegovina,<br>• "bb" - Barbados,<br>• "bd" - Bangladesh,<br>• "be" - Belgium,<br>• "bf" - Burkina Faso,<br>• "bg" - Bulgaria,<br>• "bh" - Bahrain,<br>• "bi" - Burundi,<br>• "bj" - Benin,<br>• "bm" - Bermuda,<br>• "bn" - Brunei Darussalem,<br>• "bo" - Bolivia,<br>• "br" - Brazil,<br>• "bs" - Bahamas,<br>• "bt" - Bhutan,<br>• "bv" - Bouvet Island,<br>• "bw" - Botswana,<br>• "by" - Belarus,<br>• "bz" - Belize,<br>• "ca" - Canada,<br>• "cc" - Cocos (Keeling) Islands,<br>• "cd" - Congo, The Democratic Republic of the,<br>• "cf" - Central African Republic,<br>• "cg" - Congo,<br>• "ch" - Switzerland,<br>• "ci" - Cote d'Ivoire,<br>• "ck" - Cook Islands,<br>• "cl" - Chile,<br>• "cm" - Cameroon,<br>• "cn" - China,<br>• "co" - Colombia,<br>• "cr" - Costa Rica,<br>• "cu" - Cuba,<br>• "cv" - Cape Verde,<br>• "cx" - Christmas Island,<br>• "cy" - Cyprus,<br>• "cz" - Czech Republic,<br>• "de" - Germany,<br>• "dj" - Djibouti,<br>• "dk" - Denmark,<br>• "dm" - Dominica,<br>• "do" - Dominican Republic,<br>• "dz" - Algeria,<br>• "ec" - Ecuador,<br>• "ee" - Estonia,<br>• "eg" - Egypt,<br>• "eh" - Western Sahara,<br>• "er" - Eritrea,<br>• "es" - Spain, |

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|---|---|---|---|
| **country** | | country-code optional | "et" - Ethiopia,<br>• "fi" - Finland,<br>• "fj" - Fiji,<br>• "fk" - Falkland Islands (Malvinas),<br>• "fm" - Micronesia, Federated States of,<br>• "fo" - Faroe Islands,<br>• "fr" - France,<br>• "fx" - France Metropolitan,<br>• "ga" - Gabon,<br>• "gb" - United Kingdom,<br>• "gd" - Grenada,<br>• "ge" - Georgia,<br>• "gf" - French Guiana,<br>• "gh" - Ghana,<br>• "gi" - Gibraltar,<br>• "gl" - Greenland,<br>• "gm" - Gambia,<br>• "gn" - Guinea,<br>• "gp" - Guadaloupe,<br>• "gq" - Equatorial Guinea,<br>• "gr" - Greece,<br>• "gs" - South Georgia and the South Sandwich Islands,<br>• "gt" - Guatemla,<br>• "gu" - Guam,<br>• "gw" - Guinea-Bissau,<br>• "gy" - Guyana,<br>• "hk" - China (Hong Kong S.A.R.),<br>• "hm" - Heard and McDonald Islands,<br>• "hn" - Honduras,<br>• "hr" - Croatia,<br>• "ht" - Haiti,<br>• "hu" - Hungary,<br>• "id" - Indonesia,<br>• "ie" - Ireland,<br>• "il" - Israel,<br>• "in" - India,<br>• "io" - British Indian Ocean Territory,<br>• "iq" - Iraq,<br>• "ir" - Iran,<br>• "is" - Iceland,<br>• "it" - Italy,<br>• "jm" - Jamaica,<br>• "jo" - Jordan,<br>• "jp" - Japan,<br>• "ke" - Kenya,<br>• "kg" - Kyrgyzstan,<br>• "kh" - Khmer Rep Cambodia,<br>• "ki" - Kiribati,<br>• "km" - Comoros,<br>• "kn" - Saint Kitts and Nevis,<br>• "kp" - Korea, Democratic People's Republic of (North Korea),<br>• "kr" - Korea, Republic of (South Korea),<br>• "kw" - Kuwait,<br>• "ky" - Cayman Islands,<br>• "kz" - Kazakhstan,<br>• "la" - Lao People's Democratic Republic (Laos),<br>• "lb" - Lebanon,<br>• "lc" - Saint Lucia,<br>• "li" - Liechtenstein, |

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|---|---|---|---|
| | | | "lk" - Sri Lanka,<br>• "lr" - Liberia,<br>• "ls" - Lesotho,<br>• "lt" - Lithuania,<br>• "lu" - Luxembourg,<br>• "lv" - Latvia,<br>• "ly" - Libyan Arab Jamahiriya (Lybia),<br>• "ma" - Morocco,<br>• "mc" - Monaco,<br>• "md" - Moldavia,<br>• "mg" - Madagascar,<br>• "mh" - Marshall Islands,<br>• "mk" - Macedonia,<br>• "ml" - Mali,<br>• "mm" - Myanmar,<br>• "mn" - Mongolia,<br>• "mo" - China (Macau S.A.R.),<br>• "mp" - Northern Mariana Islands,<br>• "mq" - Martinique,<br>• "mr" - Mauritania,<br>• "ms" - Montserrat,<br>• "mt" - Malta,<br>• "mu" - Mauritius,<br>• "mv" - Maldives,<br>• "mw" - Malawi,<br>• "mx" - Mexico,<br>• "my" - Malaysia,<br>• "mz" - Mozambique,<br>• "na" - Namibia,<br>• "nc" - New Caledonia,<br>• "ne" - Niger,<br>• "nf" - Norfolk Island,<br>• "ng" - Nigeria,<br>• "ni" - Nicaragua,<br>• "nl" - Netherlands,<br>• "no" - Norway,<br>• "np" - Nepal,<br>• "nr" - Nauru,<br>• "nu" - Niue,<br>• "nz" - New Zealand,<br>• "om" - Oman,<br>• "pa" - Panama,<br>• "pe" - Peru,<br>• "pf" - French Polynesia,<br>• "pg" - Papua New Guinea,<br>• "ph" - Philippines,<br>• "pk" - Pakistan,<br>• "pl" - Poland,<br>• "pm" - St. Pierre and Miquelon,<br>• "pn" - Pitcairn,<br>• "pr" - Puerto Rico,<br>• "pt" - Portugal,<br>• "pw" - Palau,<br>• "py" - Paraguay,<br>• "qa" - Qatar,<br>• "re" - Reunion,<br>• "ro" - Romania,<br>• "ru" - Russia,<br>• "rw" - Rwanda,<br>• "sa" - Saudi Arabia, |

| | | | |
|---|---|---|---|
| | | | "sb" - Solomon Islands,<br>• "sc" - Seychelles,<br>• "sd" - Sudan,<br>• "se" - Sweden,<br>• "sg" - Singapore,<br>• "sh" - St. Helena,<br>• "si" - Slovenia,<br>• "sj" - Svalbard and Jan Mayen Islands,<br>• "sk" - Slovakia,<br>• "sl" - Sierra Leone,<br>• "sm" - San Marino,<br>• "sn" - Senegal,<br>• "so" - Somalia,<br>• "sr" - Suriname,<br>• "st" - Sao Tome and Principe,<br>• "sv" - El Salvador,<br>• "sy" - Syrian Arab Republic (Syria),<br>• "sz" - Swaziland,<br>• "t9" - Service Agent Test Systems T9 XX,<br>• "tc" - Turks and Caicos Islands,<br>• "td" - Chad,<br>• "tf" - French Southern Territories,<br>• "tg" - Togo,<br>• "th" - Thailand,<br>• "tj" - Tajikistan,<br>• "tk" - Tokelau,<br>• "tl" - East Timor,<br>• "tm" - Turkmenistan,<br>• "tn" - Tunisia,<br>• "to" - Tonga,<br>• "tr" - Turkey,<br>• "tt" - Trinidad And Tobago,<br>• "tv" - Tuvalu,<br>• "tw" - Taiwan,<br>• "tz" - Tanzania,<br>• "ua" - Ukraine,<br>• "ug" - Uganda,<br>• "um" - United States Minor Outlying Islands,<br>• "us" - United States,<br>• "uy" - Uruguay,<br>• "uz" - Uzbekistan,<br>• "va" - Vatican City State (Holy See),<br>• "vc" - Saint Vincent and the Grenadines,<br>• "ve" - Venezuela,<br>• "vg" - British Virgin Islands,<br>• "vi" - Virgin Islands (U.S.),<br>• "vn" - Vietnam,<br>• "vu" - Vanuatu,<br>• "wf" - Wallis and Futuna Islands,<br>• "ws" - Samoa (Western),<br>• "ye" - Yemen,<br>• "yt" - Mayotte,<br>• "yu" - Serbia,<br>• "za" - South Africa,<br>• "zm" - Zambia,<br>• "zw" - Zimbabwe |
| **primary-alt-phone** | | string<br>optional | Alternate Phone Number of Primary Contact |
| **primary-email** | | string | Email Address or User ID of Primary Contact |

| | | | |
|---|---|---|---|
| | | optional | |
| **primary-name** | | string optional | Name of Primary Contact |
| **primary-phone** | | string optional | Phone Number of Primary Contact |
| **secondary-alt-phone** | | string optional | Alternate Phone Number of Secondary Contact |
| **secondary-email** | | string optional | Email Address or User ID of Secondary Contact |
| **secondary-name** | | string optional | Name of Secondary Contact |
| **secondary-phone** | | string optional | Phone Number of Secondary Contact |
| **state** | | string optional | State Where Business Resides |
| **zip-code** | | string optional | Postal Code Where Business Resides |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-create

[top]

Start the process to create a cluster using this node. Use cluster-add-node-status-get-iter to track the status of the operation. A job will be spawned to operate on the cluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-ips** | | ip-address[] optional | Use this option to specify the nodes in the cluster based on their cluster IP addresses. |
| **cluster-name** | | string | Use this parameter to specify the name of the cluster you are creating. The cluster name must begin with a letter and cannot be more than 44 characters in length. |
| **discovery-timeout** | | integer optional | Max Time to Discover Nodes to Be Added (in Secs) |
| **keep-precluster-cert** | | boolean optional | Keep Precluster Certificate |
| **license** | | license-code-v2 optional | The base cluster license obtain with the hardware or from NetApp professional services. This parameter has been deprecated in Data ONTAP 9.2. |
| **node-count** | | integer optional | Use this parameter to specify the number of nodes in the cluster you are creating. It is only supported on non-shared architecture platforms. This parameter has been deprecated in Data ONTAP 9.4. |
| **node-names** | | string[] optional | Use this option to specify the names to use for the nodes specified using the cluster-ips argument. |
| **node-uuids** | | uuid[] optional | List of Node UUIDs |

| | | | |
|---|---|---|---|
| **retry** | | boolean optional | Retry a failed cluster create operation |
| **single-node-cluster** | | boolean optional | The Cluster Is a Single Node Cluster |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINVALIDACCESS** | |
| **E_NODE_ALREADY_IN_CLUSTER** | |
| **E_CLUSTER_CREATE_JOIN_FAILED** | |

# cluster-create-join-progress-get

[top]

Once the cluster create or cluster join operation has been started on this node, use this ZAPI to get the current status of the operation. During cluster join, there is a 1 to 5 second window where the network connection will be unavailable while web services restart. The caller will have to periodically retry until this ZAPI becomes available.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-create-join-progress-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-create-join-progress-info | The attributes of the cluster. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-identity-get

[top]

Returns the cluster identity information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-identity-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-identity-info | The attributes of the cluster. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-identity-modify

[top]

Modifies the cluster identity information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-contact** | | string optional | The contact information for the cluster |
| **cluster-location** | | string optional | The location of the cluster |
| **cluster-name** | | cluster-name-simple optional | The textual name of the cluster |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-join

[top]

Start the process of joining this node to a cluster. Join can be done by Cluster IP Address. Only one join operation is supported at a time. Use cluster-create-join-progress-get to track the status of the operation. This API is deprecated as of Data ONTAP 9.2, and the cluster-add-node API should be used instead.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-ip-address** | | ip-address optional | IP Address of a Cluster Interface from a Node in the Cluster |
| **cluster-name** | | string optional | (DEPRECATED)-Cluster Name of the Cluster to Join |

| Errno | Description |
|---|---|

| | |
|---|---|
| **E_INVALID_OPERATION** | |
| **E_NODE_ALREADY_IN_CLUSTER** | |
| **E_CLUSTER_INTERFACE_REQUIRED** | |
| **EAPIMISSINGARGUMENT** | |
| **E_MULTIPLE_CLUSTERS_OF_SAME_NAME_EXIST** | |
| **E_CLUSTER_CREATE_JOIN_FAILED** | |

# cluster-log-forward-create

[top]

Create a log forwarding configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination** | | remote-inet-address | Destination address that the log messages will be forwarded to. Can be a hostname or IP address. |
| **facility** | | syslog-facility optional | Facility code used to indicate the type of software that generated the message. Possible values:<br>• "kern" - kernel messages,<br>• "user" - user-level messages,<br>• "local0" - local use 0,<br>• "local1" - local use 1,<br>• "local2" - local use 2,<br>• "local3" - local use 3,<br>• "local4" - local use 4,<br>• "local5" - local use 5,<br>• "local6" - local use 6,<br>• "local7" - local use 7 |
| **force** | | boolean optional | Skip the Connectivity Test |
| **ipspace** | | string optional | The IP space of the destination to forward the message. |
| **port** | **[1..65535]** | integer optional | The destination port used to forward the message. |
| **protocol** | | log-fwd-proto optional | Log Forwarding Protocol Possible values:<br>• "udp_unencrypted" - UDP unencrypted,<br>• "tcp_unencrypted" - TCP unencrypted,<br>• "tcp_encrypted" - TCP encrypted |
| **return-record** | | boolean optional | If set to true, returns the log forwarding info on successful creation. Default: false |
| **verify-server** | | boolean optional | Verify Destination Server Identity |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | cluster-log-forward-info optional | The log forwarding info created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

| | |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-log-forward-destroy

[top]

Delete a log forwarding configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination** | | remote-inet-address | Destination address that the log messages will be forwarded to. Can be a hostname or IP address. |
| **port** | **[1..65535]** | integer | The destination port used to forward the message. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-log-forward-get

[top]

Get information about log forwarding

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-log-forward-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination** | | remote-inet-address | Destination address that the log messages will be forwarded to. Can be a hostname or IP address. |
| **port** | **[1..65535]** | integer | The destination port used to forward the message. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-log-forward-info | The attributes of the log forwarding info. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-log-forward-get-iter

[top]

Get information about log forwarding

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-log-forward-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-log-forward-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the log forwarding info object. All log forwarding info objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-log-forward-info[] optional | The list of attributes of log forwarding info objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more log forwarding info objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-log-forward-modify

[top]

Modify the log forwarding configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination** | | remote-inet-address | Destination address that the log messages will be forwarded to. Can be a hostname or IP address. |
| **facility** | | syslog-facility optional | Facility code used to indicate the type of software that generated the message. Possible values:<br>• "kern" - kernel messages,<br>• "user" - user-level messages,<br>• "local0" - local use 0,<br>• "local1" - local use 1,<br>• "local2" - local use 2,<br>• "local3" - local use 3, |

| | | | |
|---|---|---|---|
| | | | "local4" - local use 4,<br>• "local5" - local use 5,<br>• "local6" - local use 6,<br>• "local7" - local use 7 |
| **ipspace** | | string<br>optional | The IP space of the destination to forward the message. |
| **port** | **[1..65535]** | integer | The destination port used to forward the message. |
| **verify-server** | | boolean<br>optional | Verify Destination Server Identity |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-log-forward-statistics-get

[top]

Get information about log forwarding statistics

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-log-forward-statistics<br>optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination** | | remote-inet-address | Destination Host |
| **index** | **[0..2^32-1]** | integer | Destination Index |
| **log** | | string | Log Name |
| **node** | | node-name | Node |
| **port** | **[1..65535]** | integer | Destination Port |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-log-forward-statistics | The attributes of the log forwarding statistics. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-log-forward-statistics-get-iter

[top]

Get information about log forwarding statistics

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-log-forward-statistics optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-log-forward-statistics optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the log forwarding statistics object. All log forwarding statistics objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-log-forward-statistics[] optional | The list of attributes of log forwarding statistics objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more log forwarding statistics objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-node-get

[top]

Returns information about a node in a cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-node-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The textual name of a node. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-node- | The attributes of the cluster. |

| | | | |
|---|---|---|---|
| | | info | |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# cluster-node-get-iter

[top]

Returns information about nodes in a cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | cluster-node-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | cluster-node-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster object. All cluster objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | cluster-node-info[] optional | The list of attributes of cluster objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more cluster objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# cluster-node-modify

[top]

Modifies state of a node in a cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| is-node-eligible | | boolean optional | This parameter states nodes that are eligible to participate in the cluster. A boolean value of true means the node is eligible. |
| is-node-epsilon | | boolean optional | You can designate a node as epsilon to add weight to its voting in a cluster with an even number of nodes. In a cluster, only one node can be designated as epsilon at any given time. A boolean value of true means |

| | | | |
|---|---|---|---|
| | | | the node is epsilon. |
| **node-name** | | node-name | The textual name of a node. |
| **skip-quorum-check-before-eligible** | | boolean optional | Skip quorum checks when setting a node eligible. When setting a node to eligible, the operation will continue even if there is a possible data outage due to a quorum issue. |
| **skip-quorum-check-before-ineligible** | | boolean optional | Skip quorum checks when setting a node ineligible. When setting a node to ineligible, the operation will continue even if there is a possible data outage due to a quorum issue. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-remove-node

[top]

Removes a node from the cluster. A job will be spawned to operate on the cluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-ip** | | ip-address optional | IP Address of a Cluster Interface of Node to Unjoin |
| **force** | | boolean optional | Force Node to Unjoin |
| **node** | | filer-id optional | Node to Unjoin |
| **node-uuid** | | uuid optional | Node UUID to Unjoin |
| **skip-epsilon-transition-before-unjoin** | | boolean optional | Skip Epsilon Transition Prior to Unjoin |
| **skip-last-low-version-node-check** | | boolean optional | Skip the Check That Prevents Unjoining the Last Low Versioned Node |
| **skip-quorum-check-before-unjoin** | | boolean optional | Skip quorum checks when removing a node. The operation will continue even if there is a possible data outage due to a quorum issue. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", |

| | | | |
|---|---|---|---|
| | | | "in_progress", "failed". |

| Errno | Description |
|---|---|
| **E_CLUSTER_CREATE_JOIN_UNJOIN_NODE_NOT_IN_CLUSTER** | |
| **E_CLUSTER_CREATE_JOIN_UNJOIN_SINGLE_NODE_CLUSTER** | |
| **E_CLUSTER_CREATE_JOIN_UNJOIN_ON_SAME_NODE** | |
| **E_UNJOIN_JOB_UPGRADE_PREVENT_UNJOIN** | |
| **E_CLUSTER_CREATE_JOIN_NODE_OFFLINE** | |
| **E_JOB_UNJOIN_JOB_ERROR** | |
| **E_CLUSTER_WARNING_FOR_GOING_TO_NO_QUORUM** | |

# cluster-zoneinfo-get

[top]

Get zoneinfo information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | zoneinfo-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | zoneinfo-info | The attributes of the Zoneinfo info. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-zoneinfo-load-from-uri

[top]

This commands loads a new set of timezone zoneinfo data to replace the version installed in the cluster.

Releases of Data ONTAP software contain the timezone data that is current at the time of release. If a change is made to the timezone between Data ONTAP releases, then an update can be made to the installed data.

For instance, if a change is made to when daylight saving time is observed for a country then an update to cluster zoneinfo data may be required.

Only zoneinfo files provided for use in Data ONTAP should be used with this command.

To update the zoneinfo database do the following:

- Download the required zoneinfo file from the support website.
- Place the file on a local web server accessible without password from the cluster.
- Execute this command, passing the Universal Resource Identifier (URI) of the file as parameter.

The command need only be executed once for the cluster. The data will be distributed to each node of

the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **uri** | | uri | Universal Resource Identifier (URI) of the zoneinfo data to load. HTTP and FTP schemes are supported. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **E_ZONEINFO_DOWNLOAD_FAILED** | |
| **E_ZONEINFO_UNSUPPORTED_FILE_TYPE** | |
| **E_ZONEINFO_UNZIP_FAILED** | |
| **E_ZONEINFO_UNTAR_FAILED** | |
| **E_ZONEINFO_INVALID_FILE** | |
| **E_ZONEINFO_FILESYSTEM_ERROR** | |

# Element definition: **cluster-contact**

[top]

Administrator contact information for the cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | string optional | Business Address Attributes: non-creatable, modifiable |
| **business-name** | | string optional | Business Name Attributes: non-creatable, modifiable |
| **city** | | string optional | City Where Business Resides Attributes: non-creatable, modifiable |
| | | | 2-Character Country Code Attributes: non-creatable, modifiable<br>Possible values:<br>• "99" - Unknown,<br>• "ad" - Andorra,<br>• "ae" - United Arab Emirates,<br>• "af" - Afghanistan,<br>• "ag" - Antigua and Barbuda,<br>• "ai" - Anguilla,<br>• "al" - Albania,<br>• "am" - Armenia,<br>• "an" - Netherlands Antilles,<br>• "ao" - Angola,<br>• "aq" - Antarctia,<br>• "ar" - Argentina,<br>• "as" - American Samoa,<br>• "at" - Austria,<br>• "au" - Australia, |

| | | | |
|---|---|---|---|
| | | | • "aw" - Aruba,<br>• "az" - Azerbaijan,<br>• "ba" - Bosnia and Herzegovina,<br>• "bb" - Barbados,<br>• "bd" - Bangladesh,<br>• "be" - Belgium,<br>• "bf" - Burkina Faso,<br>• "bg" - Bulgaria,<br>• "bh" - Bahrain,<br>• "bi" - Burundi,<br>• "bj" - Benin,<br>• "bm" - Bermuda,<br>• "bn" - Brunei Darussalem,<br>• "bo" - Bolivia,<br>• "br" - Brazil,<br>• "bs" - Bahamas,<br>• "bt" - Bhutan,<br>• "bv" - Bouvet Island,<br>• "bw" - Botswana,<br>• "by" - Belarus,<br>• "bz" - Belize,<br>• "ca" - Canada,<br>• "cc" - Cocos (Keeling) Islands,<br>• "cd" - Congo, The Democratic Republic of the,<br>• "cf" - Central African Republic,<br>• "cg" - Congo,<br>• "ch" - Switzerland,<br>• "ci" - Cote d'Ivoire,<br>• "ck" - Cook Islands,<br>• "cl" - Chile,<br>• "cm" - Cameroon,<br>• "cn" - China,<br>• "co" - Colombia,<br>• "cr" - Costa Rica,<br>• "cu" - Cuba,<br>• "cv" - Cape Verde,<br>• "cx" - Christmas Island,<br>• "cy" - Cyprus,<br>• "cz" - Czech Republic,<br>• "de" - Germany,<br>• "dj" - Djibouti,<br>• "dk" - Denmark,<br>• "dm" - Dominica,<br>• "do" - Dominican Republic,<br>• "dz" - Algeria,<br>• "ec" - Ecuador,<br>• "ee" - Estonia,<br>• "eg" - Egypt,<br>• "eh" - Western Sahara,<br>• "er" - Eritrea,<br>• "es" - Spain,<br>• "et" - Ethiopia,<br>• "fi" - Finland,<br>• "fj" - Fiji,<br>• "fk" - Falkland Islands (Malvinas),<br>• "fm" - Micronesia, Federated States of,<br>• "fo" - Faroe Islands,<br>• "fr" - France,<br>• "fx" - France Metropolitan,<br>• "ga" - Gabon, |

| | | | |
|---|---|---|---|
| **country** | | country-code optional | "gb" - United Kingdom,<br>• "gd" - Grenada,<br>• "ge" - Georgia,<br>• "gf" - French Guiana,<br>• "gh" - Ghana,<br>• "gi" - Gibraltar,<br>• "gl" - Greenland,<br>• "gm" - Gambia,<br>• "gn" - Guinea,<br>• "gp" - Guadaloupe,<br>• "gq" - Equatorial Guinea,<br>• "gr" - Greece,<br>• "gs" - South Georgia and the South Sandwich Islands,<br>• "gt" - Guatemla,<br>• "gu" - Guam,<br>• "gw" - Guinea-Bissau,<br>• "gy" - Guyana,<br>• "hk" - China (Hong Kong S.A.R.),<br>• "hm" - Heard and McDonald Islands,<br>• "hn" - Honduras,<br>• "hr" - Croatia,<br>• "ht" - Haiti,<br>• "hu" - Hungary,<br>• "id" - Indonesia,<br>• "ie" - Ireland,<br>• "il" - Israel,<br>• "in" - India,<br>• "io" - British Indian Ocean Territory,<br>• "iq" - Iraq,<br>• "ir" - Iran,<br>• "is" - Iceland,<br>• "it" - Italy,<br>• "jm" - Jamaica,<br>• "jo" - Jordan,<br>• "jp" - Japan,<br>• "ke" - Kenya,<br>• "kg" - Kyrgyzstan,<br>• "kh" - Khmer Rep Cambodia,<br>• "ki" - Kiribati,<br>• "km" - Comoros,<br>• "kn" - Saint Kitts and Nevis,<br>• "kp" - Korea, Democratic People's Republic of (North Korea),<br>• "kr" - Korea, Republic of (South Korea),<br>• "kw" - Kuwait,<br>• "ky" - Cayman Islands,<br>• "kz" - Kazakhstan,<br>• "la" - Lao People's Democratic Republic (Laos),<br>• "lb" - Lebanon,<br>• "lc" - Saint Lucia,<br>• "li" - Liechtenstein,<br>• "lk" - Sri Lanka,<br>• "lr" - Liberia,<br>• "ls" - Lesotho,<br>• "lt" - Lithuania,<br>• "lu" - Luxembourg,<br>• "lv" - Latvia,<br>• "ly" - Libyan Arab Jamahiriya (Lybia),<br>• "ma" - Morocco,<br>• "mc" - Monaco, |

"md" - Moldavia,
- "mg" - Madagascar,
- "mh" - Marshall Islands,
- "mk" - Macedonia,
- "ml" - Mali,
- "mm" - Myanmar,
- "mn" - Mongolia,
- "mo" - China (Macau S.A.R.),
- "mp" - Northern Mariana Islands,
- "mq" - Martinique,
- "mr" - Mauritania,
- "ms" - Montserrat,
- "mt" - Malta,
- "mu" - Mauritius,
- "mv" - Maldives,
- "mw" - Malawi,
- "mx" - Mexico,
- "my" - Malaysia,
- "mz" - Mozambique,
- "na" - Namibia,
- "nc" - New Caledonia,
- "ne" - Niger,
- "nf" - Norfolk Island,
- "ng" - Nigeria,
- "ni" - Nicaragua,
- "nl" - Netherlands,
- "no" - Norway,
- "np" - Nepal,
- "nr" - Nauru,
- "nu" - Niue,
- "nz" - New Zealand,
- "om" - Oman,
- "pa" - Panama,
- "pe" - Peru,
- "pf" - French Polynesia,
- "pg" - Papua New Guinea,
- "ph" - Philippines,
- "pk" - Pakistan,
- "pl" - Poland,
- "pm" - St. Pierre and Miquelon,
- "pn" - Pitcairn,
- "pr" - Puerto Rico,
- "pt" - Portugal,
- "pw" - Palau,
- "py" - Paraguay,
- "qa" - Qatar,
- "re" - Reunion,
- "ro" - Romania,
- "ru" - Russia,
- "rw" - Rwanda,
- "sa" - Saudi Arabia,
- "sb" - Solomon Islands,
- "sc" - Seychelles,
- "sd" - Sudan,
- "se" - Sweden,
- "sg" - Singapore,
- "sh" - St. Helena,
- "si" - Slovenia,
- "sj" - Svalbard and Jan Mayen Islands,
- "sk" - Slovakia,

| | | | |
|---|---|---|---|
| | | | "sl" - Sierra Leone,<br>• "sm" - San Marino,<br>• "sn" - Senegal,<br>• "so" - Somalia,<br>• "sr" - Suriname,<br>• "st" - Sao Tome and Principe,<br>• "sv" - El Salvador,<br>• "sy" - Syrian Arab Republic (Syria),<br>• "sz" - Swaziland,<br>• "t9" - Service Agent Test Systems T9 XX,<br>• "tc" - Turks and Caicos Islands,<br>• "td" - Chad,<br>• "tf" - French Southern Territories,<br>• "tg" - Togo,<br>• "th" - Thailand,<br>• "tj" - Tajikistan,<br>• "tk" - Tokelau,<br>• "tl" - East Timor,<br>• "tm" - Turkmenistan,<br>• "tn" - Tunisia,<br>• "to" - Tonga,<br>• "tr" - Turkey,<br>• "tt" - Trinidad And Tobago,<br>• "tv" - Tuvalu,<br>• "tw" - Taiwan,<br>• "tz" - Tanzania,<br>• "ua" - Ukraine,<br>• "ug" - Uganda,<br>• "um" - United States Minor Outlying Islands,<br>• "us" - United States,<br>• "uy" - Uruguay,<br>• "uz" - Uzbekistan,<br>• "va" - Vatican City State (Holy See),<br>• "vc" - Saint Vincent and the Grenadines,<br>• "ve" - Venezuela,<br>• "vg" - British Virgin Islands,<br>• "vi" - Virgin Islands (U.S.),<br>• "vn" - Vietnam,<br>• "vu" - Vanuatu,<br>• "wf" - Wallis and Futuna Islands,<br>• "ws" - Samoa (Western),<br>• "ye" - Yemen,<br>• "yt" - Mayotte,<br>• "yu" - Serbia,<br>• "za" - South Africa,<br>• "zm" - Zambia,<br>• "zw" - Zimbabwe |
| **primary-alt-phone** | | string optional | Alternate Phone Number of Primary Contact Attributes: non-creatable, modifiable |
| **primary-email** | | string optional | Email Address or User ID of Primary Contact Attributes: non-creatable, modifiable |
| **primary-name** | | string optional | Name of Primary Contact Attributes: non-creatable, modifiable |
| **primary-phone** | | string optional | Phone Number of Primary Contact Attributes: non-creatable, modifiable |
| **secondary-alt-phone** | | string optional | Alternate Phone Number of Secondary Contact Attributes: non-creatable, modifiable |
| **secondary-** | | string | Email Address or User ID of Secondary Contact Attributes: non- |

| | | | |
|---|---|---|---|
| **email** | | optional | creatable, modifiable |
| **secondary-name** | | string optional | Name of Secondary Contact Attributes: non-creatable, modifiable |
| **secondary-phone** | | string optional | Phone Number of Secondary Contact Attributes: non-creatable, modifiable |
| **state** | | string optional | State Where Business Resides Attributes: non-creatable, modifiable |
| **zip-code** | | string optional | Postal Code Where Business Resides Attributes: non-creatable, modifiable |

# Element definition: **cluster-create-add-node-status-info**

[top]

Information that identifies the state of a cluster create or node add operation When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster-ip** | | ip-address optional | IP Address of a Cluster Interface of Node Attributes: non-creatable, non-modifiable |
| **failure-msg** | | string optional | Error Reason Attributes: non-creatable, non-modifiable |
| **job-id** | **[0..2^64-1]** | integer optional | Job ID of Join Job Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Node Name Attributes: key, non-creatable, non-modifiable |
| **node-uuid** | | uuid optional | Node UUID Attributes: key, non-creatable, non-modifiable |
| **status** | | cluster-op-status optional | The Status of Current Task Being Performed Attributes: non-creatable, non-modifiable Possible values:<br>• "none" - None,<br>• "starting_job" - Starting Add-Node Job,<br>• "node_discovery" - Node Discovery,<br>• "remote_join_started" - Job Started Remote Join Op,<br>• "node_initialization" - Node Initialization,<br>• "joining_cluster" - Joining Cluster,<br>• "service_startup" - Service Startup,<br>• "post_cluster_setup" - Post Cluster Setup,<br>• "success" - Task Completed,<br>• "failure" - Task Failed |

# Element definition: **cluster-create-join-progress-info**

[top]

Information that identifies the state or a create or join operation When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **current-status-message** | | string optional | The current status of the create or join operation being performed. Attributes: non-creatable, non-modifiable |
| **is-complete** | | boolean optional | If this is true, it means that the operation has been successfully completed. If it is false, the state of the operation is determined by the status field Attributes: non-creatable, non-modifiable |
| **status** | | cluster-op-enum-result optional | This field helps to determine the state of the operation when 'complete' is false. When complete is false and the status is success it indicates the operation hasn't started yet. Attributes: non-creatable, non-modifiable Possible values:<br>• "failed" - Operation failed,<br>• "success" - Operation was successful,<br>• "ongoing" - Operation is active |

# Element definition: **cluster-identity-info**

[top]

Information that identifies a given cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster-contact** | | string optional | The contact information for the cluster Attributes: non-creatable, modifiable |
| **cluster-location** | | string optional | The location of the cluster Attributes: non-creatable, modifiable |
| **cluster-name** | | cluster-name-simple optional | The textual name of the cluster Attributes: non-creatable, modifiable |
| **cluster-serial-number** | | cluster-serial-number optional | Serial number of the cluster in the form x-xx-xxxxxx Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **cluster-uuid** | | uuid optional | The 128-bit universally-unique identifier, that designates the cluster forever, assigned during cluster creation Attributes: non-creatable, non-modifiable |
| **rdb-uuid** | | uuid optional | The 128-bit universally-unique identifier for the RDB Attributes: non-creatable, non-modifiable |

# Element definition: **cluster-log-forward-info**

[top]

Log file forwarding configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **destination** | | remote-inet-address optional | Destination address that the log messages will be forwarded to. Can be a hostname or IP address. Attributes: key, required-for-create, non-modifiable |
| **facility** | | syslog-facility optional | Facility code used to indicate the type of software that generated the message. Attributes: optional-for-create, modifiable Possible values:<br>• "kern" - kernel messages,<br>• "user" - user-level messages,<br>• "local0" - local use 0,<br>• "local1" - local use 1,<br>• "local2" - local use 2,<br>• "local3" - local use 3,<br>• "local4" - local use 4,<br>• "local5" - local use 5,<br>• "local6" - local use 6,<br>• "local7" - local use 7 |
| **force** | | boolean optional | Skip the Connectivity Test Attributes: optional-for-create, non-modifiable |
| **ipspace** | | string optional | The IP space of the destination to forward the message. Attributes: optional-for-create, modifiable |
| **port** | **[1..65535]** | integer optional | The destination port used to forward the message. Attributes: key, optional-for-create, non-modifiable |
| **protocol** | | log-fwd-proto optional | Log Forwarding Protocol Attributes: optional-for-create, non-modifiable Possible values:<br>• "udp_unencrypted" - UDP unencrypted,<br>• "tcp_unencrypted" - TCP unencrypted,<br>• "tcp_encrypted" - TCP encrypted |
| **verify-server** | | boolean optional | Verify Destination Server Identity Attributes: optional-for-create, modifiable |

# Element definition: **cluster-log-forward-statistics**

[top]

Log file forwarding statistics When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **destination** | | remote-inet-address optional | Destination Host Attributes: key, non-creatable, non-modifiable |
| **dropped-count** | **[0..2^64-1]** | integer optional | Count of Dropped Messages Attributes: non-creatable, non-modifiable |
| **facility** | | syslog-facility optional | Syslog Facility Attributes: non-creatable, non-modifiable Possible values:<br>• "kern" - kernel messages,<br>• "user" - user-level messages,<br>• "local0" - local use 0,<br>• "local1" - local use 1,<br>• "local2" - local use 2,<br>• "local3" - local use 3,<br>• "local4" - local use 4,<br>• "local5" - local use 5,<br>• "local6" - local use 6,<br>• "local7" - local use 7 |
| **failure-count** | **[0..2^64-1]** | integer optional | Count of Forwarding Failures Attributes: non-creatable, non-modifiable |
| **index** | **[0..2^32-1]** | integer optional | Destination Index Attributes: key, non-creatable, non-modifiable |
| **last-error** | | string optional | Last Failure Reason Attributes: non-creatable, non-modifiable |
| **last-success-time** | | datetimewithtz optional | Time of Last Message Forwarded Attributes: non-creatable, non-modifiable |
| **log** | | string optional | Log Name Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **port** | **[1..65535]** | integer optional | Destination Port Attributes: key, non-creatable, non-modifiable |
| **queue-size** | **[0..2^64-1]** | integer optional | Number of Messages in the Queue Attributes: non-creatable, non-modifiable |
| **success-count** | **[0..2^64-1]** | integer optional | Count of Forwarding Successes Attributes: non-creatable, non-modifiable |
| **total-tx-failures** | **[0..2^64-1]** | integer optional | Total Transmission Failures Attributes: non-creatable, non-modifiable |

# Element definition: **cluster-name-simple**

[top]

Name of the Cluster

[none]

# Element definition: **cluster-node-info**

[top]

Information that identifies state of nodes in a cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-node-eligible** | | boolean optional | This parameter states nodes that are eligible to participate in the cluster. A boolean value of true means the node is eligible. Attributes: non-creatable, modifiable |
| **is-node-epsilon** | | boolean optional | You can designate a node as epsilon to add weight to its voting in a cluster with an even number of nodes. In a cluster, only one node can be designated as epsilon at any given time. A boolean value of true means the node is epsilon. Attributes: non-creatable, modifiable |
| **is-node-healthy** | | boolean optional | This parameter is used to determine health of a node in a cluster. A boolean value of true means the node is healthy. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The textual name of a node. Attributes: key, non-creatable, non-modifiable |
| **node-uuid** | | node-uuid optional | The 128-bit universally-unique identifier, that designates a node forever, assigned during node creation. Attributes: non-creatable, non-modifiable |

# Element definition: **country-code**

[top]

Country Code Possible values:

- "99" - Unknown,
- "ad" - Andorra,
- "ae" - United Arab Emirates,
- "af" - Afghanistan,
- "ag" - Antigua and Barbuda,
- "ai" - Anguilla,
- "al" - Albania,

- "am" - Armenia,
- "an" - Netherlands Antilles,
- "ao" - Angola,
- "aq" - Antarctia,
- "ar" - Argentina,
- "as" - American Samoa,
- "at" - Austria,
- "au" - Australia,
- "aw" - Aruba,
- "az" - Azerbaijan,
- "ba" - Bosnia and Herzegovina,
- "bb" - Barbados,
- "bd" - Bangladesh,
- "be" - Belgium,
- "bf" - Burkina Faso,
- "bg" - Bulgaria,
- "bh" - Bahrain,
- "bi" - Burundi,
- "bj" - Benin,
- "bm" - Bermuda,
- "bn" - Brunei Darussalem,
- "bo" - Bolivia,
- "br" - Brazil,
- "bs" - Bahamas,
- "bt" - Bhutan,
- "bv" - Bouvet Island,
- "bw" - Botswana,
- "by" - Belarus,
- "bz" - Belize,
- "ca" - Canada,
- "cc" - Cocos (Keeling) Islands,
- "cd" - Congo, The Democratic Republic of the,
- "cf" - Central African Republic,
- "cg" - Congo,
- "ch" - Switzerland,
- "ci" - Cote d'Ivoire,
- "ck" - Cook Islands,
- "cl" - Chile,
- "cm" - Cameroon,
- "cn" - China,
- "co" - Colombia,
- "cr" - Costa Rica,
- "cu" - Cuba,
- "cv" - Cape Verde,
- "cx" - Christmas Island,
- "cy" - Cyprus,
- "cz" - Czech Republic,
- "de" - Germany,
- "dj" - Djibouti,
- "dk" - Denmark,
- "dm" - Dominica,
- "do" - Dominican Republic,
- "dz" - Algeria,
- "ec" - Ecuador,
- "ee" - Estonia,
- "eg" - Egypt,
- "eh" - Western Sahara,
- "er" - Eritrea,
- "es" - Spain,
- "et" - Ethiopia,

"fi" - Finland,
- "fj" - Fiji,
- "fk" - Falkland Islands (Malvinas),
- "fm" - Micronesia, Federated States of,
- "fo" - Faroe Islands,
- "fr" - France,
- "fx" - France Metropolitan,
- "ga" - Gabon,
- "gb" - United Kingdom,
- "gd" - Grenada,
- "ge" - Georgia,
- "gf" - French Guiana,
- "gh" - Ghana,
- "gi" - Gibraltar,
- "gl" - Greenland,
- "gm" - Gambia,
- "gn" - Guinea,
- "gp" - Guadaloupe,
- "gq" - Equatorial Guinea,
- "gr" - Greece,
- "gs" - South Georgia and the South Sandwich Islands,
- "gt" - Guatemla,
- "gu" - Guam,
- "gw" - Guinea-Bissau,
- "gy" - Guyana,
- "hk" - China (Hong Kong S.A.R.),
- "hm" - Heard and McDonald Islands,
- "hn" - Honduras,
- "hr" - Croatia,
- "ht" - Haiti,
- "hu" - Hungary,
- "id" - Indonesia,
- "ie" - Ireland,
- "il" - Israel,
- "in" - India,
- "io" - British Indian Ocean Territory,
- "iq" - Iraq,
- "ir" - Iran,
- "is" - Iceland,
- "it" - Italy,
- "jm" - Jamaica,
- "jo" - Jordan,
- "jp" - Japan,
- "ke" - Kenya,
- "kg" - Kyrgyzstan,
- "kh" - Khmer Rep Cambodia,
- "ki" - Kiribati,
- "km" - Comoros,
- "kn" - Saint Kitts and Nevis,
- "kp" - Korea, Democratic People's Republic of (North Korea),
- "kr" - Korea, Republic of (South Korea),
- "kw" - Kuwait,
- "ky" - Cayman Islands,
- "kz" - Kazakhstan,
- "la" - Lao People's Democratic Republic (Laos),
- "lb" - Lebanon,
- "lc" - Saint Lucia,
- "li" - Liechtenstein,
- "lk" - Sri Lanka,
- "lr" - Liberia,

"ls" - Lesotho,
- "lt" - Lithuania,
- "lu" - Luxembourg,
- "lv" - Latvia,
- "ly" - Libyan Arab Jamahiriya (Lybia),
- "ma" - Morocco,
- "mc" - Monaco,
- "md" - Moldavia,
- "mg" - Madagascar,
- "mh" - Marshall Islands,
- "mk" - Macedonia,
- "ml" - Mali,
- "mm" - Myanmar,
- "mn" - Mongolia,
- "mo" - China (Macau S.A.R.),
- "mp" - Northern Mariana Islands,
- "mq" - Martinique,
- "mr" - Mauritania,
- "ms" - Montserrat,
- "mt" - Malta,
- "mu" - Mauritius,
- "mv" - Maldives,
- "mw" - Malawi,
- "mx" - Mexico,
- "my" - Malaysia,
- "mz" - Mozambique,
- "na" - Namibia,
- "nc" - New Caledonia,
- "ne" - Niger,
- "nf" - Norfolk Island,
- "ng" - Nigeria,
- "ni" - Nicaragua,
- "nl" - Netherlands,
- "no" - Norway,
- "np" - Nepal,
- "nr" - Nauru,
- "nu" - Niue,
- "nz" - New Zealand,
- "om" - Oman,
- "pa" - Panama,
- "pe" - Peru,
- "pf" - French Polynesia,
- "pg" - Papua New Guinea,
- "ph" - Philippines,
- "pk" - Pakistan,
- "pl" - Poland,
- "pm" - St. Pierre and Miquelon,
- "pn" - Pitcairn,
- "pr" - Puerto Rico,
- "pt" - Portugal,
- "pw" - Palau,
- "py" - Paraguay,
- "qa" - Qatar,
- "re" - Reunion,
- "ro" - Romania,
- "ru" - Russia,
- "rw" - Rwanda,
- "sa" - Saudi Arabia,
- "sb" - Solomon Islands,
- "sc" - Seychelles,

"sd" - Sudan,
- "se" - Sweden,
- "sg" - Singapore,
- "sh" - St. Helena,
- "si" - Slovenia,
- "sj" - Svalbard and Jan Mayen Islands,
- "sk" - Slovakia,
- "sl" - Sierra Leone,
- "sm" - San Marino,
- "sn" - Senegal,
- "so" - Somalia,
- "sr" - Suriname,
- "st" - Sao Tome and Principe,
- "sv" - El Salvador,
- "sy" - Syrian Arab Republic (Syria),
- "sz" - Swaziland,
- "t9" - Service Agent Test Systems T9 XX,
- "tc" - Turks and Caicos Islands,
- "td" - Chad,
- "tf" - French Southern Territories,
- "tg" - Togo,
- "th" - Thailand,
- "tj" - Tajikistan,
- "tk" - Tokelau,
- "tl" - East Timor,
- "tm" - Turkmenistan,
- "tn" - Tunisia,
- "to" - Tonga,
- "tr" - Turkey,
- "tt" - Trinidad And Tobago,
- "tv" - Tuvalu,
- "tw" - Taiwan,
- "tz" - Tanzania,
- "ua" - Ukraine,
- "ug" - Uganda,
- "um" - United States Minor Outlying Islands,
- "us" - United States,
- "uy" - Uruguay,
- "uz" - Uzbekistan,
- "va" - Vatican City State (Holy See),
- "vc" - Saint Vincent and the Grenadines,
- "ve" - Venezuela,
- "vg" - British Virgin Islands,
- "vi" - Virgin Islands (U.S.),
- "vn" - Vietnam,
- "vu" - Vanuatu,
- "wf" - Wallis and Futuna Islands,
- "ws" - Samoa (Western),
- "ye" - Yemen,
- "yt" - Mayotte,
- "yu" - Serbia,
- "za" - South Africa,
- "zm" - Zambia,
- "zw" - Zimbabwe

[none]

# Element definition: **filer-id**

[top]

Filer UUID

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **license-code-v2**

[top]

License Code V2

[none]

# Element definition: **log-fwd-proto**

[top]

udp-unencrypted|tcp-unencrypted|tcp-encrypted Possible values:

- "udp_unencrypted" - UDP unencrypted,
- "tcp_unencrypted" - TCP unencrypted,
- "tcp_encrypted" - TCP encrypted

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **remote-inet-address**

[top]

IPv4 Address, IPv6 Address or Host Name

[none]

# Element definition: **syslog-facility**

[top]

The syslog facility.

[none]

# Element definition: **uri**

[top]

[none]

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **zoneinfo-info**

[top]

Timezone Zoneinfo Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **version** | | string optional | Version of the timezone database in the form YYYYv. \"YYYY\" is the year the database was released and \"v\" is the version within that year. \"YYYY\" will be four decimal digits and \"v\" will be an ASCII letter starting with \"a\" and increasing with each version. For example, the second 2017 version is \"2017b\". Attributes: non-creatable, modifiable |

# Element definition: **cluster-op-enum-result**

[top]

cluster_op_enum_result Possible values:

- "failed" - Operation failed,
- "success" - Operation was successful,
- "ongoing" - Operation is active

[none]

# Element definition: **cluster-op-status**

[top]

Cluster Operation Status Possible values:

- "none" - None,
- "starting_job" - Starting Add-Node Job,
- "node_discovery" - Node Discovery,
- "remote_join_started" - Job Started Remote Join Op,
- "node_initialization" - Node Initialization,
- "joining_cluster" - Joining Cluster,
- "service_startup" - Service Startup,
- "post_cluster_setup" - Post Cluster Setup,
- "success" - Task Completed,
- "failure" - Task Failed

[none]

# Element definition: **cluster-serial-number**

[top]

Assigned Cluster serial-number during cluster create

[none]

# Element definition: **datetimewithtz**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **node-uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# APIs in Category: **cluster-image**


cluster-image-get
cluster-image-get-download-progress
cluster-image-get-iter
cluster-image-get-upgrade-plan
cluster-image-metrocluster-update-progress-info-get
cluster-image-node-update-progress-info
cluster-image-package-delete
cluster-image-package-download
cluster-image-package-download-abort
cluster-image-package-local-get
cluster-image-package-local-get-iter
cluster-image-update
cluster-image-update-cancel
cluster-image-update-history-get-iter
cluster-image-update-log-get-iter
cluster-image-update-pause
cluster-image-update-progress-get-iter
cluster-image-update-progress-info
cluster-image-update-resume
cluster-image-validate


This set of APIs enable automated nondisruptive update of a cluster.

## cluster-image-get

[top]

Get the attributes of the cluster-image.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-image-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-id** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-image-info | The attributes of the cluster-image. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## cluster-image-get-download-progress

[top]

Check the progress of current image download started by the cluster-image-package-download ZAPI.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-reason** | | string optional | Reason for download failure. This field is deprecated in Data ONTAP 9.0.0 and may be removed in a future release. |

| | | | |
|---|---|---|---|
| **progress-details** | | string optional | Download progress details |
| **progress-status** | | cluster-image-download-status | Download Progress Status |

| Errno | Description |
|---|---|
| **E_PRIMARY_STORE_UNAVAILABLE** | |
| **EINTERNALERROR** | |

## cluster-image-get-iter

[top]

Iterate over a list of cluster-image objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-image-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-image-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-image-info[] optional | The list of attributes of cluster-image objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cluster-image objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## cluster-image-get-upgrade-plan

[top]

The cluster-image-get-upgrade-plan API generates an Upgrade Plan and Backout Plan for the specified target image. The target package-version must be provided.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **package-version** | | string | Specifies the target package version. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **backout-phase-info-list** | | phase-info[] optional | List of revert or downgrade plan phases. |
| **backout-plan-head** | | string optional | Backout plan heading. |
| **upgrade-phase-info-list** | | phase-info[] optional | List of upgrade plan phases. |
| **upgrade-plan-head** | | string optional | Upgrade plan heading. |

| Errno | Description |
|---|---|
| E_CONF_NOT_SUPPORTED | |
| E_IMAGES_UNAVAILABLE | |
| E_RULES_XML_ERROR | |
| E_GET_PLAN_FAILED | |
| E_PACKAGE_IMAGE_COMPONENT_NOT_FOUND | |
| E_PACKAGE_STORE_IS_EMPTY | |
| E_UPGRADE_PLAN_WITH_REVERT_IMAGE | |

## cluster-image-metrocluster-update-progress-info-get

[top]

Get information on cluster image update progress for MetroCluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-ndu-progress-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | metrocluster-ndu-progress-info | The attributes of the cluster-image. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| E_UPDATE_NOT_IN_PROGRESS | |

## cluster-image-node-update-progress-info

[top]

Get information on a node's image update progress

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | node-update-progress-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | string | Node name. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | node-update-progress-info | The attributes of the cluster-image. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EAPIMISSINGARGUMENT | |

## cluster-image-package-delete

[top]

The cluster-image-package-delete API removes the given package from the cluster image package repository.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **package-version** | | string | The package version to be deleted. Example of package versions - 8.3 |

| Errno | Description |
|---|---|
| **E_VALIDATION_IN_PROGRESS** | |
| **E_UPDATE_IN_PROGRESS** | |
| **E_PACKAGE_SYNCH_IN_PROGRESS** | |
| **E_PACKAGE_IMAGE_COMPONENT_NOT_FOUND** | |
| **E_PACKAGE_STORE_IS_EMPTY** | |

## cluster-image-package-download

[top]

The cluster-image-package-download API downloads the specified package. This API is asynchronous and returns immediately after the download is started. The download progress can be monitored by calling cluster-image-get-download-progress ZAPI. The package-url string must be provided.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **package-url** | | string | Specifies the package URL. |

| Errno | Description |
|---|---|
| **E_CAPABILITY_NOT_CLUSTERWIDE** | |
| **E_CAPABILITY_CHECK_FAILED** | |
| **E_PACKAGE_EXISTS** | |
| **E_INVALID_URL** | |
| **E_PACKAGE_PROCESS_ERROR** | |
| **E_PRIMARY_STORE_UNAVAILABLE** | |
| **E_INSUFFICIENT_STORES** | |

## cluster-image-package-download-abort

[top]

Abort an ongoing package download operation.

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **E_PKG_DOWNLOAD_NOTRUNNING** | |

## cluster-image-package-local-get

[top]

The cluster-image-package-local-get API retrieves detailed information about a package located in the cluster image package repository.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-image-package-local-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **package-version** | | string | Package version. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **attributes** | | cluster-image-package-local-info | The attributes of the cluster-image. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## cluster-image-package-local-get-iter

[top]

Get multiple locally available package records

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-image-package-local-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-image-package-local-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-image-package-local-info[] optional | The list of attributes of cluster-image objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cluster-image objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## cluster-image-update

[top]

The cluster-image update API validates, installs prerequisite component updates, and installs Data ONTAP to all specified nodes within a cluster in a nondisruptive manner. Since validation, which is run as part of update, requires a minimum of 30 seconds, the API should be called with sufficient timeout value.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **estimate-only** | | boolean optional | Generates an estimate of the time required for the overall update operation for the specified package. No update is performed when this option is used. Default: false. |
| **force-rolling** | | boolean optional | Force a rolling upgrade on the cluster. This option is not applicable for a single-node cluster and for a two-node MetroCluster. Default: false. |
| **ignore-validation-warning** | | boolean optional | Allows the update to continue if warnings are encountered during the validation phase. Default: false. |
| **nodes** | | node-name[] optional | List of nodes to be updated, the nodes have to be a part of a HA Pair. |
| **package-version** | | string | Specifies the package version. |
| **pause-after** | | non-disruptive-update-pause-after optional | One or more pause options can be specified. Possible values: none, all. |

| | | | |
|---|---|---|---|
| **stabilize-minutes** | | integer optional | Number of minutes needed to stabilize node before update. This option is not applicable for single-node cluster. Default: 8. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **estimated-post-update-duration** | | integer optional | Estimated post-update checks duration, in seconds. Available only if estimate-only is true. |
| **estimated-pre-update-duration** | | integer optional | Estimated pre-update checks duration, in seconds. Available only if estimate-only is true. |
| **estimated-update-duration** | | integer optional | Estimated ontap updates duration, in seconds. Available only if estimate-only is true. |

| Errno | Description |
|---|---|
| **E_CAPABILITY_NOT_CLUSTERWIDE** | |
| **E_CAPABILITY_CHECK_FAILED** | |
| **E_UPDATE_IN_PROGRESS** | |
| **E_INVALID_HA_PAIR_LIST** | |
| **E_VALIDATION_CHECKS_FAILED_WITH_WARNING** | |
| **E_VALIDATION_CHECKS_FAILED_WITH_ERROR** | |
| **EINTERNALERROR** | |
| **E_DOUBLE_HOP_NODES_UNSUPPORTED** | |

## cluster-image-update-cancel

[top]

The cluster-image-update-cancel API cancels a package update that is currently in progress. The update will stop and be canceled at the end of the current logical operation. Logical operations are: - After the cluster validation, or prerequisite update phase - After the update of each HA pair - Immediately, if the update is currently paused After the successful completion of this command the update will be removed from the package update queue. The cancellation will be logged in the update history.

| Errno | Description |
|---|---|
| **E_UPDATE_NOT_IN_PROGRESS** | |
| **E_CANCEL_NOT_POSSIBLE** | |

## cluster-image-update-history-get-iter

[top]

Get multiple update history records.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-update-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-update-history-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-update-history-info[] optional | The list of attributes of cluster-image objects. |

| | | | |
|---|---|---|---|
| **next-tag** | | string<br>optional | Tag for the next call. Not present when there are no more cluster-image objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## cluster-image-update-log-get-iter

[top]

Get multiple update logs

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-update-transaction-log-info<br>optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer<br>optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-update-transaction-log-info<br>optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned. |
| **tag** | | string<br>optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-update-transaction-log-info[]<br>optional | The list of attributes of cluster-image objects. |
| **next-tag** | | string<br>optional | Tag for the next call. Not present when there are no more cluster-image objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## cluster-image-update-pause

[top]

The cluster-image-update-pause API pauses an update that is in progress. The update will pause at the end of the current logical operation. Logical operations include: - After the cluster validation, or prerequisite update phase - After the update of each node After the successful completion of this command the currently running update will be paused at the end of the current logical operation.

| Errno | Description |
|---|---|
| **E_UPDATE_NOT_IN_PROGRESS** | |
| **E_PAUSE_NOT_POSSIBLE** | |

## cluster-image-update-progress-get-iter

[top]

This API provides the status of all phases of update that is in progress.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-image-ndu-phase-list-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-image-ndu-phase-list-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-image-ndu-phase-list-info[] optional | The list of attributes of cluster-image objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cluster-image objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## cluster-image-update-progress-info

[top]

Get information on cluster image update progress

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ndu-progress-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ndu-progress-info | The attributes of the cluster-image. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## cluster-image-update-resume

[top]

The cluster-image-update-resume API resumes a package update that is currently paused. If the update is not in the paused state the API call will fail. After the successful completion of this command the current paused update will resume from the last successful operation completed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ignore-post-update-checks-failures** | | boolean optional | Ignore post-update-check phase failures, if any. Default: false. |
| **skip-firmware-update-checks** | | boolean optional | Skip Firmware Update Status Checks. Default: false. |

| Errno | Description |
|---|---|
| E_UPDATE_NOT_IN_PROGRESS | |
| E_RESUME_NOT_POSSIBLE | |
| E_PUC_NOT_IN_PROGRESS | |

## cluster-image-validate

[top]

The cluster-image-validate API validates the various logical and physical components of a cluster to ensure that a nondisruptive update can occur. Since validation requires a minimum of 30 seconds, the API should be called with sufficient timeout value.

| Input Name | Range | Type | Description |
|---|---|---|---|
| nodes | | node-name[] optional | Nodes |
| package-version | | string | Specifies the package version. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| cluster-image-validation-report-list | | cluster-image-validation-report-list-info[] optional | Lists the status and required actions for each NDU check involved in the update process. |

| Errno | Description |
|---|---|
| E_VERSION_NOT_SUPPORTED | |
| E_CAPABILITY_NOT_CLUSTERWIDE | |
| E_CAPABILITY_CHECK_FAILED | |
| E_VALIDATION_IN_PROGRESS | |
| E_PACKAGE_DELETE_IN_PROGRESS | |
| E_IMAGES_UNAVAILABLE | |
| E_MISSING_PARTNER_ERROR | |
| E_UPDATE_IN_PROGRESS | |

# Element definition: **cluster-image-download-status**

[top]

async_pkg_get_phase_failed|async_pkg_get_phase_running|async_pkg_get_phase_timedout|async_pkg_get_phase_notstarted|async_pkg_get_phase_complete|async_pkg_get_phase_aborted
Possible values:

- "async_pkg_get_phase_failed" - Download Failed,
- "async_pkg_get_phase_running" - Download in Progress,
- "async_pkg_get_phase_timedout" - Download Timedout,
- "async_pkg_get_phase_notstarted" - Download not started or no download in progress,
- "async_pkg_get_phase_complete" - Download Successful,
- "async_pkg_get_phase_aborted" - Download Aborted

[none]

# Element definition: **cluster-image-info**

[top]

Information to manage cluster images for Non disruptive-update. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with

no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **current-version** | | string optional | Current Version Attributes: non-creatable, non-modifiable |
| **date-installed** | | datetime optional | Date Installed Attributes: non-creatable, non-modifiable |
| **node-id** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |

## Element definition: **cluster-image-ndu-phase-list-info**

[top]

Status and required recovery action for each phase of update process When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **duration** | | string optional | The estimated duration for phases not completed and actual duration for those completed in seconds. Attributes: non-creatable, non-modifiable |
| **ndu-phase** | | non-disruptive-update-phase optional | Update phase Attributes: key, non-creatable, non-modifiable Possible values:<br>• "validation" - NDU validation phase,<br>• "prereq_updates" - NDU prerequisite phase,<br>• "ontap_updates" - Data ONTAP update phase,<br>• "package_management" - Package management operations phase,<br>• "default_phase" - Default Phase,<br>• "post_update_checks" - Post update checks phase |
| **phase-comments** | | string optional | If an error has occurred the required recovery action. If the phase is completed the duration of the phase will be provided. Attributes: non-creatable, non-modifiable |
| **phase-status** | | non-disruptive-update-status optional | Phase status Attributes: non-creatable, non-modifiable Possible values:<br>• "in_progress" - Upgrade phase is in progress,<br>• "waiting" - Upgrade phase is waiting,<br>• "paused_by_user" - Upgrade phase paused by user,<br>• "paused_on_error" - Upgrade phase paused due to error,<br>• "completed" - Upgrade phase completed,<br>• "canceled" - Upgrade phase canceled,<br>• "failed" - Upgrade phase failed,<br>• "pause_pending" - Upgrade phase pause pending,<br>• "cancel_pending" - Upgrade phase cancel pending |

## Element definition: **cluster-image-package-local-info**

[top]

Detailed information on the local package When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **package-build-time** | | datetime optional | Package build time. Attributes: non-creatable, non-modifiable |
| **package-details** | | package-details-info[] optional | Lists detailed on the local packages located in the cluster image package repository |
| **package-version** | | string optional | Package version. Attributes: key, non-creatable, non-modifiable |

## Element definition: **cluster-image-validation-report-list-info**

[top]

Lists the status and required actions for each NDU check involved in the update process. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ndu-check** | | string optional | Type of NDU check Attributes: key, non-creatable, non-modifiable |
| **ndu-status** | | string optional | Phase status Possible values: ok failed warning Attributes: non-creatable, non-modifiable |
| **required-action** | | required-action-info optional | If the NDU check failed or warned. Provides detailed information on how to recover from the infraction, or in case of a warning list side effects of performing update |

## Element definition: **cluster-update-history-info**

[top]

Detailed report for each update When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **completion-time** | | datetime optional | Date and time update completed. Attributes: non-creatable, non-modifiable |
| **component-id** | | string optional | Component ID Attributes: key, non-creatable, non-modifiable |
| **component-name** | | string optional | Component name Attributes: non-creatable, non-modifiable |
| **package-version** | | string optional | Installed package version. Attributes: non-creatable, non-modifiable |
| **previous-version** | | string optional | Previous version of firmware or software Attributes: non-creatable, non-modifiable |
| **start-time** | | datetime optional | Date and time update started. Attributes: key, non-creatable, non-modifiable |
| **update-status** | | non-disruptive-update-history-status optional | Update status. Attributes: non-creatable, non-modifiable Possible values:<br>• "successful" - Update completed successfully,<br>• "canceled" - Update was canceled,<br>• "back_out" - A back-out occurred do to a unrecoverable error |

| | | | |
|---|---|---|---|
| **updated-version** | | string<br>optional | Updated version of firmware or software Attributes: non-creatable, non-modifiable |

## Element definition: **cluster-update-transaction-log-info**

[top]

Detailed report for each update transaction When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **component-id** | | node-name<br>optional | Component ID. Attributes: key, non-creatable, non-modifiable |
| **detailed-transaction-status** | | string<br>optional | Includes sub-transaction name and detailed status Attributes: non-creatable, non-modifiable |
| **start-date-time** | | datetime<br>optional | Date and time update started Attributes: non-creatable, non-modifiable |
| **transaction-id** | [0..2^64-1] | integer<br>optional | Unique transaction ID. Attributes: key, non-creatable, non-modifiable |
| **transaction-name** | | non-disruptive-update-task-name<br>optional | Transaction name. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "initialize" - Initialization,<br>• "mount_image" - Mount an image,<br>• "restart_hm" - Restart Health Monitor,<br>• "get_health" - Obtain System Health,<br>• "run_scripts" - Run validation sctipts,<br>• "unmount_image" - Unmount image,<br>• "clear_alert" - Clear Alerts,<br>• "post_restart_hm" - Post validation restart Health Monitor,<br>• "cleanup_rdb" - Removes all rows for a given phase,<br>• "synch_image" - Synchronize Secondary Store with Primary,<br>• "process_package" - Process the package retrieved from external source,<br>• "cleanup_package" - Removes the packages not currently in the image table,<br>• "do_download_job" - Downloads the image to the boot device,<br>• "do_failover_job" - Do the takeover,<br>• "do_giveback_job" - Do the giveback,<br>• "check_progress" - Check the progress of any running tasks,<br>• "complete_validation" - Generate the final validation report,<br>• "invalid_task" - Used by state machine when a valid task cannot be found,<br>• "default_task" - Default Task,<br>• "do_postupdate_checks_job" - Do the post update checks,<br>• "do_disruptive_update_task" - Do disruptive update of node |
| **transaction-phase** | | non-disruptive-update-phase<br>optional | Transaction phase Attributes: key, non-creatable, non-modifiable Possible values:<br>• "validation" - NDU validation phase,<br>• "prereq_updates" - NDU prerequisite phase,<br>• "ontap_updates" - Data ONTAP update phase,<br>• "package_management" - Package management operations phase,<br>• "default_phase" - Default Phase,<br>• "post_update_checks" - Post update checks phase |
| **transaction-status** | | non-disruptive-update-log-status | Update status Attributes: non-creatable, non-modifiable Possible values:<br>• "waiting" - Transaction is waiting,<br>• "started" - Transaction was started,<br>• "completed" - Transaction has completed,<br>• "paused_on_error" - Transaction has been paused due to an error, |

| | | | |
|---|---|---|---|
| | | optional | • "paused_by_user" - Transaction has been paused by user,<br>• "pause_pending" - Transaction has a pending pause request,<br>• "cancel_pending" - Transaction has a pending cancel request,<br>• "canceled" - Transaction has been canceled by user,<br>• "failed" - Transaction has failed |

## Element definition: **metrocluster-ndu-progress-info**

[top]

Nondisruptive Update Progress Info of MetroCluster When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **completed-node-count** | **[0..2^32-1]** | integer<br>optional | Number of Completed Nodes Attributes: non-creatable, non-modifiable |
| **dr-validation-reports** | | dr-validation-report-info[]<br>optional | DR cluster Validation Report Info |
| **intermediate-version** | | string<br>optional | The intermediate-version for two-stage upgrade. Attributes: non-creatable, non-modifiable |
| **is-two-stage-upgrade** | | boolean<br>optional | If upgrade is two-stage. Attributes: non-creatable, non-modifiable |
| **is-validation-done-by-update** | | boolean<br>optional | Is the validation done as part of update operation. Attributes: non-creatable, non-modifiable |
| **metrocluster** | | cluster-image-metrocluster-info<br>optional | MetroCluster Information |
| **ndu-node-update-list** | | ndu-node-update-info[]<br>optional | Nondisruptive Update Progress Info of Node |
| **node-estimated-duration** | **[0..2^32-1]** | integer<br>optional | Estimated amount of time, in seconds, required for the update of a node. Attributes: non-creatable, non-modifiable |
| **overall-elapsed-duration** | **[0..2^32-1]** | integer<br>optional | Overall elapsed amount of time, in seconds, used for the update. Attributes: non-creatable, non-modifiable |
| **overall-estimated-duration** | **[0..2^32-1]** | integer<br>optional | Overall estimated amount of time, in seconds, required for the update. Attributes: non-creatable, non-modifiable |
| **overall-status** | | string<br>optional | Status of overall update. Attributes: non-creatable, non-modifiable Possible values:<br>• "in_progress" - Upgrade phase is in progress,<br>• "waiting" - Upgrade phase is waiting,<br>• "paused_by_user" - Upgrade phase paused by user,<br>• "paused_on_error" - Upgrade phase paused due to error,<br>• "completed" - Upgrade phase completed,<br>• "canceled" - Upgrade phase canceled,<br>• "failed" - Upgrade phase failed,<br>• "pause_pending" - Upgrade phase pause pending,<br>• "cancel_pending" - Upgrade phase cancel pending |
| **package-version** | | string<br>optional | The package version. Attributes: non-creatable, non-modifiable |
| **paused-node-count** | **[0..2^32-1]** | integer<br>optional | Number of Paused Nodes Attributes: non-creatable, non-modifiable |
| **phase-comments** | | phase-comment-info<br>optional | Overall comment info |
| | | string | |

| | | | |
|---|---|---|---|
| **progress-detail** | | optional | Failure details Attributes: non-creatable, non-modifiable |
| **progress-summary** | | string optional | Progress info Attributes: non-creatable, non-modifiable |
| **source-version** | | string optional | The source version for two-stage upgrade. Attributes: non-creatable, non-modifiable |
| **target-version** | | string optional | The target version for two-stage upgrade. Attributes: non-creatable, non-modifiable |
| **total-node-count** | **[0..2^32-1]** | integer optional | Number of Nodes Attributes: non-creatable, non-modifiable |
| **upgrade-stage** | **[1..2]** | integer optional | Stage of upgrade (1: First stage - source-version to intermediate-version, 2: Second stage - intermediate-version to target-version). Attributes: non-creatable, non-modifiable |
| **validation-reports** | | validation-report-info[] optional | Local cluster Validation Report Info |

## Element definition: **ndu-progress-info**

[top]

Nondisruptive Update Progress Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **completed-node-count** | **[0..2^32-1]** | integer optional | Number of nodes that have completed update. Attributes: non-creatable, non-modifiable |
| **intermediate-version** | | string optional | The intermediate-version for two-stage upgrade. Attributes: non-creatable, non-modifiable |
| **is-two-stage-upgrade** | | boolean optional | If upgrade is two-stage. Attributes: non-creatable, non-modifiable |
| **is-validation-done-by-update** | | boolean optional | Is the validation done as part of update operation. Attributes: non-creatable, non-modifiable |
| **ndu-node-update-list** | | ndu-node-update-info[] optional | Nondisruptive Update Progress Info of a Node |
| **node-estimated-duration** | **[0..2^32-1]** | integer optional | Estimated amount of time, in seconds, required for the update of a node. Attributes: non-creatable, non-modifiable |
| **overall-elapsed-duration** | **[0..2^32-1]** | integer optional | Overall elapsed amount of time, in seconds, used for the update. Attributes: non-creatable, non-modifiable |
| **overall-estimated-duration** | **[0..2^32-1]** | integer optional | Overall estimated amount of time, in seconds, required for the update. Attributes: non-creatable, non-modifiable |
| **overall-status** | | non-disruptive-update-status optional | Status of overall update. Attributes: non-creatable, non-modifiable Possible values:<br>• "in_progress" - Upgrade phase is in progress,<br>• "waiting" - Upgrade phase is waiting,<br>• "paused_by_user" - Upgrade phase paused by user,<br>• "paused_on_error" - Upgrade phase paused due to error,<br>• "completed" - Upgrade phase completed,<br>• "canceled" - Upgrade phase canceled,<br>• "failed" - Upgrade phase failed,<br>• "pause_pending" - Upgrade phase pause pending,<br>• "cancel_pending" - Upgrade phase cancel pending |
| **package-version** | | string optional | The package version. Attributes: non-creatable, non-modifiable |
| **paused-node-count** | **[0..2^32-1]** | integer optional | Number of nodes that have paused during update. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **phase-comments** | | phase-comment-info optional | Overall comment info |
| **source-version** | | string optional | The source version for two-stage upgrade. Attributes: non-creatable, non-modifiable |
| **target-version** | | string optional | The target version for two-stage upgrade. Attributes: non-creatable, non-modifiable |
| **total-node-count** | **[0..2^32-1]** | integer optional | Number of nodes participating in update operation. Attributes: non-creatable, non-modifiable |
| **upgrade-stage** | **[1..2]** | integer optional | Stage of upgrade (1: First stage - source-version to intermediate-version, 2: Second stage - intermediate-version to target-version). Attributes: non-creatable, non-modifiable |
| **validation-reports** | | validation-report-info[] optional | Validation Report Info |

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **node-update-progress-info**

[top]

Node Update progress details When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string optional | Node name. Attributes: key, non-creatable, non-modifiable |
| **node-update-task-info-list** | | node-update-task-info[] optional | Node task info |

## Element definition: **non-disruptive-update-pause-after**

[top]

none|takeover-giveback|all Possible values:

- "none" - Default: No pause,
- "takeover_giveback" - Pause after takeover or giveback tasks,
- "all" - Pause after all phases

[none]

## Element definition: **phase-info**

[top]

Upgrade or revert procedure can have planning, preparing, update and post-update phases. Each phase will have the phase details and list of steps.

| Name | Range | Type | Description |
|---|---|---|---|
| **phase-detail** | | string optional | Phase details. |
| **phase-head** | | string optional | Phase heading. |
| **phase-notes** | | string optional | Phase notes. |
| **step-info-list** | | step-info[] optional | List of steps in the respective phase. |

## Element definition: **cluster-image-metrocluster-info**

[top]

MetroCluster Configuration Information

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster-elapsed-duration** | **[0..2^32-1]** | integer optional | Elapsed amount of time, in seconds, used for the update in local cluster. Attributes: non-creatable, non-modifiable |
| **cluster-estimated-duration** | **[0..2^32-1]** | integer optional | Estimated amount of time, in seconds, required for the update in local cluster. Attributes: non-creatable, non-modifiable |
| **cluster-name** | | string optional | Name of the local cluster. Attributes: non-creatable, non-modifiable |
| **cluster-status** | | string optional | Status of the local cluster. Attributes: non-creatable, non-modifiable Possible values:<br>• "in_progress" - Upgrade phase is in progress,<br>• "waiting" - Upgrade phase is waiting,<br>• "paused_by_user" - Upgrade phase paused by user,<br>• "paused_on_error" - Upgrade phase paused due to error,<br>• "completed" - Upgrade phase completed,<br>• "canceled" - Upgrade phase canceled,<br>• "failed" - Upgrade phase failed,<br>• "pause_pending" - Upgrade phase pause pending,<br>• "cancel_pending" - Upgrade phase cancel pending |
| **dr-cluster-elapsed-duration** | **[0..2^32-1]** | integer optional | Elapsed amount of time, in seconds, used for the update in DR cluster. Attributes: non-creatable, non-modifiable |
| **dr-cluster-estimated-duration** | **[0..2^32-1]** | integer optional | Estimated amount of time, in seconds, required for the update in DR cluster. Attributes: non-creatable, non-modifiable |
| **dr-cluster-name** | | string optional | Name of the DR cluster. Attributes: non-creatable, non-modifiable |
| **dr-cluster-status** | | string optional | Status of the DR cluster. Attributes: non-creatable, non-modifiable Possible values:<br>• "in_progress" - Upgrade phase is in progress,<br>• "waiting" - Upgrade phase is waiting,<br>• "paused_by_user" - Upgrade phase paused by user,<br>• "paused_on_error" - Upgrade phase paused due to error,<br>• "completed" - Upgrade phase completed,<br>• "canceled" - Upgrade phase canceled,<br>• "failed" - Upgrade phase failed,<br>• "pause_pending" - Upgrade phase pause pending,<br>• "cancel_pending" - Upgrade phase cancel pending |

## Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

## Element definition: **dr-validation-report-info**

[top]

DR Validation Info

| Name | Range | Type | Description |
|---|---|---|---|
| **dr-update-check-action** | | string optional | DR cluster recovery action for error. Attributes: non-creatable, non-modifiable |
| **dr-update-check-advice** | | string optional | DR cluster advice for handling the error. Attributes: non-creatable, non-modifiable |
| **dr-update-check-error** | | string optional | DR cluster error details. Attributes: non-creatable, non-modifiable |
| **dr-update-check-name** | | string optional | DR cluster update check Attributes: non-creatable, non-modifiable |
| **dr-update-check-status** | | string optional | DR cluster update check status possible values: ok failed warning Attributes: non-creatable, non-modifiable |

## Element definition: **ndu-node-update-info**

[top]

Nondisruptive Update Progress Info of Node

| Name | Range | Type | Description |
|---|---|---|---|
| **dr-node-elapsed-duration** | | timeticks optional | Elapsed Update Duration of a DR Node Attributes: non-creatable, non-modifiable |
| **dr-node-name** | | node-name optional | DR Node Name Attributes: non-creatable, non-modifiable |
| **dr-node-status** | | non-disruptive-update-status optional | DR Node Status Attributes: non-creatable, non-modifiable Possible values:<br>• "in_progress" - Upgrade phase is in progress,<br>• "waiting" - Upgrade phase is waiting,<br>• "paused_by_user" - Upgrade phase paused by user,<br>• "paused_on_error" - Upgrade phase paused due to error,<br>• "completed" - Upgrade phase completed,<br>• "canceled" - Upgrade phase canceled,<br>• "failed" - Upgrade phase failed,<br>• "pause_pending" - Upgrade phase pause pending,<br>• "cancel_pending" - Upgrade phase cancel pending |
| **node-elapsed-duration** | | timeticks optional | Elapsed amount of time, in seconds, used for the update of a node. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | Node Name Attributes: non-creatable, non-modifiable |
| **node-status** | | non-disruptive-update-status optional | Node Status Attributes: non-creatable, non-modifiable Possible values:<br>• "in_progress" - Upgrade phase is in progress,<br>• "waiting" - Upgrade phase is waiting,<br>• "paused_by_user" - Upgrade phase paused by user,<br>• "paused_on_error" - Upgrade phase paused due to error,<br>• "completed" - Upgrade phase completed,<br>• "canceled" - Upgrade phase canceled,<br>• "failed" - Upgrade phase failed,<br>• "pause_pending" - Upgrade phase pause pending,<br>• "cancel_pending" - Upgrade phase cancel pending |

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **node-update-task-info**

[top]

Node task info

| Name | Range | Type | Description |
|---|---|---|---|
| **task-comments** | | string<br>optional | Summary of task operation. Attributes: non-creatable, non-modifiable |
| **task-end-time** | | datetime<br>optional | Time at which the task completed. This is expressed in seconds since the Epoch. Attributes: non-creatable, non-modifiable |
| **task-name** | | string<br>optional | Name of the task. Attributes: non-creatable, non-modifiable |
| **task-start-time** | | datetime<br>optional | Time at which the task started. This is expressed in seconds since the Epoch. Attributes: non-creatable, non-modifiable |
| **task-status** | | non-disruptive-update-task-status<br>optional | Status of the associated task-name. Attributes: non-creatable, non-modifiable Possible values:<br>• "created" - Task has been created,<br>• "ready_to_run" - Task ready to run,<br>• "running" - Task has started and is running,<br>• "completed" - Task is completed,<br>• "failed" - Task failed to complete,<br>• "pause_req" - Request for task to be paused,<br>• "paused" - Task is paused,<br>• "paused_error" - Task is paused because of an error,<br>• "cancel_req" - Request for task to be cancelled,<br>• "canceled" - Task is canceled,<br>• "resume_req" - Request for paused task to be resumed,<br>• "default_status" - Defaiult Status,<br>• "abort_req" - Request for task to be aborted |

## Element definition: **non-disruptive-update-history-status**

[top]

successful|canceled|back-out Possible values:

- "successful" - Update completed successfully,
- "canceled" - Update was canceled,
- "back_out" - A back-out occurred do to a unrecoverable error

[none]

## Element definition: **non-disruptive-update-log-status**

[top]

waiting|started|completed|paused-on-error|paused-by-user|pause-pending|cancel-pending|canceled|failed Possible values:

- "waiting" - Transaction is waiting,

- "started" - Transaction was started,
- "completed" - Transaction has completed,
- "paused_on_error" - Transaction has been paused due to an error,
- "paused_by_user" - Transaction has been paused by user,
- "pause_pending" - Transaction has a pending pause request,
- "cancel_pending" - Transaction has a pending cancel request,
- "canceled" - Transaction has been canceled by user,
- "failed" - Transaction has failed

[none]

## Element definition: **non-disruptive-update-phase**

[top]

validation|prereq-updates|ontap-updates|package-management|default-phase|post-update-checks Possible values:

- "validation" - NDU validation phase,
- "prereq_updates" - NDU prerequisite phase,
- "ontap_updates" - Data ONTAP update phase,
- "package_management" - Package management operations phase,
- "default_phase" - Default Phase,
- "post_update_checks" - Post update checks phase

[none]

## Element definition: **non-disruptive-update-status**

[top]

in-progress|waiting|paused-by-user|paused-on-error|completed|canceled|failed|pause-pending|cancel-pending Possible values:

- "in_progress" - Upgrade phase is in progress,
- "waiting" - Upgrade phase is waiting,
- "paused_by_user" - Upgrade phase paused by user,
- "paused_on_error" - Upgrade phase paused due to error,
- "completed" - Upgrade phase completed,
- "canceled" - Upgrade phase canceled,
- "failed" - Upgrade phase failed,
- "pause_pending" - Upgrade phase pause pending,
- "cancel_pending" - Upgrade phase cancel pending

[none]

## Element definition: **non-disruptive-update-task-name**

[top]

initialize|mount-image|restart-hm|get-health|run-scripts|unmount-image|clear-alert|post-restart-hm|cleanup-rd|synch-image|do-download-job|do-failover-job|do-giveback-job|check-progress|complete-validation|invalid-task|default-task|do-postupdate-checks-task Possible values:

- "initialize" - Initialization,
- "mount_image" - Mount an image,
- "restart_hm" - Restart Health Monitor,
- "get_health" - Obtain System Health,
- "run_scripts" - Run validation sctipts,
- "unmount_image" - Unmount image,
- "clear_alert" - Clear Alerts,
- "post_restart_hm" - Post validation restart Health Monitor,
- "cleanup_rdb" - Removes all rows for a given phase,

- "synch_image" - Synchronize Secondary Store with Primary,
- "process_package" - Process the package retrieved from external source,
- "cleanup_package" - Removes the packages not currently in the image table,
- "do_download_job" - Downloads the image to the boot device,
- "do_failover_job" - Do the takeover,
- "do_giveback_job" - Do the giveback,
- "check_progress" - Check the progress of any running tasks,
- "complete_validation" - Generate the final validation report,
- "invalid_task" - Used by state machine when a valid task cannot be found,
- "default_task" - Default Task,
- "do_postupdate_checks_job" - Do the post update checks,
- "do_disruptive_update_task" - Do disruptive update of node

[none]

## Element definition: **package-details-info**

[top]

Lists detailed on the local packages located in the cluster image package repository

| Name | Range | Type | Description |
|---|---|---|---|
| **component-name** | | string optional | Name of the given component. Attributes: non-creatable, non-modifiable |
| **component-version** | | string optional | The software version number of the given component. Attributes: non-creatable, non-modifiable |

## Element definition: **phase-comment-info**

[top]

Overall comment

| Name | Range | Type | Description |
|---|---|---|---|
| **post-update-checks-phase-comments** | | string optional | Post Update Check Phase Comments Attributes: non-creatable, non-modifiable |
| **update-phase-comments** | | string optional | Summary of update operation. Attributes: non-creatable, non-modifiable |
| **validation-phase-comments** | | string optional | Summary of validation operation. Attributes: non-creatable, non-modifiable |

## Element definition: **required-action-info**

[top]

If the NDU check failed or warned. Provides detailed information on how to recover from the infraction, or in case of a warning list side effects of performing update

| Name | Range | Type | Description |
|---|---|---|---|
| **action** | | string optional | Recovery action for error. Attributes: non-creatable, non-modifiable |
| **advice** | | string optional | Advice for handling the error. Attributes: non-creatable, non-modifiable |
| **error** | | string optional | Error description. Attributes: non-creatable, non-modifiable |

## Element definition: **step-info**

[top]

A prepare step, upgrade/revert step or post upgrade step based on the phase.

| Name | Range | Type | Description |
|---|---|---|---|
| **step-command** | | string optional | A CLI command associated with the step. |
| **step-detail** | | string optional | Step details. |
| **step-example** | | string optional | An example associated with the step. |
| **step-name** | | string optional | Step heading or name. |
| **step-notes** | | string optional | Any notes associated with the step. |

## Element definition: **validation-report-info**

[top]

Validation Info

| Name | Range | Type | Description |
|---|---|---|---|
| **update-check-action** | | string optional | Local cluster recovery action for error. Attributes: non-creatable, non-modifiable |
| **update-check-advice** | | string optional | Local cluster advice for handling the error. Attributes: non-creatable, non-modifiable |
| **update-check-error** | | string optional | Local cluster error details. Attributes: non-creatable, non-modifiable |
| **update-check-name** | | string optional | Local cluster update check Attributes: non-creatable, non-modifiable |
| **update-check-status** | | string optional | Local cluster update check status possible values: ok failed warning Attributes: non-creatable, non-modifiable |

## Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

## Element definition: **non-disruptive-update-task-status**

[top]

created|ready-to-run|running|completed|failed|pause_req|paused|paused-error|cancel_req|canceled|resume_req|default_status Possible values:

- "created" - Task has been created,
- "ready_to_run" - Task ready to run,
- "running" - Task has started and is running,
- "completed" - Task is completed,
- "failed" - Task failed to complete,
- "pause_req" - Request for task to be paused,
- "paused" - Task is paused,
- "paused_error" - Task is paused because of an error,
- "cancel_req" - Request for task to be cancelled,

"canceled" - Task is canceled,
- "resume_req" - Request for paused task to be resumed,
- "default_status" - Defaiult Status,
- "abort_req" - Request for task to be aborted

[none]

## Element definition: **timeticks**

[top]

Time, in seconds Range : [0..2^32-1].

[none]

# APIs in Category: **cluster-peer**


cluster-peer-authn-offer-cancel
cluster-peer-authn-offer-get
cluster-peer-authn-offer-get-iter
cluster-peer-authn-offer-modify
cluster-peer-connection-destroy
cluster-peer-connections-get
cluster-peer-connections-get-iter
cluster-peer-create
cluster-peer-delete
cluster-peer-get
cluster-peer-get-iter
cluster-peer-health-info-get
cluster-peer-health-info-get-iter
cluster-peer-modify
cluster-peer-modify-local-name
cluster-peer-ping-iter
cluster-peer-policy-get
cluster-peer-policy-modify


This set of ZAPIs allows management of cluster peer relationships. Cluster peer relationships are required to allow multiple Data ONTAP clusters to exchange data with other Data ONTAP clusters and request operations to be executed by other Data ONTAP clusters.

## cluster-peer-authn-offer-cancel

[top]

Cancel the outstanding offer to authenticate with a peer cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **peer-cluster-name** | | string | Peer Cluster Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

## cluster-peer-authn-offer-get

[top]

Return the specified peer cluster relationship authentication offer information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-peer-authn-offer optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **peer-cluster-name** | | string | Peer Cluster Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-peer-authn-offer | The attributes of the cluster-peer-authn-offer. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-peer-authn-offer-get-iter

[top]

Returns a list of cluster peer relationship authentication offers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-peer-authn-offer optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-peer-authn-offer optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer-authn-offer object. All cluster-peer-authn-offer objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-peer-authn-offer[] optional | The list of attributes of cluster-peer-authn-offer objects. |
| **next-tag** | | string | Tag for the next call. Not present when there are no more cluster- |

| | | | |
|---|---|---|---|
| | | optional | peer-authn-offer objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cluster-peer-authn-offer-modify

[top]

Modifies the cluster peer relationship authentication offer, as created by the cluster-peer-create or cluster-peer-modify APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initial-allowed-vserver-peers** | | vserver-name[] optional | Vservers Initially Allowed for Peering |
| **offer-expiration** | | expiration optional | The expiration time of the authentication offer. |
| **peer-cluster-name** | | string | The name of the peer cluster to modify. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-peer-connection-destroy

[top]

Terminate a current peering connection

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection-type** | | cluster-peer-connection-type | The type of connection for cluster peering. |
| **file-descriptor** | **[0..2^64-1]** | integer | The index value for the connection. |
| **node-name** | | node-name | The name of the node that has the connections involved. |
| **peer-cluster-name** | | string | The name of the peer cluster. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-peer-connections-get

[top]

Return information about the specified connection to the specified cluster peer

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection-type** | | cluster-peer-connection-type | The type of connection for cluster peering. |
| **desired-attributes** | | cluster-peer-connections optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **file-descriptor** | **[0..2^64-1]** | integer | The index value for the connection. |
| **node-name** | | node-name | The name of the node that has the connections involved. |
| **peer-cluster-name** | | string | The name of the peer cluster. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-peer-connections | The attributes of the cluster-peer-connections. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-peer-connections-get-iter

[top]

Returns a list of connections to cluster peers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-peer-connections optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-peer-connections optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer-connections object. All cluster-peer-connections objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-peer-connections[] optional | The list of attributes of cluster-peer-connections objects. |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cluster-peer-connections objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cluster-peer-create

[top]

Create a cluster peer relationship and, optionally, an offer to authenticate with a peer. Initiate an authenticated relationship, and an offer to authenticate with a peer, by including the passphrase parameter. Initiate an unauthenticated relationship by omitting the passphrase and, optionally, including a user-name and password.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address-family** | | cluster-peer-address-family optional | The address family (IPv4/IPv6) of the peer cluster connection. If not provided and ambiguity between IPv4 and IPv6 exists, the peer connection address family will default to IPv4. Default: ipv4 |
| **applications** | | vserver-peer-permission-application[] optional | List of peering applications for initial allowed vservers. |
| **encryption-protocol-proposed** | | cluster-peer-crypt optional | Encryption protocol to be used for inter-cluster communication. Default: tls-psk when authentication is used, otherwise none |
| **generate-passphrase** | | boolean optional | Use System-Generated passphrase |
| **initial-allowed-vserver-peers** | | vserver-name[] optional | Vservers allowed for auto peering |
| **ipspace-name** | | string optional | IPspace in which the LIFs for this relationship are to be found. Default: the Default IPspace |
| **local-name** | | cluster-name-simple optional | Local name for remote cluster. Default: Remote cluster name |
| **offer-expiration** | | expiration optional | If a passphrase is provided, the expiration time of the authentication offer. Should not be provided otherwise. Default: one hour into the future |
| **passphrase** | | string optional | The arbitrary passphrase that matches the one given to the peer cluster. |
| **password** | | string optional | The password required to authenticate with the peer cluster. This value is only used at peer creation time and not stored. |
| **peer-addresses** | | remote-inet-address[] optional | The remote intercluster addresses and hostnames of the peer cluster. |
| **rpc-connect-timeout** | | integer optional | The timeout for RPC Connect attempts to the peer cluster in seconds. Default: 10 |
| | | integer | The timeout for operations in the peer cluster in seconds. Default: |

| | | | |
|---|---|---|---|
| **timeout** | | optional | 15 |
| **update-ping-timeout** | | integer optional | The timeout used by ICMP pings while updating peer cluster information in seconds. Default: 5 |
| **user-name** | | string optional | The user name required to authenticate with the peer cluster. This value is only used at peer creation time and not stored. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **passphrase-info** | | cluster-peer-passphrase-info optional | Cluster Peer Create Passphrase Information |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAUTHENTICATION_REQUIRED_BY_POLICY** | |
| **EPEER_INTRO_FAILED** | |
| **EPEER_PROBE_FAILED** | |
| **EPEER_CONCUR_FAILED** | |
| **EPEER_INTRO_CONNECT_FAILED** | |
| **EPEER_PROBE_CONNECT_FAILED** | |
| **EPEER_CONCUR_CONNECT_FAILED** | |
| **EPEER_ADDR_MISMATCH_WITH_EXISTING** | |
| **EPEER_NO_LOCAL_VIF_FAMILY** | |
| **EPEER_CREATE_FAMILY_MISMATCH** | |
| **EPEER_PEER_ADDR_FAMILY_MISMATCH** | |
| **EPEER_VERSION_MISMATCH** | |
| **EPEER_DUPLICATE_PEER_NAME** | |
| **EPEER_INVALID_CREATE_ADDRESS_FAMILY_INTRO** | |
| **EPEER_INVALID_CREATE_ADDRESS_FAMILY** | |
| **EPEER_REMOTE_CREATE_FAMILY_MISMATCH** | |
| **EPEER_REMOTE_NO_LOCAL_VIF_FAMILY** | |
| **EPEER_INVALID_ADDRESS_FAMILY** | |
| **EPEER_REMOTE_SAME_CLUSTER_DIFFERENT_FAMILY** | |
| **EPEER_PASSPHRASE_USED_OR_EXPIRED** | |
| **EPEER_PASSPHRASE_AUTH_DELAY** | |
| **EPEER_PASSPHRASE_SUCCESS** | |
| **EPEER_MISSING_INPUT_PARAMETER** | |
| **EPEER_VSERVER_NOT_FOUND** | |
| **EPEER_EXPIRATION_EXCEEDED_MAX_LIMIT** | |
| **EPEER_PASSPHRASE_OFFER_LIMIT_MINIMUM** | |
| **EPEER_WITHOUT_IP_AND_AUTO_GEN_PASSPHRASE** | |
| **EPEER_PASSPHRASE_CAP_NOT_ENABLED** | |
| **EPEER_EXTRA_PASSPHRASE_WITH_AUTO_GENERATE_OPTION** | |
| **EPEER_PASSPHRASE_DUPLICATE_LOCAL_NAME** | |
| **EPEER_RMT_AUTO_RECIPROCAL_SUPPORT_NOT_AVAILABLE** | |
| **EPEER_ENCRYPTION_INCAPABLE_REMOTELY** | |
| **EPEER_ENCRYPTION_VETOED_REMOTELY** | |

| | |
|---|---|
| **EPEER_ENCRYPT_NOT_ENABLED_EVERYWHERE** | |
| **EPEER_NEED_AUTH_FOR_ENCR** | |
| **EPEER_POLICY_FORBIDS_UNAUTH** | |
| **EPEER_POLICY_REQUIRES_ENCRYPTION** | |

# cluster-peer-delete

[top]

Delete a cluster peer relationship as well as any an offer to authenticate with the peer cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-name** | | string | The name of the peer cluster. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-peer-get

[top]

Return the specified peer cluster relationship information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-name** | | string | The name of the peer cluster. Available in the local cluster. |
| **desired-attributes** | | cluster-peer-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-peer-info | The attributes of the cluster-peer. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-peer-get-iter

[top]

Returns a list of cluster peer relationships

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | cluster- | Specify the attributes that should be returned. If not present, all |

| | | | |
|---|---|---|---|
| **desired-attributes** | | peer-info optional | attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-peer-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer object. All cluster-peer objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-peer-info[] optional | The list of attributes of cluster-peer objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cluster-peer objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cluster-peer-health-info-get

[top]

Get the health of the specified peer node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-peer-health-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination-cluster** | | cluster-name | The name of the peer cluster. |
| **destination-node** | | peer-node-name | The name of the node in the peer cluster. |
| **originating-node** | | node-name | The name of the local node. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-peer-health-info | The attributes of the cluster-peer. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-peer-health-info-get-iter

[top]

Get the health of all local and peer nodes sequentially

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-peer-health-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-peer-health-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer object. All cluster-peer objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-peer-health-info[] optional | The list of attributes of cluster-peer objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cluster-peer objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cluster-peer-modify

[top]

Modifies a cluster peer relationship, optionally also creating an offer to authenticate with a peer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address-family** | | address-family optional | The address family of the peer-addresses of the relationship. If not specified, either the specified peer-address or the current peer-address is used to derive the address family. |
| | | cluster-peer- | |

| | | | |
|---|---|---|---|
| **auth-status-admin** | | auth-status-admin optional | The desired state of authentication for the relationship. If not specified, the desired state is not modified. |
| **cluster-name** | | string | The name of the peer cluster to modify. |
| **encryption-protocol-proposed** | | cluster-peer-crypt optional | Encryption protocol to be used for inter-cluster communication. If not specified, the encryption-protocol attribute is not modified. |
| **generate-passphrase** | | boolean optional | Use system-generated passphrase |
| **ipspace-name** | | string optional | IPspace in which the LIFs for this relationship exist. If not specified, the IPspace for the relationship is not modified. |
| **offer-expiration** | | expiration optional | For auth-status-admin 'use-authentication', the expiration time of the authentication offer. Should not be provided otherwise. |
| **passphrase** | | string optional | For auth-status-admin 'use-authentication', this must be provided as the arbitrary passphrase that matches the one given to the peer cluster. Should not be provided otherwise. |
| **peer-addresses** | | remote-inet-address[] optional | The Remote IP address or host name of the peer cluster. If not specified, the peer-addresses are not modified. |
| **rpc-connect-timeout** | | integer optional | The timeout for RPC Connect calls to the peer cluster in seconds. If not specified, the timeout is not modified. |
| **timeout** | | integer optional | The timeout for operations in the peer cluster in seconds. If not specified, the timeout is not modified. |
| **update-ping-timeout** | | integer optional | The timeout for pings to the peer cluster in seconds. If not specified, the timeout is not modified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **passphrase-info** | | cluster-peer-passphrase-info-modify optional | Cluster Peer Create Passphrase Information |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAUTHENTICATION_REQUIRED_BY_POLICY** | |
| **EPEER_INTRO_FAILED** | |
| **EPEER_PROBE_FAILED** | |
| **EPEER_CONCUR_FAILED** | |
| **EPEER_INTRO_CONNECT_FAILED** | |
| **EPEER_PROBE_CONNECT_FAILED** | |
| **EPEER_CONCUR_CONNECT_FAILED** | |
| **EPEER_MODIFY_FAMILY_MISMATCH** | |
| **EPEER_VERSION_MISMATCH** | |
| **EPEER_REMOTE_NO_LOCAL_VIF_FAMILY** | |
| **EPEER_IC_FAMILY_LIFS_NOT_FOUND** | |
| **EPEER_PASSPHRASE_MODIFY_NOT_ALLOWED** | |
| **EPEER_EXTRA_PASSPHRASE_WITH_AUTO_GENERATE_OPTION** | |
| **EPEER_ENCRYPTION_INCAPABLE_REMOTELY** | |
| **EPEER_ENCRYPTION_VETOED_REMOTELY** | |
| **EPEER_ENCRYPT_NOT_ENABLED_EVERYWHERE** | |

| | |
|---|---|
| **EPEER_NEED_AUTH_FOR_ENCR** | |
| **EPEER_POLICY_FORBIDS_UNAUTH** | |
| **EPEER_POLICY_REQUIRES_ENCRYPTION** | |
| **EPEER_CHANGING_ENCR_REQUIRES_CHANGING_AUTH** | |

# cluster-peer-modify-local-name

[top]

Modify the local name for a cluster peer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-name** | | string | The name of the peer cluster to modify. |
| **new-name** | | cluster-name-simple | The new local name for the peer cluster. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-peer-ping-iter

[top]

Ping the specified peer nodes. Ping operations take place between a node in a cluster and a node in a remote cluster. The originating node is the node which initiates the ping operation and the destination cluster and node specify the remote node which is the target of the ping.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-peer-ping-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-peer-ping-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer-ping object. All cluster-peer-ping objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-peer-ping-info[] optional | The list of attributes of cluster-peer-ping objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cluster-peer-ping objects to return. |

| | | | |
|---|---|---|---|
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cluster-peer-policy-get

[top]

Return the cluster peering policy configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-peer-policy optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-peer-policy | The attributes of the cluster-peer-policy. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-peer-policy-modify

[top]

Modify the cluster peering policy configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-unauthenticated-access-permitted** | | boolean optional | Whether unauthenticated communication between cluster peers is permitted. If true, unauthenticated communication between cluster peers is permitted. |
| **is-unencrypted-access-permitted** | | boolean optional | Whether unencrypted communication between cluster peers is permitted. If true, unencrypted communication between cluster peers is permitted. |
| **passphrase-minlength** | | integer optional | Minimum length for a passphrase, integer in [0..1500]. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EPEER_POLICY_CANNOT_REQUIRE_ENCRYPTION** | |

## Element definition: **address-family** [top]

ipv4|ipv6|all Possible values:

- "ipv4" - Lookup for ipv4 addresses,
- "ipv6" - Lookup for ipv6 addresses,
- "all" - Lookup for both ipv4 and ipv6 addresses

[none]

## Element definition: **cluster-name** [top]

Name of the Peer Cluster

[none]

## Element definition: **cluster-name-simple** [top]

Name of the Cluster

[none]

## Element definition: **cluster-peer-address-family** [top]

The address family (IPv4/IPv6) of the cluster peer relationship. Possible values:

- "ipv4" ,
- "ipv6"

[none]

## Element definition: **cluster-peer-auth-status-admin** [top]

Cluster Peering Desired Authentication State

[none]

## Element definition: **cluster-peer-authn-offer** [top]

Authentication Offers to Cluster Peers. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **auth-status-admin** | | cluster-peer-auth-status-admin optional | Authentication Status Administrative Attributes: non-creatable, non-modifiable |
| **auth-status-operational** | | cluster-peer-auth-status-operational optional | Authentication Status Operational Attributes: non-creatable, non-modifiable |
| **encryption-protocol-proposed** | | cluster-peer-crypt optional | Encryption Protocol to Be Used For the Relationship Attributes: non-creatable, non-modifiable Possible values:<br>• "none" - Encryption Off,<br>• "tls_psk" - Use TLS With PSK |
| **initial-allowed-vserver-peers** | | vserver-name[] optional | Vservers Initially Allowed for Peering Attributes: non-creatable, modifiable |
| **offer-creation** | | datetime optional | Authentication Offer Creation Time Attributes: non-creatable, non-modifiable |
| **offer-expiration** | | expiration optional | Authentication Offer Expiration Time Attributes: non-creatable, modifiable |
| **peer-cluster-name** | | string optional | Peer Cluster Name Attributes: key, non-creatable, non-modifiable |
| **peer-cluster-uuid** | | uuid optional | Cluster UUID Attributes: non-creatable, non-modifiable |

# Element definition: **cluster-peer-connection-type**

[top]

Type of Connection for Cluster Peering

[none]

# Element definition: **cluster-peer-connections**

[top]

Connections Established to Cluster Peers. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | The remote network address for this connection. Attributes: non-creatable, non-modifiable |
| **auth-status-admin** | | cluster-peer-auth-status-admin optional | The desired status for the authentication of the peer relationship, according to this cluster. Attributes: non-creatable, non-modifiable |
| **auth-status-operational** | | cluster-peer-auth-status-operational optional | The actual status of the authentication interaction with the peer cluster. Attributes: non-creatable, non-modifiable |
| **authenticated** | | boolean optional | Whether the client has authenticated itself to the peer cluster on this connection. Attributes: non-creatable, non-modifiable |
| **connection-type** | | cluster-peer-connection-type optional | The type of connection for cluster peering. Attributes: key, non-creatable, non-modifiable |
| **file-descriptor** | **[0..2^64-1]** | integer optional | The index value for the connection. Attributes: key, non-creatable, non-modifiable |
| **idle-time** | | time-interval optional | The time since the most recent call, in seconds. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The name of the node that has the connections involved. Attributes: key, non-creatable, non-modifiable |
| **peer-cluster-name** | | string optional | The name of the peer cluster. Attributes: key, non-creatable, non-modifiable |
| **peer-cluster-uuid** | | uuid optional | The UUID of the peer cluster. Attributes: non-creatable, non-modifiable |
| **port** | **[0..2^32-1]** | integer optional | The Internet port to which this file descriptor provides service. Attributes: non-creatable, non-modifiable |
| **psk-algorithm** | | cluster-peer-keyalgo optional | Algorithm that produced the PSK. Attributes: non-creatable, non-modifiable Possible values:<br>• "akep2" - akep2,<br>• "jpake" - j-pake |
| **rpc-procedure** | **[0..2^32-1]** | integer optional | The number of the RPC procedure called most recently on this file descriptor. Attributes: non-creatable, non-modifiable |
| **rpc-program** | **[0..2^32-1]** | integer optional | The RPC program number to which this file descriptor provides service. Attributes: non-creatable, non-modifiable |
| **rpc-version** | **[0..2^32-1]** | integer optional | The version of the RPC program number to which this file descriptor provides service. Attributes: non-creatable, non-modifiable |
| **tls-type** | | conn-kind optional | The kind of TLS connection. Attributes: non-creatable, non-modifiable Possible values:<br>• "unk" - State unknown,<br>• "none" - No TLS,<br>• "psk" - TLS based on a Pre-Shared Key,<br>• "cert" - TLS based on a Certificate |
| **uniquifier** | **[0..2^64-1]** | integer optional | The uniquifier of the associated session. Attributes: non-creatable, non-modifiable |

# Element definition: **cluster-peer-crypt**

[top]

none|tls-psk Possible values:

- "none" - Encryption Off,
- "tls_psk" - Use TLS With PSK

[none]

# Element definition: **cluster-peer-health-info**

[top]

Cluster Peer Health Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **bypass-cache** | | boolean optional | When false, do not use cached results. Cached results may not be current, but they may be retrieved quickly. Attributes: non-creatable, non-modifiable |
| **data-ping** | | peer-ping-status optional | The status of the data ping operation. Possible values are (interface-reachable, unreachable). Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown_node" - Unknown Node,<br>• "internal_error" - Internal Error,<br>• "unreachable" - Unreachable,<br>• "session_reachable" - Session Reachable,<br>• "interface_reachable" - Interface Reachable,<br>• "address_family_mismatch" - Address Family Mismatch |
| **destination-cluster** | | cluster-name optional | The name of the peer cluster. Attributes: key, non-creatable, non-modifiable |
| **destination-cluster-uuid** | | string optional | The UUID of the peer cluster. Attributes: non-creatable, non-modifiable |
| **destination-node** | | peer-node-name optional | The name of the node in the peer cluster. Attributes: key, non-creatable, non-modifiable |
| | | peer- | The status of ICMP ping operation. Possible values are (interface-reachable, unreachable). Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown_node" - Unknown Node, |

| | | | |
|---|---|---|---|
| **icmp-ping** | | ping-status optional | • "internal_error" - Internal Error,<br>• "unreachable" - Unreachable,<br>• "session_reachable" - Session Reachable,<br>• "interface_reachable" - Interface Reachable,<br>• "address_family_mismatch" - Address Family Mismatch |
| **is-cluster-healthy** | | boolean optional | The status of peer cluster health. Attributes: non-creatable, non-modifiable |
| **is-destination-node-available** | | boolean optional | True implies that the destination node is available for intercluster communication. Attributes: non-creatable, non-modifiable |
| **is-node-healthy** | | boolean optional | The RDB health of the node. True means the node is in quorum. Attributes: non-creatable, non-modifiable |
| **last-updated** | | datetime optional | The date and time when the health information for this node was last updated. Attributes: non-creatable, non-modifiable |
| **originating-node** | | node-name optional | The name of the local node. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cluster-peer-info**

[top]

Contains information about the cluster peer. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **active-addresses** | | remote-inet-address[] optional | The active IP addresses of the peer cluster. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable |
| **address-family** | | cluster-peer-address-family optional | The address family of the peer cluster connection. Attributes: non-creatable, non-modifiable Possible values:<br>• "ipv4" ,<br>• "ipv6" |
| **auth-status-admin** | | cluster-peer-auth-status-admin optional | The desired status for the authentication of the peer relationship, according to this cluster. Available in the local cluster. Attributes: non-creatable, non-modifiable |
| **auth-status-operational** | | cluster-peer-auth-status-operational optional | The actual status of the authentication interaction with the peer cluster. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **availability** | | cluster-peer-avail optional | The status of the peer cluster connection. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable Possible values:<br>• "unavailable" ,<br>• "available" ,<br>• "partial" ,<br>• "pending" ,<br>• "unidentified" |
| **cluster-name** | | string optional | The name of the peer cluster. Available in the local cluster. Attributes: key, non-creatable, non-modifiable |
| **cluster-uuid** | | string optional | The UUID of the peer cluster. Available in the local cluster. Attributes: non-creatable, non-modifiable |
| **encryption-protocol** | | cluster-peer-crypt optional | Encryption used in the communication for this relationship. Available in the local cluster. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" - Encryption Off,<br>• "tls_psk" - Use TLS With PSK |
| **encryption-protocol-proposed** | | cluster-peer-crypt optional | Proposed encryption for inter-cluster communication. Default: tls-psk if authentication is used, otherwise none Available in the local cluster. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" - Encryption Off,<br>• "tls_psk" - Use TLS With PSK |
| **ipspace-name** | | string optional | IPspace in which the LIFs for this relationship are to be found. Default: The Default IPspace Available in the local cluster. Attributes: non-creatable, non-modifiable |
| **is-cluster-healthy** | | boolean optional | The status of peer cluster health. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable |
| **last-updated** | | datetime optional | The last time that an attempt was made to contact this cluster and its status information was updated. Attributes: non-creatable, non-modifiable |
| **peer-addresses** | | remote-inet-address[] optional | The remote IP address or host name of the peer cluster. Available in the local cluster. Attributes: non-creatable, non-modifiable |
| **psk-algorithm** | | cluster-peer-keyalgo optional | Algorithm by which the pre-shared key was derived. Available in the local cluster. Attributes: non-creatable, non-modifiable Possible values:<br>• "akep2" - akep2,<br>• "jpake" - j-pake |
| **remote-cluster-name** | | string optional | The current name of the peer cluster. Fetched remotely. Generally, use the 'cluster' name instead. Attributes: non-creatable, non-modifiable |
| **remote-cluster-nodes** | | peer-node-name[] optional | The list of all the nodes in the peer cluster. Available in the local cluster. Attributes: non-creatable, non-modifiable |
| **rpc-connect-timeout** | **[5..30]** | integer optional | The timeout for RPC Connect calls to the peer cluster in seconds. Default: 10 Attributes: non-creatable, non-modifiable |
| **serial-number** | | cluster-serial-number | This is an assigned serial number of peer cluster. It is assigned at the time of cluster create. Available in the local cluster from a |

| | | | |
|---|---|---|---|
| | | optional | cache. Attributes: non-creatable, non-modifiable |
| **timeout** | **[25..180]** | integer optional | The timeout for operations in the peer cluster in seconds. Default: 15 Available in the local cluster. Attributes: non-creatable, non-modifiable |
| **unreachable-local-nodes** | | peer-node-name[] optional | List of local nodes not contactable from the node on which the command is executed. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable |
| **update-ping-timeout** | **[1..10]** | integer optional | The timeout for pings to the peer cluster in seconds. Default: 5 Attributes: non-creatable, non-modifiable |

# Element definition: **cluster-peer-passphrase-info**

[top]

Cluster Peer Create Passphrase Information

| Name | Range | Type | Description |
|---|---|---|---|
| **authentication** | | cluster-peer-auth-status-operational optional | Authentication Status Administrative Attributes: non-creatable, non-modifiable |
| **availability** | | cluster-peer-avail optional | Availability of the Remote Cluster Attributes: non-creatable, non-modifiable Possible values:<br>• "unavailable" ,<br>• "available" ,<br>• "partial" ,<br>• "pending" ,<br>• "unidentified" |
| **cluster** | | string optional | Peer Cluster Name Attributes: non-creatable, non-modifiable |
| **initial-allowed-vserver-peers** | | vserver-name[] optional | Vservers allowed for auto peering Attributes: optional-for-create, non-modifiable |
| **ip-address** | | remote-inet-address optional | Intercluster LIF IP Address Attributes: non-creatable, non-modifiable |
| **ipspace** | | string optional | IPspace in which the LIFs for this relationship are to be found. Default: the Default IPspace Attributes: optional-for-create, non-modifiable |
| **offer-expiration** | | expiration optional | If a passphrase is provided, the expiration time of the authentication offer. Should not be provided otherwise. Default: one hour into the future Attributes: optional-for-create, non-modifiable |
| **passphrase** | | string optional | The arbitrary passphrase that matches the one given to the peer cluster. Attributes: optional-for-create, non-modifiable |
| **reciprocal-status** | | cluster-peer-status | Reciprocal Peering Status Attributes: non-creatable, non-modifiable Possible values:<br>• "non_reciprocal" - Non reciprocal peer,<br>• "reciprocal_connect_success" - Reciprocal peer connection create success,<br>• "reciprocal_connect_failure" - Reciprocal peer connection |

| | | | |
|---|---|---|---|
| | | optional | create failure,<br>• "reciprocal_passphrase_success" - Reciprocal passphrase creation success,<br>• "reciprocal_passphrase_failure" - Reciprocal passphrase creation failure |

# Element definition: **cluster-peer-passphrase-info-modify**

[top]

Cluster Peer Create Passphrase Information

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | string optional | The name of the peer cluster. Available in the local cluster. Attributes: key, required-for-create, non-modifiable |
| **ip-address** | | remote-inet-address optional | Intercluster LIF IP Address Attributes: non-creatable, non-modifiable |
| **ipspace** | | string optional | IPspace in which the LIFs for this relationship are to be found. Default: The Default IPspace Available in the local cluster. Attributes: optional-for-create, non-modifiable |
| **offer-expiration** | | expiration optional | When the offer to match passphrases will expire. Default: one hour into the future Available in the local cluster. Attributes: optional-for-create, non-modifiable |
| **passphrase** | | string optional | Authentication Passphrase Attributes: optional-for-create, non-modifiable |

# Element definition: **cluster-peer-ping-info**

[top]

Cluster Peer Ping Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[1..255]** | integer optional | The total number of times to ping. Attributes: key, non-creatable, non-modifiable |
| **current-count** | **[0..2^32-1]** | integer optional | The current ping count. Attributes: key, non-creatable, non-modifiable |
| **destination-address** | | ip-address optional | The active IP address of the node. Attributes: key, non-creatable, non-modifiable |
| **destination-cluster** | | cluster-name | The name of the destination cluster. Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| | | optional | |
| **destination-cluster-uuid** | | string optional | The UUID of the destination cluster. Attributes: non-creatable, non-modifiable |
| **destination-node** | | string optional | The name of the destination node. Attributes: key, non-creatable, non-modifiable |
| **originating-node** | | node-name optional | The name of the originating node. Attributes: key, non-creatable, non-modifiable |
| **ping-status** | | peer-ping-status optional | The status of the ping operation. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown_node" - Unknown Node,<br>• "internal_error" - Internal Error,<br>• "unreachable" - Unreachable,<br>• "session_reachable" - Session Reachable,<br>• "interface_reachable" - Interface Reachable,<br>• "address_family_mismatch" - Address Family Mismatch |
| **round-trip** | **[0..2^64-1]** | integer optional | The roundtrip response time of ping operation in microseconds. Attributes: non-creatable, non-modifiable |
| **time-to-live** | **[0..2^32-1]** | integer optional | The time to live (remaining hops). Attributes: non-creatable, non-modifiable |
| **timeout** | **[0..2^32-1]** | integer optional | The timeout to use when pinging the peer cluster in seconds. Default: 15 Attributes: non-creatable, non-modifiable |
| **type** | | peer-ping-protocol optional | The network protocol to use when performing the ping operation. Attributes: non-creatable, non-modifiable Possible values:<br>• "data" - Data Ping,<br>• "icmp" - ICMP Ping |

# Element definition: **cluster-peer-policy**

[top]

Policy Configuration of the Cluster Peer Facility. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-unauthenticated-access-permitted** | | boolean optional | Whether unauthenticated communication between cluster peers is permitted. If true, unauthenticated communication between cluster peers is permitted. Default: false Attributes: non-creatable, modifiable |
| **is-unencrypted-access-permitted** | | boolean optional | Whether unencrypted communication between cluster peers is permitted. If true, unencrypted communication between cluster peers is permitted. Default: true Attributes: non-creatable, modifiable |
| **passphrase-** | **[0..1500]** | integer | Minimum required length for a passphrase. Default: 8 |

| | | | |
|---|---|---|---|
| **minimum-length** | | optional | Attributes: non-creatable, modifiable |

## Element definition: **expiration** [top]

Expiration in MM/DD/YYYY HH:MM:SS | {1..7}days | {1..168}hours | PnDTnHnMnS | PnW

[none]

## Element definition: **node-name** [top]

The node's name

[none]

## Element definition: **peer-node-name** [top]

The name of a node in a peer cluster

[none]

## Element definition: **remote-inet-address** [top]

IPv4 Address, IPv6 Address or Host Name

[none]

## Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

## Element definition: **vserver-peer-permission-application** [top]

Intercluster application for Vserver peer permission Possible values:

- "snapmirror" - SnapMirror,
- "flexcache" - FlexCache

[none]

## Element definition: **cluster-name** [top]

Name of the Peer Cluster

[none]

## Element definition: **cluster-peer-address-family** [top]

The address family (IPv4/IPv6) of the cluster peer relationship. Possible values:

- "ipv4" ,
- "ipv6"

[none]

## Element definition: **cluster-peer-auth-status-admin** [top]

Cluster Peering Desired Authentication State

[none]

## Element definition: **cluster-peer-auth-status-operational** [top]

Cluster Peering Operational Authenticated State

The following are the possible values for the operational authentication state and their meanings.

- 'ok' - The clusters have reached agreement on a shared secret and are using it in ongoing communication (both sides use-authentication, among other attributes),
- 'absent' - The clusters agree that neither side requires authentication of the other (both sides no-authentication),
- 'pending' - This cluster has an outstanding offer to authenticate with the other cluster, but agreement has not yet been reached,
- 'expired' - This cluster's offer to authenticate with the other cluster expired before agreement was reached,
- 'revoked' - This cluster has revoked any authentication agreement (this side revoked),
- 'declined' - The other cluster has revoked our communication attempts and is declining to peer with this cluster,
- 'refused' - The other cluster actively refuses our communication attempts; perhaps its part of the peering relationship has been deleted,
- 'ok_and_offer' - The clusters agree on a shared secret and are using it. In addition, this cluster

has an outstanding offer to re-authenticate with the other cluster,
- 'absent_but_offer' - The clusters currently agree that neither side requires authentication of the other, but this cluster has an outstanding offer to authenticate,
- 'revoked_but_offer' - The cluster has revoked any authentication agreement, but it has an outstanding offer to authenticate,
- 'intent_mismatch' - The two sides disagree on whether authentication is required,
- 'key_mismatch' - The two clusters both believe that they are authenticated, but one of the shared secrets has become corrupted,
- 'incapable' - The other cluster is no longer running a version of Data ONTAP that supports authenticated cluster peering.

[none]

# Element definition: **cluster-peer-avail**

[top]

The availability of the peer cluster. Possible values:

- "unavailable" ,
- "available" ,
- "partial" ,
- "pending" ,
- "unidentified"

[none]

# Element definition: **cluster-peer-connection-type**

[top]

Type of Connection for Cluster Peering

[none]

# Element definition: **cluster-peer-crypt**

[top]

none|tls-psk Possible values:

- "none" - Encryption Off,
- "tls_psk" - Use TLS With PSK

[none]

# Element definition: **cluster-peer-keyalgo**

[top]

akep2|jpake Possible values:

- "akep2" - akep2,
- "jpake" - j-pake

[none]

## Element definition: **cluster-peer-status**

[top]

non-reciprocal|reciprocal-status Possible values:

- "non_reciprocal" - Non reciprocal peer,
- "reciprocal_connect_success" - Reciprocal peer connection create success,
- "reciprocal_connect_failure" - Reciprocal peer connection create failure,
- "reciprocal_passphrase_success" - Reciprocal passphrase creation success,
- "reciprocal_passphrase_failure" - Reciprocal passphrase creation failure

[none]

## Element definition: **cluster-serial-number**

[top]

Assigned Cluster serial-number during cluster create

[none]

## Element definition: **conn-kind**

[top]

unknown|none|PSK|Cert Possible values:

- "unk" - State unknown,
- "none" - No TLS,
- "psk" - TLS based on a Pre-Shared Key,
- "cert" - TLS based on a Certificate

[none]

## Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **peer-ping-protocol**

[top]

The network protocol to use when performing the ping operation. Possible values:

- "data" - Data Ping,
- "icmp" - ICMP Ping

[none]

# Element definition: **peer-ping-status**

[top]

The status of the ping operation. Possible values:

- "unknown_node" - Unknown Node,
- "internal_error" - Internal Error,
- "unreachable" - Unreachable,
- "session_reachable" - Session Reachable,
- "interface_reachable" - Interface Reachable,
- "address_family_mismatch" - Address Family Mismatch

[none]

# Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# APIs in Category: **cluster-switch**


cluster-switch-configure-health-monitor
cluster-switch-create
cluster-switch-delete
cluster-switch-get-iter
cluster-switch-modify
cluster-switch-poll-get
cluster-switch-poll-modify


This interface is used to access information about the Ethernet switches in the cluster.

## cluster-switch-configure-health-monitor

[top]

Ethernet switch health monitor configuration file setup

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node |
| **package-url** | | string | Package URL |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## cluster-switch-create

[top]

Add information about an Ethernet switch (cluster, management or storage).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address | IP Address |
| **community-or-username** | | string<br>optional | Community String or SNMPv3 Username |
| **device** | | string | Device Name |
| **is-monitoring-enabled-admin** | | true-false<br>optional | Enable Switch Monitoring |
| **model** | | switch-model | Model Number |
| **snmp-version** | | sm-snmpversion<br>optional | SNMP Version |
| **type** | | switch-type | Switch Network |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## cluster-switch-delete

[top]

Delete information about an Ethernet switch (cluster, management or storage).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **device** | | string | Device Name |
| **force** | | boolean optional | Force Delete |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-switch-get-iter

[top]

(cluster-swt-get-iter is now deprecated. Use cluster-switch-get-iter instead.) Display the configuration for Ethernet switch (cluster, management or storage).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-switch-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-switch-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Ethernet Switch Information object. All Ethernet Switch Information objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-switch-info[] optional | The list of attributes of Ethernet Switch Information objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Ethernet Switch Information objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cluster-switch-modify

[top]

Modify information about an Ethernet switch's configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | ip-address | |

| | | | |
|---|---|---|---|
| **address** | | optional | IP Address |
| **community-or-username** | | string optional | Community String or SNMPv3 Username |
| **device** | | string | Device Name |
| **is-monitoring-enabled-admin** | | true-false optional | Enable Switch Monitoring |
| **model** | | switch-model optional | Model Number |
| **snmp-version** | | sm-snmpversion optional | SNMP Version |
| **type** | | switch-type optional | Switch Network |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-switch-poll-get

[top]

Return Ethernet switch polling interval information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-switch-poll-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-switch-poll-info | The attributes of the Ethernet switch polling interval information. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-switch-poll-modify

[top]

Modify Ethernet switch polling interval information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **polling-interval** | **[2..120]** | integer | Polling interval for monitoring Ethernet switch health. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **cluster-switch-info**

[top]

Ethernet Switch Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | IP Address Attributes: required-for-create, modifiable |
| **device** | | string optional | Device Name Attributes: key, required-for-create, non-modifiable |
| **is-monitoring-enabled-operational** | | true-false optional | Is Monitored ? Attributes: non-creatable, non-modifiable |
| **model** | | switch-model optional | Model Number Attributes: required-for-create, non-modifiable Possible values:<br>• "nx5010" - N5K-C5010P-BF,<br>• "nx5020" - N5K-C5020P-BF,<br>• "cat2960" - cisco WS-C2960-24TT-L,<br>• "other" ,<br>• "nx5596" - N5K-C5596UP,<br>• "cn1610" - CN1610,<br>• "cn1601" - CN1601,<br>• "nx3132" - N3K-C3132Q-40GX,<br>• "nx5548" - N5K-C5548UP,<br>• "nx3132v" - N3K-C3132Q-V,<br>• "ot9332" ,<br>• "nx3132xl" - N3K-C3132Q-XL,<br>• "nx3232c" - N3K-C3232C |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **reason** | | string optional | Reason For Not Monitoring Attributes: non-creatable, non-modifiable |
| **serial-number** | | string optional | Serial Number of the Device Attributes: non-creatable, non-modifiable |
| **sw-version** | | string optional | Software Version Attributes: non-creatable, non-modifiable |
| **type** | | switch-type optional | Switch Network Attributes: required-for-create, modifiable Possible values:<br>• "cluster_network" ,<br>• "management_network" ,<br>• "storage_network" |
| **version-source** | | string optional | Source Of Switch Version Attributes: non-creatable, non-modifiable |

# Element definition: **cluster-switch-poll-info**

[top]

Ethernet Switch Polling Interval Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **polling-interval** | **[2..120]** | integer optional | Polling interval for monitoring Ethernet switch health. Attributes: non-creatable, modifiable |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **sm-snmpversion**

[top]

SNMPv1|SNMPv2c|SNMPv3 Possible values:

- "snmpv1" ,
- "snmpv2c" ,
- "snmpv3"

[none]

# Element definition: **switch-model**

[top]

NX5010|NX5020|CAT2960|OTHER|NX5596|CN1610|CN1601|NX3132|NX5548|NX3132V|OT9332|NX3132XL|NX3232C Possible values:

- "nx5010" - N5K-C5010P-BF,
- "nx5020" - N5K-C5020P-BF,
- "cat2960" - cisco WS-C2960-24TT-L,
- "other" ,
- "nx5596" - N5K-C5596UP,

- "cn1610" - CN1610,
- "cn1601" - CN1601,
- "nx3132" - N3K-C3132Q-40GX,
- "nx5548" - N5K-C5548UP,
- "nx3132v" - N3K-C3132Q-V,
- "ot9332" ,
- "nx3132xl" - N3K-C3132Q-XL,
- "nx3232c" - N3K-C3232C

[none]

## Element definition: **switch-type**

[top]

cluster-network|management-network|storage-network Possible values:

- "cluster_network" ,
- "management_network" ,
- "storage_network"

[none]

## Element definition: **true-false**

[top]

True/False

[none]

# APIs in Category: **config-backup**


config-backup-copy
config-backup-create
config-backup-delete
config-backup-download
config-backup-info-get
config-backup-info-get-iter
config-backup-rename
config-backup-settings-get
config-backup-settings-modify
config-backup-settings-password-set
config-backup-upload


This set of ZAPIs allow managing configuration backups. Configuration backups are automatically created based on three job schedules. These job schedules are '8hour', 'daily' and 'weekly'. These job schedules are pre-programmed to create 'scheduled backups'. Configuring different job schedules other than the programmed ones is not supported. Scheduled backups are uploaded to remote URL destination if it is configured. This set of ZAPIs support configuring the remote destination by specifying URL, username and password. Scheduled backups will be distributed to some nodes within the cluster and latest backups will be kept in the cluster. This set of ZAPIs allow configuring the number of latest backups to keep in the cluster per job schedule. Scheduled backups are of type 'cluster backup'. A cluster backup contains cluster-wide replicas in addition to 'node backup' of each node in the cluster. A 'node backup' contains only node-specific configuration such as configuration files on the root volume and the boot variables. Configuration backups can also be created 'on demand' by using this set of ZAPIs. These ZAPIs support creating node backups and cluster backups on demand. Backup management operations such as delete backup, copy backup to another node in cluster, rename backup, download backup from URL and upload backup to URL are supported by this set of ZAPIs. ZAPIs for delete, copy, rename, download and upload operations are applicable for any type of backups, i.e. scheduled backups and on demand backups, node backups and cluster backups.

## config-backup-copy

[top]

Copy a configuration backup. A job will be queued to copy the configuration backup. A job will be spawned to operate on the config-backup and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **backup-name** | | string | The name of the configuration backup. |
| **from-node** | | string | The source node to copy the configuration backup from. This is the node that has the backup file on its root volume. |
| **to-node** | | string | The destination node to copy the configuration backup to. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| | | | The operation status. Possible values: "succeeded", "in_progress", |

| | | | |
|---|---|---|---|
| **result-status** | | string | "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# config-backup-create

[top]

Create a configuration backup. A job will be queued to create the configuration backup in the background. Creation of configuration backup may take several minutes. This ZAPI creates an on demand backup. A job will be spawned to operate on the config-backup and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **backup-name** | | string optional | The name of the configuration backup. It must be a valid file name. An extension of .7z will be added if the given backup-name doesn't have that extension. If backup-name is not provided, software will generate the name for configuration backup. |
| **backup-type** | | backup-type optional | Indicates if the backup is a node or a cluster backup. A node backup contains only node-specific configuration of a particular node in the cluster. A cluster backup contains cluster-wide replicas in addition to node backup of each node in the cluster. Possible values:<br>• "node" - Node Backup,<br>• "cluster" - Cluster Backup |
| **node** | | string | The node to own the configuration backup. This is the node that will have the backup file on its root volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# config-backup-delete

[top]

Delete a configuration backup.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **backup-name** | | string | The name of the configuration backup. |
| **node** | | string | The node that owns the configuration backup. This is the node that has the backup file on its root volume. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# config-backup-download

[top]

Download a configuration backup from a URL.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **backup-name** | | string optional | The name of the configuration backup. It must be a valid file name. An extension of .7z will be added if the given backup-name doesn't have that extension. If backup-name is not provided, software will generate a name for configuration backup. |
| **node** | | string | The node to own the configuration backup. The backup file will be downloaded to the root volume of this node. |
| **source-url** | | string | The source URL. URL is specified following the syntax described in RFC 3986. Only 'ftp', 'http' and 'https' protocols are supported. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# config-backup-info-get

[top]

Return information about a specified configuration backup.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **backup-name** | | string | The name of the configuration backup. |
| **desired-attributes** | | config-backup-info-type optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | string | The node that owns the configuration backup. This is the node that has the backup file on its root volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | config-backup-info-type | The attributes of the config-backup-info. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# config-backup-info-get-iter

[top]

Return a list of configuration backups in the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | config-backup-info-type optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | config-backup-info-type optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the config-backup-info object. All config-backup-info objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | config-backup-info-type[] optional | The list of attributes of config-backup-info objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more config-backup-info objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# config-backup-rename

[top]

Rename a configuration backup. Renamed backup stays on the same node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| backup-name | | string | The name of the configuration backup. |
| new-backup- | | string | The new name for the configuration backup. It must be a valid file name. An extension of .7z will be added if the given new-name doesn't have that |

| | | | |
|---|---|---|---|
| **name** | | | extension. |
| **node** | | string | The node that owns the configuration backup. This is the node that has the backup file on its root volume. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# config-backup-settings-get

[top]

Return information about the configuration backup settings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | config-backup-settings-type optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | config-backup-settings-type | The attributes of the config-backup-settings. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# config-backup-settings-modify

[top]

Modify the settings for configuration backup operations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **backup-count1** | **[1..4]** | integer optional | The number of configuration backups to keep in the cluster for schedule 1. |
| **backup-count2** | **[1..4]** | integer optional | The number of configuration backups to keep in the cluster for schedule 2. |
| **backup-count3** | **[1..4]** | integer optional | The number of configuration backups to keep in the cluster for schedule 3. |
| **destination-url** | | string optional | The destination URL for uploading the configuration backups. URL is specified following the syntax described in RFC 3986. Only 'ftp', 'http' and 'https' protocols are supported. |
| **username-for-destination-url** | | string optional | The username for the destination URL. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

## config-backup-settings-password-set

[top]

Modify the password for destination URL.

| Input Name | Range | Type | Description |
|---|---|---|---|
| password-for-destination-url | | string optional | Password for the destination URL. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

## config-backup-upload

[top]

Upload a configuration backup to a URL.

| Input Name | Range | Type | Description |
|---|---|---|---|
| backup-name | | string | The name of the configuration backup. |
| destination-url | | string | The destination URL. URL is specified following the syntax described in RFC 3986. Only 'ftp', 'http' and 'https' protocols are supported. |
| node | | string | The node that owns the configuration backup. This is the node that has the backup file on its root volume. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# Element definition: **backup-type**

[top]

The type of a configuration backup. Possible values:

- "node" - Node Backup,
- "cluster" - Cluster Backup

[none]

# Element definition: **config-backup-info-type**

[top]

Configuration Backup Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **backup-creation-time** | **[0..2^31-1]** | integer optional | The time of the configuration backup creation. The time value is in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable |
| **backup-name** | | string optional | The name of the configuration backup. Attributes: key, required-for-create, non-modifiable |
| **backup-size** | **[0..2^63-1]** | integer optional | The size of configuration backup file in number of bytes. Attributes: non-creatable, non-modifiable |
| **backup-type** | | backup-type optional | Indicates if the backup is a node or a cluster backup. A node backup contains only node-specific configuration of a particular node in the cluster. A cluster backup contains cluster-wide replicas in addition to node backup of each node in the cluster. If backup-type is not provided, cluster backup is assumed by default. Attributes: non-creatable, non-modifiable Possible values:<br>• "node" - Node Backup,<br>• "cluster" - Cluster Backup |
| **cluster-name** | | string optional | The name of the cluster which the configuration backup was created for. This field is set only for cluster backups. For node backups, the nodes-in-backup field indicates the name of the node. Attributes: non-creatable, non-modifiable |
| **cluster-uuid** | | string optional | The UUID of the cluster which the configuration backup was created for. This field is set only for cluster backups. Attributes: non-creatable, non-modifiable |
| **is-auto** | | boolean optional | True indicates that configuration backup is a scheduled backup that was created automatically by a schedule. False indicates that configuration backup was created on demand. Attributes: non-creatable, non-modifiable |
| **node** | | string optional | The node that owns the configuration backup. This is the node that has the backup file on its root volume. Attributes: key, required-for-create, non-modifiable |
| **nodes-in-backup** | | string[] optional | The names of the nodes included in the configuration backup. Attributes: non-creatable, non-modifiable |
| **schedule** | | string optional | The name of the job schedule for scheduled backups. Possible values are: '8hour', 'daily', and 'weekly'. This field is not set for on demand backups created via management CLI or ZAPI. Attributes: non-creatable, non-modifiable |
| **version** | | string optional | The software version which the configuration backup was created with. Attributes: non-creatable, non-modifiable |

# Element definition: **config-backup-settings-type**

[top]

Configuration Backup Settings When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **backup-count1** | **[1..4]** | integer optional | The number of configuration backups to keep in the cluster for schedule 1. Attributes: non-creatable, modifiable |
| **backup-count2** | **[1..4]** | integer optional | The number of configuration backups to keep in the cluster for schedule 2. Attributes: non-creatable, modifiable |
| **backup-count3** | **[1..4]** | integer optional | The number of configuration backups to keep in the cluster for schedule 3. Attributes: non-creatable, modifiable |
| **destination-url** | | string optional | The destination URL for uploading the configuration backups. URL is specified following the syntax described in RFC 3986. Only 'ftp', 'http' and 'https' protocols are supported. Attributes: non-creatable, modifiable |
| **job-schedule1** | | string optional | The name of the first job schedule for generating configuration backups. It is pre-programmed to be '8hour'. Attributes: non-creatable, non-modifiable |
| **job-schedule2** | | string optional | The name of the second job schedule for generating configuration backups. It is pre-programmed to be 'daily'. Attributes: non-creatable, non-modifiable |
| **job-schedule3** | | string optional | The name of the third job schedule for generating configuration backups. It is pre-programmed to be 'weekly'. Attributes: non-creatable, non-modifiable |
| **username-for-destination-url** | | string optional | The username for the destination URL. Attributes: non-creatable, modifiable |

# Element definition: **backup-type**

[top]

The type of a configuration backup. Possible values:

- "node" - Node Backup,
- "cluster" - Cluster Backup

[none]

# APIs in Category: **coredump**


coredump-configure
coredump-list-cores-iter-next
coredump-list-cores-iter-start
coredump-list-info
coredump-remove
coredump-save
coredump-trigger


## coredump-configure

[top]

Setup some coredump options. If not invoked, the default settings are: sparsecore is true, minfree is zero, and dump-attempts is two.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **dump-attempts** | | integer | The number of times coredump should attempt to dump a core when faced with disk errors that prevent writes from completing. When set to zero, no cores will be dumped. Range : [0..10]. |
| **minfree** | | integer | The number of bytes that need to be left in the root filesystem after coredump has finished saving a core. If this amount of space will not be left, save attempts will be aborted. If a core is already being saved, this setting will not take affect until savecore starts saving another core. Range : [0..2^63-1]. |
| **save-attempts** | | integer | The number of times coredump should attempt to save a core before requiring the force flag to be set to true in the coredump-save interface. This is a safeguard built into coredump to prevent coredump from causing a panic loop. Range : [0..10]. |
| **sparsecore** | | boolean | Controls whether or not coredump should dump sparse cores. Sparse cores do not include wafl buffers that contain only user data. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## coredump-list-cores-iter-next

[top]

Obtain a list of cores on this system

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maximum** | | integer | Maximum number of directory entries to retrieve. |
| **tag** | | string | Tag from a previous 'coredump-list-cores-iter-start' or 'coredump-list-cores-iter-next'. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **core-details** | | core-detail-info[] | Information about every core on this system, both saved and unsaved. |
| **next-tag** | | string | The tag value to supply to the next invocation of 'coredump-list-cores-iter-next'. |
| **records** | | integer | The number of cores being returned by this call. When this value reaches zero, all cores have been retrieved. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ELOWMEMORY** | |
| **ECOREDUMPBUSY** | |

# coredump-list-cores-iter-start

[top]

Start an iteration through the core files on this system. This interface will return an error unless the state returned by coredump-list-info is idle, nocore, or waitdump.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **next-tag** | | string | Tag to be used in next call to 'coredump-list-cores-iter-next'. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ECOREDUMPNOTINITIALIZED** | |
| **ECOREDUMPBUSY** | |

# coredump-list-info

[top]

Gather info about state of coredump

| Output Name | Range | Type | Description |
|---|---|---|---|
| **config-details** | | config-detail-info optional | This provides information about the disks available to coredump. Information includes whether or not unsaved cores are on the disks, how many blocks are available to dump a core, and what kind of dump would be done, if the system were to panic right now. This is only returned if state is nocore, idle, or waitdump. |
| **fs-avail-bytes** | | integer optional | The number of free bytes available in the root filesystem for saving cores. This will only be returned if state is nocore, idle, or waitdump. -1 will be returned if errors occurred while determining the value. Range : [-1..2^63-1]. |
| **fs-bytes-needed** | | integer optional | The maximum number of free bytes needed in the root filesystem for saving all unsaved cores. This will only be returned if state is idle. Range : [0..2^63-1]. |
| **fs-minfree-bytes** | | integer optional | The minimum number of bytes that must be left free in the root filesystem when savecore has finished saving a core. Any core that has a chance to reduce free space below this amount will not be saved. This will only be returned if state is nocore, idle, or waitdump. -1 will be returned if errors occurred while determining the value. Range : |

| | | | |
|---|---|---|---|
| | | | [-1..2^63-1]. |
| **progress-details** | | progress-detail-info optional | Progress savecore has made saving the current core. This is only returned if state is saving. |
| **state** | | string | The current state of savecore. Possible values: nocore, idle, init, saving, mini, waitdump |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ENOTWHILEWAITINGFORGIVEBACK** | |
| **ENOTINMAINTMODE** | |
| **ENOTINREADONLYMODE** | |
| **ECOREDUMPNOTINITIALIZED** | |

# coredump-remove

[top]

Removes saved or unsaved cores from this system.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **coreid** | | integer optional | The id of the core that should be deleted. If not provided, all cores will be deleted. Range : [0..2^63-1]. |
| **remove-saved** | | boolean optional | Set to true if cores that have already been saved should be deleted. Otherwise, only unsaved cores will be deleted. Default: false |

| Errno | Description |
|---|---|
| **EBADCOREID** | |
| **EINTERNALERROR** | |
| **ENOTWHILEWAITINGFORGIVEBACK** | |
| **ENOTINMAINTMODE** | |
| **ENOTINREADONLYMODE** | |

# coredump-save

[top]

Start saving any unsaved cores

| Input Name | Range | Type | Description |
|---|---|---|---|
| **coreid** | | integer optional | The id of the core that should be saved. If not provided, all cores will be saved. Range : [0..2^63-1]. |
| **force** | | boolean optional | Set to true to allow savecore to save cores that have had too many failed save attempts in the past. Default: false |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ENOTWHILEWAITINGFORGIVEBACK** | |
| **ENOTINMAINTMODE** | |

| | |
|---|---|
| **ENOTINREADONLYMODE** | |

## coredump-trigger

[top]

Trigger a coredump via the Service Processor

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node whose core dump is required |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## Element definition: **config-detail-info**

[top]

Disk configuration information related to coredump

| Name | Range | Type | Description |
|---|---|---|---|
| **async-blocks** | | integer | The total number of 4KB blocks available to coredump on the disks that support the spraycore mode of coredump. Range : [0..2^31-1]. |
| **async-disks** | | integer | The number of unused disks available to coredump that support spraycore. Range : [0..2^31-1]. |
| **dumptype** | | string | This is the type of dump that will be done if the machine panics right now. Possible values: compressed, sprayed, spare |
| **needed-blocks** | | integer | The total number of 4KB disk blocks needed for coredump to spray a core if a panic were to happen right now. Range : [0..2^31-1]. |
| **needed-disks** | | integer | The minimum number of disks needed to spray a core. Range : [0..2^31-1]. |
| **no-spares** | | boolean | True if no spare disks are available. If no spares are available, and the dumptype is spare, no core can be dumped. |
| **partial-disks** | | integer | The number of disks that contain unsaved partial cores. Partial cores are missing one or more disks. Range : [0..2^31-1]. |
| **partial-dumps** | | integer | The number of unsaved partial cores. Partial cores are missing one or more disks. Range : [0..2^31-1]. |
| **supports-spraycore** | | boolean | True if this platform supports spraying cores, and false otherwise. |
| **total-disks** | | integer | The total number of disks available to coredump. Range : [0..2^31-1]. |
| **used-disks** | | integer | Number of disks that already contain portions of unsaved cores. This only includes cores that are not missing any disks. Range : [0..2^31-1]. |
| **used-dumps** | | integer | The number of unsaved cores that are not missing any disks. Range : [0..2^31-1]. |

## Element definition: **core-detail-info**

[top]

All important information about a single core in the system.

| Name | Range | Type | Description |
|---|---|---|---|
| **ancillary-segment-directory** | | string | The directory holding ancillary kernel core segments belonging to this panic. |
| **attempts** | | integer optional | The number of attempts that have been made to save an unsaved core. This is only returned if saved is false. Range : [0..2^31-1]. |
| **coreid** | | integer | A handle that can be used with coredump-remove or coredump-save to remove/save specific cores. Range : [0..2^63-1]. |
| **corename** | | string | The name of the core file. For unsaved cores, this is the name the core file will have once the core is saved. |
| **fs-bytes-needed** | | integer optional | The maximum number of bytes needed in the root filesystem to save this core. This is only returned if saved is false. Range : [0..2^63-1]. |
| **is-partial** | | boolean optional | True if the core is a partial core. Partial cores are missing disks. This is only returned if saved is false. |
| **is-saved** | | boolean | True if this core has already been saved. |
| **md5-data-chksum** | | string | The MD5 checksum of the compressed data of this core. |
| **os-version** | | string | The version of Data ONTAP that generated this core. |
| **panic-string** | | string | The panic string for the panic that generated this core. |
| **panic-time** | | integer | The time of the panic that generated this core. It is specified in seconds since the epoch. Range : [0..2^31-1]. |
| **size** | | integer optional | The size of core (bytes). Range : [0..2^63-1]. |
| **sysid** | | integer | The system id of the system that generated this core. Range : [0..2^31-1]. |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **progress-detail-info**

[top]

Savecore progress info

| Name | Range | Type | Description |
|---|---|---|---|
| **corename** | | string | Name of the core being saved |
| **saved-blocks** | | integer | Number of blocks that have already been saved in the core that is being saved |
| **total-blocks** | | integer | Total number of blocks of data in the core that is being saved. |

# APIs in Category: **dashboard**


dashboard-alarm-get
dashboard-alarm-get-iter
dashboard-alarm-get-total-records
dashboard-alarm-threshold-get
dashboard-alarm-threshold-get-iter
dashboard-alarm-threshold-get-total-records
dashboard-alarm-threshold-modify


Note: This command is removed starting from ONTAP 9.0.

This set of APIs provides visibility into the Alarm Dashboard feature of the system. The Alarm Dashboard allows the system administrator to proactively monitor the health of each node in the cluster by exposing various storage and performance metrics. The administrator may configure this dashboard to alert users in the event a performance metric crosses a predetermined threshold. The following metrics are monitored by the Alarm Dashboard:

- average client latency (performance of NFS and CIFS operations)
- CPU utilization
- data network health (ratio of packet errors over total packets)
- data port utilization
- storage space utilization

The APIs are divided into the following major features:

- Alarms: view storage and performance metrics
- Alarm Thresholds: manage warning / critical thresholds, polling intervals, and user notifications

## dashboard-alarm-get

[top]

This command is removed starting from ONTAP 9.0.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **dashboard-metric-type** | | dashboard-metric-type | The type of metric being monitored. Possible values:<br>• "cpu_busy" - CPU Utilization,<br>• "port_util" - Port Utilization,<br>• "op_latency" - Average Client Latency of NFS and CIFS operations,<br>• "aggregate_used" - Storage Aggregate Utilization,<br>• "port_problems" - Packet Error Ratio |
| **desired-attributes** | | dashboard-alarm-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | string | Name of the node associated with the alarm metrics. |
| **object-name** | | string | Name associated with the object being monitored. For example, the object-name is the name of the node if the dashboard-metric-type is cpu-busy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | dashboard- | |

| | | | |
|---|---|---|---|
| **attributes** | | alarm-info | The attributes of the dashboard-alarm. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |

# dashboard-alarm-get-iter

[top]

This command is removed starting from ONTAP 9.0.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | dashboard-alarm-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | dashboard-alarm-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the dashboard-alarm object. All dashboard-alarm objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | dashboard-alarm-info[] optional | The list of attributes of dashboard-alarm objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more dashboard-alarm objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |

# dashboard-alarm-get-total-records

[top]

This command is removed starting from ONTAP 9.0.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^64-1]** | integer | The total number of dashboard-alarm objects. |

# dashboard-alarm-threshold-get

[top]

This command is removed starting from ONTAP 9.0.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **dashboard-metric-type** | | dashboard-metric-type | The type of metric being monitored. Possible values:<br>• "cpu_busy" - CPU Utilization,<br>• "port_util" - Port Utilization,<br>• "op_latency" - Average Client Latency of NFS and CIFS operations,<br>• "aggregate_used" - Storage Aggregate Utilization,<br>• "port_problems" - Packet Error Ratio |
| **desired-attributes** | | dashboard-alarm-threshold-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | dashboard-alarm-threshold-info | The attributes of the dashboard-alarm-threshold. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |

# dashboard-alarm-threshold-get-iter

[top]

This command is removed starting from ONTAP 9.0.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | dashboard-alarm-threshold-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | dashboard-alarm-threshold-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the dashboard-alarm-threshold object. All dashboard-alarm-threshold objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **attributes-list** | | dashboard-alarm-threshold-info[] optional | The list of attributes of dashboard-alarm-threshold objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more dashboard-alarm-threshold objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |

# dashboard-alarm-threshold-get-total-records

[top]

This command is removed starting from ONTAP 9.0.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^64-1]** | integer | The total number of dashboard-alarm-threshold objects. |

# dashboard-alarm-threshold-modify

[top]

This command is removed starting from ONTAP 9.0.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **critical-threshold** | | string optional | The threshold value that must be reached to generate a critical alarm for this type of metric. Get request is returned with % sign for percent values and ms for milliseconds value. Example : 95%, 500ms |
| **dashboard-metric-type** | | dashboard-metric-type | The type of metric being monitored. Possible values:<br>• "cpu_busy" - CPU Utilization,<br>• "port_util" - Port Utilization,<br>• "op_latency" - Average Client Latency of NFS and CIFS operations,<br>• "aggregate_used" - Storage Aggregate Utilization,<br>• "port_problems" - Packet Error Ratio |
| **is-user-notification-enabled** | | boolean optional | Specifies whether user notifications are enabled. |
| **polling-interval** | **[60..6000]** | integer optional | The refresh interval for the alarm dashboard metrics (in seconds). |
| **threshold-units** | | threshold-unit optional | Threshold Units Possible values:<br>• "none" - none,<br>• "ms" - milliseconds,<br>• "percent" - percent |

| | | | |
|---|---|---|---|
| **warning-threshold** | | string optional | The threshold value that must be reached to generate a warning alarm for this type of metric. Get request is returned with % sign for percent values and ms for milliseconds value. Example : 85%, 200ms |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |

# Element definition: **dashboard-alarm-info**

[top]

Alarm monitoring data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **dashboard-metric-type** | | dashboard-metric-type optional | The type of metric being monitored. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "cpu_busy" - CPU Utilization,<br>• "port_util" - Port Utilization,<br>• "op_latency" - Average Client Latency of NFS and CIFS operations,<br>• "aggregate_used" - Storage Aggregate Utilization,<br>• "port_problems" - Packet Error Ratio |
| **high-value** | | string optional | The highest value recorded so far for this metric. Attributes: non-creatable, non-modifiable |
| **last-value** | | string optional | The last value recorded for this metric. Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Name of the node associated with the alarm metrics. Attributes: key, non-creatable, non-modifiable |
| **object-name** | | string optional | Name associated with the object being monitored. For example, the object-name is the name of the node if the dashboard-metric-type is cpu-busy. Attributes: key, non-creatable, non-modifiable |
| **state** | | alarm-state optional | The current alarm state of the object being monitored. Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" ,<br>• "warning" ,<br>• "critical" |

# Element definition: **dashboard-alarm-threshold-info**

[top]

Alarm threshold configuration settings When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **critical-threshold** | | string optional | The threshold value that must be reached to generate a critical alarm for this type of metric. Get request is returned with % sign for percent values and ms for milliseconds value. Example : 95%, 500ms Attributes: optional-for-create, modifiable |
| **dashboard-metric-type** | | dashboard-metric-type optional | The type of metric being monitored. Attributes: key, required-for-create, non-modifiable Possible values:<br>• "cpu_busy" - CPU Utilization,<br>• "port_util" - Port Utilization,<br>• "op_latency" - Average Client Latency of NFS and CIFS operations,<br>• "aggregate_used" - Storage Aggregate Utilization,<br>• "port_problems" - Packet Error Ratio |
| **is-user-notification-enabled** | | boolean optional | Specifies whether user notifications are enabled. Attributes: required-for-create, modifiable |
| **polling-interval** | **[60..6000]** | integer optional | The refresh interval for the alarm dashboard metrics (in seconds). Attributes: required-for-create, modifiable |
| **threshold-units** | | threshold-unit optional | Threshold Units Attributes: optional-for-create, modifiable Possible values:<br>• "none" - none,<br>• "ms" - milliseconds,<br>• "percent" - percent |
| **warning-threshold** | | string optional | The threshold value that must be reached to generate a warning alarm for this type of metric. Get request is returned with % sign for percent values and ms for milliseconds value. Example : 85%, 200ms Attributes: required-for-create, modifiable |

# Element definition: **dashboard-metric-type**

[top]

Metric Type Possible values:

- "cpu_busy" - CPU Utilization,
- "port_util" - Port Utilization,
- "op_latency" - Average Client Latency of NFS and CIFS operations,
- "aggregate_used" - Storage Aggregate Utilization,
- "port_problems" - Packet Error Ratio

[none]

# Element definition: **threshold-unit**

[top]

Dashboard Threshold Units Possible values:

- "none" - none,
- "ms" - milliseconds,
- "percent" - percent

[none]

# Element definition: **alarm-state**

[top]

Alarm Monitoring State Possible values:

- "ok" ,
- "warning" ,
- "critical"

[none]

# APIs in Category: **diagnosis**


diagnosis-alert-definition-get
diagnosis-alert-definition-get-iter
diagnosis-alert-get
diagnosis-alert-get-iter
diagnosis-alert-modify
diagnosis-config-get
diagnosis-config-get-iter
diagnosis-delete-alert
diagnosis-policy-definition-get
diagnosis-policy-definition-get-iter
diagnosis-policy-modify
diagnosis-status-get
diagnosis-subsystem-config-get
diagnosis-subsystem-config-get-iter
diagnosis-subsystem-config-modify


This set of Zapis is used for monitoring and diagnosing system health.

## diagnosis-alert-definition-get

[top]

Return alert definition

| Input Name | Range | Type | Description |
|---|---|---|---|
| **alert-id** | | string | Alert identification. |
| **desired-attributes** | | diagnosis-alert-definition-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **monitor** | | hm-type | Type of health monitor (e.g. node_connect, system_connect, system). |
| **node** | | string | Node hosting this health monitor. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | diagnosis-alert-definition-info | The attributes of the Alert Definition. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# diagnosis-alert-definition-get-iter

[top]

Iterate over a list of Alert Definition objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | diagnosis-alert-definition-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | diagnosis-alert-definition-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Alert Definition object. All Alert Definition objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | diagnosis-alert-definition-info[] optional | The list of attributes of Alert Definition objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Alert Definition objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# diagnosis-alert-get

[top]

Return a subsystem alert

| Input Name | Range | Type | Description |
|---|---|---|---|
| **alert-id** | | string | Alert identification. |
| **alerting-resource** | | string | Unique name of resource that generated the alert. |
| **desired-attributes** | | diagnosis-alert-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **monitor** | | hm-type | Type of health monitor (e.g. node_connect, system_connect, system). |
| **node** | | string | Node hosting this health monitor. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | diagnosis-alert-info | The attributes of the Alert Information. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# diagnosis-alert-get-iter

[top]

Iterate over a list of Alert Information objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | diagnosis-alert-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | diagnosis-alert-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Alert Information object. All Alert Information objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | diagnosis-alert-info[] optional | The list of attributes of Alert Information objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Alert Information objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# diagnosis-alert-modify

[top]

Acknowledge/suppress an alert

| Input Name | Range | Type | Description |
|---|---|---|---|
| **acknowledge** | | boolean optional | Acknowledge the alert condition. |
| **acknowledger** | | string optional | Person who acknowledged this alert |
| **alert-id** | | string | Alert identification. |
| **alerting-resource** | | string | Unique name of resource that generated the alert. |
| **monitor** | | hm-type | Type of health monitor (e.g. node_connect, system_connect, system). |
| **node** | | string | Node hosting this health monitor. |
| **suppress** | | boolean optional | Suppress this alert. |
| **suppressor** | | string optional | Person who suppressed this alert |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# diagnosis-config-get

[top]

Return the system health framework configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | diagnosis-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **monitor** | | hm-type | Type of health monitor (e.g. node_connect, system_connect, system). |
| **node** | | string | Node hosting this health monitor. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | diagnosis-config-info | The attributes of the Health Monitor Configuration. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# diagnosis-config-get-iter

[top]

Iterate over a list of Health Monitor Configuration objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **desired-attributes** | | diagnosis-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | diagnosis-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Health Monitor Configuration object. All Health Monitor Configuration objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | diagnosis-config-info[] optional | The list of attributes of Health Monitor Configuration objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Health Monitor Configuration objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# diagnosis-delete-alert

[top]

Delete subsystem alert

| Input Name | Range | Type | Description |
|---|---|---|---|
| **alert-id** | | string | Alert identification. |
| **alerting-resource** | | string | Unique name of resource that generated the alert. |
| **monitor** | | hm-type | Type of health monitor (e.g. node_connect, system_connect, system). |
| **node** | | string | Node hosting this health monitor. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# diagnosis-policy-definition-get

[top]

Return policy definition

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | diagnosis-policy-definition-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **monitor** | | hm-type | Type of health monitor (e.g. node_connect, system_connect, system). |
| **node** | | string | Node hosting this health monitor. |
| **policy-id** | | string | Policy identifier. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | diagnosis-policy-definition-info | The attributes of the Policy Definition. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# diagnosis-policy-definition-get-iter

[top]

Iterate over a list of Policy Definition objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | diagnosis-policy-definition-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | diagnosis-policy-definition-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Policy Definition object. All Policy Definition objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | diagnosis-policy-definition-info[] optional | The list of attributes of Policy Definition objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Policy Definition objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# diagnosis-policy-modify

[top]

Enable/disable policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| enable | | boolean optional | Enable/disable this policy. |
| is-autosupport-enabled | | boolean optional | Enable AutoSupport for this alert. |
| monitor | | hm-type | Type of health monitor (e.g. node_connect, system_connect, system). |
| node | | string | Node hosting this health monitor. |
| policy-id | | string | Policy identifier. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# diagnosis-status-get

[top]

Return the overall system health

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | diagnosis-status optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | diagnosis-status | The attributes of the System Health Status. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# diagnosis-subsystem-config-get

[top]

Get the attributes of the Health Monitor Subsystem Status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | diagnosis-subsystem-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **subsystem** | | hm-subsystem | Type of subsystem being monitored<br><br>Possible values:<br>• 'sas_connect',<br>• 'ha_health', |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | diagnosis-subsystem-config-info | The attributes of the Health Monitor Subsystem Status. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# diagnosis-subsystem-config-get-iter

[top]

Iterate over a list of Health Monitor Subsystem Status objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | diagnosis-subsystem-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | diagnosis-subsystem-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Health Monitor Subsystem Status object. All Health Monitor Subsystem Status objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | diagnosis-subsystem-config-info[] optional | The list of attributes of Health Monitor Subsystem Status objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Health Monitor Subsystem Status objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## diagnosis-subsystem-config-modify

[top]

Modify system health subsystem

| Input Name | Range | Type | Description |
|---|---|---|---|
| **refresh-interval** | **[0..2^32-1]** | integer optional | Subsystem Refresh Interval in Minutes. |
| **subsystem** | | hm-subsystem | Type of subsystem being monitored<br><br>Possible values:<br>• 'sas_connect',<br>• 'ha_health', |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## Element definition: **diagnosis-alert-definition-info**

[top]

System Health Alert Definition When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-information** | | string optional | Additional information about the alert. Attributes: non-creatable, non-modifiable |
| **alert-id** | | string optional | Alert identification. Attributes: key, non-creatable, non-modifiable |
| **alert-type** | | hm-alert-type optional | Type of alert (other,communications,quality-of-service,processing-error,device,environmental,model-change,security). Attributes: non-creatable, non-modifiable |
| **corrective-actions** | | string optional | Recommended actions to correct the problem reported by alert. Attributes: non-creatable, non-modifiable |
| **monitor** | | hm-type optional | Type of health monitor (e.g. node_connect, system_connect, system). Attributes: key, non-creatable, non-modifiable |
| **node** | | string optional | Node hosting this health monitor. Attributes: key, non-creatable, non-modifiable |
| | | hm- | Severity of alert |

| | | | |
|---|---|---|---|
| **perceived-severity** | | perceived-sev optional | (Unknown,Other,Information,Degraded,Minor,Major,Critical,Fatal). Attributes: non-creatable, non-modifiable |
| **possible-effect** | | string optional | Detailed description of the possible effect of the condition. Attributes: non-creatable, non-modifiable |
| **probable-cause** | | hm-probable-cause optional | Probable cause for alert generation. Attributes: non-creatable, non-modifiable |
| **probable-cause-description** | | string optional | Detailed description of probable cause for alert generation. Attributes: non-creatable, non-modifiable |
| **subsystem** | | hm-subsystem optional | Type of subsystem being monitored (e.g. sas_connect). Attributes: non-creatable, non-modifiable |

# Element definition: **diagnosis-alert-info**

[top]

System Health Alert When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **acknowledge** | | boolean optional | Acknowledge the alert condition. Attributes: non-creatable, modifiable |
| **acknowledger** | | string optional | Person who acknowledged this alert Attributes: non-creatable, modifiable |
| **additional-info** | | string[] optional | Additional information from the resource that generated this alert Attributes: non-creatable, non-modifiable |
| **alert-id** | | string optional | Alert identification. Attributes: key, non-creatable, non-modifiable |
| **alerting-resource** | | string optional | Unique name of resource that generated the alert. Attributes: key, non-creatable, non-modifiable |
| **alerting-resource-name** | | string optional | Display name of resource that generated the alert. Attributes: non-creatable, non-modifiable |
| **corrective-actions** | | string optional | Recommended actions to correct the problem reported by alert. Attributes: non-creatable, non-modifiable |
| **indication-time** | | date optional | Time of alert generation. Attributes: non-creatable, non-modifiable |
| **monitor** | | hm-type optional | Type of health monitor (e.g. node_connect, system_connect, system). Attributes: key, non-creatable, non-modifiable |
| **node** | | string optional | Node hosting this health monitor. Attributes: key, non-creatable, non-modifiable |
| **perceived-severity** | | hm-perceived-sev optional | Severity of alert. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **policy** | | string optional | Policy rule responsible for creating this alert. Attributes: non-creatable, non-modifiable |
| **possible-effect** | | string optional | Possible effect seen due to this problem. Attributes: non-creatable, non-modifiable |
| **probable-cause** | | hm-probable-cause optional | Probable cause for alert generation. Attributes: non-creatable, non-modifiable |
| **probable-cause-description** | | string optional | Detailed description of probable cause for alert generation. Attributes: non-creatable, non-modifiable |
| **subsystem** | | hm-subsystem optional | Type of subsystem being monitored (e.g. sas_connect). Attributes: non-creatable, non-modifiable |
| **suppress** | | boolean optional | Suppress this alert. Attributes: non-creatable, modifiable |
| **suppressor** | | string optional | Person who suppressed this alert Attributes: non-creatable, modifiable |

# Element definition: **diagnosis-config-info**

[top]

System Health Config When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregator** | | hm-type optional | Aggregating health monitor that aggregates status from this health monitor. Attributes: non-creatable, non-modifiable Possible values:<br>• "node_connect" ... node scope health monitor ,<br>• "system_connect" ... cluster scope health monitor ,<br>• "system" ... aggregator of health monitor status , |
| **context** | | hm-scope optional | Scope of health monitor (node-context, cluster-context). Attributes: non-creatable, non-modifiable Possible values:<br>• "node_context" ,<br>• "cluster_context" |
| **health** | | hm-status optional | Status of health monitor (ok, ok-with-suppressed, degraded). Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" ,<br>• "ok_with_suppressed" ,<br>• "degraded" ,<br>• "unreachable" ,<br>• "unknown" |
| | | | Subsystem initialization state of health monitor Attributes: non- |

| | | | |
|---|---|---|---|
| **init-state** | | hm-subsystem-discovery-state optional | creatable, non-modifiable Possible values:<br>• "invalid" ,<br>• "initializing" ,<br>• "initialized" ,<br>• "start_discovery" ,<br>• "start_rediscovery" ,<br>• "discovered_partially" ,<br>• "discovery_done" ,<br>• "discovery_max" |
| **mon-version** | | string optional | Health Monitor version. Attributes: non-creatable, non-modifiable |
| **monitor** | | hm-type optional | Type of health monitor. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "node_connect" ,<br>• "system_connect" ,<br>• "system" |
| **node** | | string optional | Node hosting this health monitor. Attributes: key, non-creatable, non-modifiable |
| **pol-version** | | string optional | Policy file version. Attributes: non-creatable, non-modifiable |
| **resources** | | string[] optional | Resources monitored by this health monitor. Attributes: non-creatable, non-modifiable |
| **sub-pol-versions** | | string optional | Subordinate policy file versions. Attributes: non-creatable, non-modifiable |
| **subsystem** | | hm-subsystem[] optional | Type of subsystem being monitored (e.g. sas_connect). Attributes: non-creatable, non-modifiable Possible values:<br>• "sas_connect" ,<br>• "ha_health" , |

# Element definition: **diagnosis-policy-definition-info**

[top]

System Health Policy Definition When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **alert-count** | **[0..2^32-1]** | integer optional | Count of alerts created as a result of this policy. Attributes: non-creatable, non-modifiable |
| **alert-id** | | string optional | Alert identifier for alert to be generated on policy rule match. Attributes: non-creatable, non-modifiable |
| **creation-time** | | datetime optional | Time when the previous alert was created due to this policy. Attributes: non-creatable, non-modifiable |
| | | boolean | |

| | | | |
|---|---|---|---|
| **enable** | | optional | Enable/disable this policy. Attributes: non-creatable, modifiable |
| **is-autosupport-enabled** | | boolean optional | Enable AutoSupport for this alert. Attributes: non-creatable, modifiable |
| **monitor** | | hm-type optional | Type of health monitor (e.g. node_connect, system_connect, system). Attributes: key, non-creatable, non-modifiable |
| **node** | | string optional | Node hosting this health monitor. Attributes: key, non-creatable, non-modifiable |
| **policy-id** | | string optional | Policy identifier. Attributes: key, non-creatable, non-modifiable |
| **responsible-resource-info** | | string optional | The resource responsible for creating this alert Attributes: non-creatable, non-modifiable |
| **rule-expression** | | string optional | Arithmetic expression which defines alerts to be created as a result of this policy. Attributes: non-creatable, non-modifiable |
| **where** | | string optional | Where clause of Arithmetic expression. Attributes: non-creatable, non-modifiable |

# Element definition: **diagnosis-status**

[top]

System Health Status When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **status** | | hm-status optional | Overall system health (ok,ok-with-suppressed,degraded,unreachable) as determined by the diagnosis framework. Attributes: non-creatable, non-modifiable |

# Element definition: **diagnosis-subsystem-config-info**

[top]

System Health Subsystem Status When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | Health of Subsystem. Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **health** | | hm-status optional | • "ok" ,<br>• "ok_with_suppressed" ,<br>• "degraded" ,<br>• "unreachable" ,<br>• "unknown" |
| **init-state** | | hm-subsystem-discovery-state optional | Initialization State of Subsystem. Attributes: non-creatable, non-modifiable Possible values:<br><br>• "invalid" ,<br>• "initializing" ,<br>• "initialized" ,<br>• "start_discovery" ,<br>• "start_rediscovery" ,<br>• "discovered_partially" ,<br>• "discovery_done" ,<br>• "discovery_max" |
| **node** | | string[] optional | Node hosting this health monitor. Attributes: non-creatable, non-modifiable |
| **outstanding-alert-count** | **[0..2^32-1]** | integer optional | Number of outstanding alerts. Attributes: non-creatable, non-modifiable |
| **refresh-interval** | **[0..2^32-1]** | integer[] optional | Subsystem Refresh Interval in Minutes. Attributes: non-creatable, modifiable |
| **subsystem** | | hm-subsystem optional | Type of subsystem being monitored<br><br>Possible values:<br><br>• 'sas_connect',<br>• 'ha_health',<br><br>Attributes: key, non-creatable, non-modifiable |
| **suppressed-alert-count** | **[0..2^32-1]** | integer optional | Number of suppressed alerts. Attributes: non-creatable, non-modifiable |

# Element definition: **hm-subsystem**

[top]

Health Monitor Subsystem

[none]

# Element definition: **hm-type**

[top]

Type of Health Monitor

[none]

# Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

## Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

## Element definition: **hm-alert-type** [top]

Type of alert

[none]

## Element definition: **hm-perceived-sev** [top]

Alert severity

[none]

## Element definition: **hm-probable-cause** [top]

Probable cause for alert generation

[none]

## Element definition: **hm-scope** [top]

Node or Cluster context of Health Monitor Possible values:

- "node_context" ,
- "cluster_context"

[none]

[top]

# Element definition: **hm-status**

Health Monitor Status(ok, ok-with-suppressed, degraded, unknown) Possible values:

- "ok" ,
- "ok_with_suppressed" ,
- "degraded" ,
- "unreachable" ,
- "unknown"

[none]

# Element definition: **hm-subsystem-discovery-state**

[top]

Health Monitor Subsystem Initialization State(initailizing,starting_discovery,discovery_done_partially,discovery_done,initialized) Possible values:

- "invalid" ,
- "initializing" ,
- "initialized" ,
- "start_discovery" ,
- "start_rediscovery" ,
- "discovered_partially" ,
- "discovery_done" ,
- "discovery_max"

[none]

# APIs in Category: **disk**


disk-fail
disk-release-all-reservations
disk-remove
disk-replace-start
disk-replace-stop
disk-sanown-assign
disk-sanown-filer-list-info
disk-sanown-list-info
disk-sanown-reassign
disk-sanown-remove-ownership
disk-set-led
disk-unfail
disk-update-disk-fw
disk-zero-spares


## disk-fail

[top]

Fail a file system disk. Removes the specified file system disk from the RAID configuration, spinning the disk down when removal is complete. disk fail is used to remove a file system disk that may be logging excessive errors and requires replacement. Note that if optional input parameter 'is-immediate' is true, the specified disk will be immediately failed out, and the RAID group to which the disk belongs will enter degraded mode (meaning a disk is missing from the RAID group). If a spare disk at least as large as the disk being removed is available, the contents of the disk being removed will be reconstructed onto that spare disk. If 'is-immediate' options is false or not specified, system will prefail the disk and its content will be copied to a replacement disk if a suitable spare disk is available, and afterwards the prefailed disk will be failed out. This process can be observed by polling disk-list-info for this disk and tracking values of elements copy-destination and copy-percent. Same can be done using 'storage-disk-get-iter' when requested from Admin Vserver LIF. The disk being failed is marked as ``broken'', so that if it remains in the disk shelf, it will not be used by the filer as a spare disk. If the disk is moved to another filer, that filer will use it as a spare. This is not a recommended course of action, as the reason that the disk was failed may have been because it needed to be replaced. NOTE: Data ONTAP 7.0 and earlier releases don't indicate failure code properly.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk** | | string | Name of the disk. e.g. "1.1.3" or "NET-1.1" for a virtual disk. |
| **is-immediate** | | boolean optional | Specify 'true' if disk is to be failed out immediately. If disk is to be prefailed, specify 'false'. Default value is 'false'. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDISKNOTFOUND** | |
| **ESWAPINPROGRESS** | |
| **ENOTDISKOWNER** | |
| **EOPNOTSUPPORTED** | |
| **EDISKINRAIDZEROVOL** | |
| **ENOTSTARTED** | |

| | |
|---|---|
| **EDISKISSPARE** | |
| **ESAVECOREDISK** | |
| **E_GROUP_REPARITY** | |
| **E_MIRROR_RESYNC** | |
| **EOP_DISALLOWED_DURING_REVERT** | |
| **EBAD_DISK_LOGICAL_TYPE** | |
| **EDISKNOTSPARE** | |
| **EAPIMISSINGARGUMENT** | |
| **ENOTINSANITIZEMODE** | |
| **ENOTINMAINTMODE** | |
| **ERAIDGROUPDEGRADED** | |
| **EVOLUMEOFFLINE** | |
| **EALREADYSTARTED** | |

# disk-release-all-reservations

[top]

Release reservations on all reserved disks. When invoked from maintenance mode, all reservations are released on all disks until the system is rebooted. When not in maintenance mode, then the system will automatically re-issue reservations for disks it owns. In sanown environment the system will reserve its disks everu 30 seconds.

| Errno | Description |
|---|---|
| **ERESERVATIONSDISABLED** | |
| **EUNABLETORELEASE** | |

# disk-remove

[top]

Remove a spare disk. Removes the specified spare disk from the RAID configuration, spinning the disk down when removal is complete. You can use disk remove to remove a spare disk so that it can be used by another filer (as a replacement for a failed disk or to expand file system space). NOTE: Data ONTAP 7.0 and earlier releases don't indicate failure code properly.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk** | | string | Name of the disk to remove. e.g. "1.1.3" or "NET-1.1" for a virtual disk. |
| **force** | | boolean optional | Allow a container disk in a Dually carrier to be removed if the remove reason is "admin removed". This feature is currently disabled. |
| **remove-reason** | | string optional | The reason for failing the disk. Possible values are:<br>• "admin_removed" - Admin removed disk.<br>• "evacuation" - Disk is marked for evacuation.<br>The default value is "admin_removed". The failure disk will be recorded with "admin removed" as the failure reason by default. If the remove reason is "evacuation", the failure reason of the disk will be recorded as "evacuated". |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EINTERNALERROR** | |
| **EDISKNOTFOUND** | |
| **ENOTSTARTED** | |
| **EDISKNOTSPARE** | |
| **ESAVECOREDISK** | |
| **EOP_DISALLOWED_DURING_REVERT** | |

# disk-replace-start

[top]

Initiate replacing a file system disk with an appropriate spare disk. Uses Rapid RAID Recovery to copy data from the source file system disk to the destination spare disk. Roles of disks are reversed at the end of that process. The spare disk will replace the file system disk in the RAID group and the file system disk will become a spare. This interface returns as soon as possible while disk replace starts in the background. This process can be observed by polling disk-list-info for this disk and tracking values of elements copy-destination and copy-percent. Note: The operation performs limited error checking. Disk replace starts asynchronously in the background, and it can fail even if ZAPI reports success.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allow-same-carrier** | | boolean optional | Using two disks from one carrier that houses multiple disks in one RAID group is not desirable. If that happens, Data ONTAP initiates a series of disk copy operations to correct that situation. Sometimes, selection of available spare disks makes it impossible to avoid placing two disks from one carrier in one RAID group. Setting this option to true allows placing two disks from one carrier in one RAID group. |
| **disk** | | string | Name of the file system disk to replace. |
| **force** | | boolean optional | Allow replacement-disk to come from the opposite spare pool. Also allow replacement-disk not matching rotational speed of majority of disks in the aggregate. |
| **replace-reason** | | string optional | The reason for replacing the disk. Possible values are:<br>• "evacuation" - Disk is marked for evacuation.<br>• "layout_optimization" - Disk is marked for layout optimization.<br>• "shared_disk_replacement"- Disk is marked for replacement.<br>• "none"<br>The default value is "none". If the replace reason is "none" or "shared_disk_replacement", the replaced disk will become a non-zeroed spare after disk copy. If the replace reason is "evacuation", the replaced disk will be failed after disk copy, and the "evacuated" failure reason will be recorded for that disk. If the replace reason is "layout_optimization", the replaced disk will become zeroed spare. |
| **replacement-disk** | | string | Name of the spare disk to use as a replacement. |

| Errno | Description |
|---|---|
| **EDISKNOTFOUND** | |
| **ENOTDISKOWNER** | |
| **EDISKISSPARE** | |
| **EDISKNOTSPARE** | |
| **EDISKTOOSMALL** | |
| **EDISKINRAIDZEROVOL** | |
| **EALREADYSTARTED** | |

| | |
|---|---|
| **ERAIDGROUPDEGRADED** | |
| **EVOLUMEOFFLINE** | |
| **EINTERNALERROR** | |
| **EOP_DISALLOWED_DURING_REVERT** | |
| **ENOTFROMSAMESTORAGEPOOL** | |

# disk-replace-stop

[top]

Abort disk replace.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk** | | string | Name of the file system disk being replaced. |
| **replace-reason** | | string optional | The replace-reason of the operation to be aborted. Possible values are:<br>• "evacuation" - Disk is unmarked for evacuation.<br>• "layout_optimization" - Disk is unmarked for layout optimization.<br>• "shared_disk_replacement"- Disk is unmarked for replacement.<br>• "none" |

| Errno | Description |
|---|---|
| **EDISKNOTFOUND** | |
| **EDISKISSPARE** | |
| **ENOTSTARTED** | |
| **EINTERNALERROR** | |
| **EOP_DISALLOWED_DURING_REVERT** | |

# disk-sanown-assign

[top]

Assigns ownership of a disk. The normal usage is when the disk is unowned, or to assign a disk to a pool.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **all** | | boolean optional | Assign all unowned visible disks to the specified node-name. The node-name parameter is mandatory. Other than node-name and copy-owner-from is not allowed with this option. If copy-owner-from parameter is specified with parameter node-name node assign disk ownership based on copy-owner-from else it assign ownership of disks based on node-name. |
| **auto** | | boolean optional | Auto-assign unowned disks which are on loops where only 1 filer owns the disks and the pool information is the same, to the specified node. The node parameter is mandatory. No other parameter is allowed with this option. |
| **checksum** | | string | Assign checksum type to disk. Option may only be specified on a RAID array LUNs. Possible values are:<br>• "block" |

| | | | |
|---|---|---|---|
| | | optional | • "zoned"<br>• "advanced_zoned" |
| **copy-owner-from** | | string optional | Assign ownership of this disk to be the same as the owner of the disk specified |
| **disk** | | string optional | Name of disk to assign. Wildcarding for disk string is supported. Either of owner, owner-id or copy-owner-from is mandatory. The node parameter is not allowed with this option. |
| **disk-count** | | integer optional | Assign specified count of disks. Either of owner, owner-id or copy-owner-from is mandatory. The node parameter is not allowed with this option. |
| **disk-type** | | string optional | Assign specified type of disk(or set of disks). The disk-count parameter is mandatory. Type of disk: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, VMDISK, or unknown. |
| **disklist** | | disk-info[] optional | Names of disks |
| **force** | | boolean optional | Force flag need to be set to 'true' if assigning disks which are already owned a Filer. However, if that Filer is up and has put a reservation on the disk, even the force option won't work. |
| **is-data-partition** | | boolean optional | Used only with disk parameter. It specifies if the assign command must be executed on the data partition of a root-data partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data1-partition' and 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', or 'is-data2-partition' are specified or are all false, and disk is partitioned, then ownership of container disk is changed. The default value is false. |
| **is-data1-partition** | | boolean optional | Used only with disk parameter. It specifies if the assign command must be executed on the data1 partition of a root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data-partition' and 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', or 'is-data2-partition' are specified or are all false, and disk is partitioned, then ownership of container disk is changed. The default value is false. |
| **is-data2-partition** | | boolean optional | Used only with disk parameter. It specifies if the assign command must be executed on the data2 partition of a root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data-partition' and 'is-data1-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', or 'is-data2-partition' are specified or are all false, and disk is partitioned, then ownership of container disk is changed. The default value is false. |
| **is-root-partition** | | boolean optional | Used only with disk parameter. It specifies if the assign command must be executed on the root partition of the disk. This field is mutually exclusive with 'is-data-partition', 'is-data1-partition' and 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', or 'is-data2-partition' are specified or are all false, and disk is partitioned, then ownership of container disk is changed. The default value is false. |
| **is-spatial-disk-name-format** | | boolean optional | It specifies if the disk name is in spatial format. This parameter is used only by the CLI backend code to tell D-Blade ZAPI whether to select a disk name in spatial format while matching with a wild-card pattern. The default value is false. |
| **node-name** | | string optional | Used only with auto or all parameter. It specifies the node to which autoassignment or assignment of all unowned disks must be done. When this is specified with copy-owner-from option assignment of selected disk will happen based on disk ownership present for disk specified for copy-owner-from parameter. |
| | | string | Assign disk to specific owner (node name). Either of owner,owner-id or |

| | | | |
|---|---|---|---|
| **owner** | | optional | copy-owner-from is mandatory. |
| **owner-id** | | integer optional | Assign disk to specific owner ID (NVRAM ID or serial number). Either of owner,owner-id or copy-owner-from is mandatory Range : [0..2^32-1]. |
| **pool** | | integer optional | Assign disk to specific pool, e.g. '0' or '1'. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDISKNOTFOUND** | |
| **EINVALIDOWNER** | |
| **EINVALIDINPUTERROR** | |
| **E_SANOWN_AUTOASSIGN_DISABLED** | |
| **E_DISK_ASSIGN_WARN** | |

# disk-sanown-filer-list-info

[top]

Get sanown filer information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Node name for which info is requested |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **disk-sanown-filer-details** | | disk-sanown-filer-detail-info[] | List of filers and their information. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ESANOWNNOTENABLED** | |

# disk-sanown-list-info

[top]

Get sanown disk information. This API is not supported as of Data ONTAP 8.2. Use storage-disk-get-iter instead.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk** | | string optional | Get ownership status for given disk, if not supplied, get ownership for all disks or if onership-type is supplied, get ownership info for disks of specific type. '6a*' wildcarding is supported. |
| **node** | | string optional | Node name for which info is requested |
| **ownership-type** | | string optional | Possible values are 'all' which will list all disks. 'unowned' which will list all disks without owners. 'owned' which will list all disks with owners. 'visible' which will list all disks belonging to the local and partner filer. Default is 'all'. If specific disk is specified, ownership-type will be ignored. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **disk-sanown-details** | | disk-sanown-detail-info[] | List of disks and their sanown information. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDISKNOTFOUND** | |
| **EAPIUNSUPPORTEDVERSION** | |

# disk-sanown-reassign

[top]

Changes ownership on disks already belonging to an owner.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force flag need to be set to 'true' if reassigning disks which are owned by another Filer. However, if that Filer is up and has put a reservation on the disk, even the force option won't work. In this case reassign will need to be run on the Filer which owns the disks. |
| **new-owner-id** | | integer | ID of new owner. This form will assign all the disks belonging to the old owner to the specific owner ID. Range : [0..2^32-1]. |
| **old-owner-id** | | integer | ID of old owner. This form takes all disks currently belonging to the specific old owner ID, and reassign them to a new owner. Range : [0..2^32-1]. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDISKFAILED** | |

# disk-sanown-remove-ownership

[top]

Removes ownership information on a disks provided by disk-list.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk-list** | | disk-name[] optional | List of disks to remove ownership information from. e.g. "1.1.1 1.1.2" or "NET-1.1 NET-1.2" for virtual disks. |
| **force** | | boolean optional | If 'true' override the RAID checks. Eg: Disk is part of aggregate. Otherwise defaults to false. |
| **is-data-partition** | | boolean optional | Used only with disk parameter. It specifies if the remove-ownership command must be executed on the data partition of a root-data partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data1-partition', 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', 'is-data2-partition' are specified or are all false and disk is partitioned, then ownership of container disk is removed. The default value is false. |

| | | | |
|---|---|---|---|
| **is-data1-partition** | | boolean optional | Used only with disk parameter. It specifies if the remove-ownership command must be executed on the data1 partition of a root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data-partition', 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', 'is-data2-partition' are specified or are all false and disk is partitioned, then ownership of container disk is removed. The default value is false. |
| **is-data2-partition** | | boolean optional | Used only with disk parameter. It specifies if the remove-ownership command must be executed on the data2 partition of a root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data-partition', 'is-data1-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', 'is-data2-partition' are specified or are all false and disk is partitioned, then ownership of container disk is removed. The default value is false. |
| **is-root-partition** | | boolean optional | Used only with disk parameter. It specifies if the remove-ownership command must be executed on the root partition of a root-data or root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-data-partition', 'is-data1-partition', 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', 'is-data2-partition' are specified or are all false and disk is partitioned, then ownership of container disk is removed. The default value is false. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EDISKNOTFOUND** | |
| **EINVALIDOWNER** | |
| **EINVALIDRESERVATION** | |
| **ENODISKSFOUND** | |
| **EMUSTBEINMAINTMODE** | |
| **EINTERNALERROR** | |
| **EDISKFAILED** | |

# disk-set-led

[top]

Set the disk LED state

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk** | | string | Disk to set the LED state |
| **led-state** | | string | The LED state to set Possible values are 'evac-start', 'evac-end', 'led-on', 'led-off' |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDISKNOTFOUND** | |
| **EINVALIDINPUTERROR** | |

# disk-unfail

[top]

Unfail a disk in the broken pool, by clearing its FDR (Failed Disk Registry) entry and unfailing it at the Storage Layer, as necessary. If the "make-spare" option is set to B_TRUE, the disk is returned to the spare pool. Otherwise, label assimilation will bring the disk back according to its on-disk labels, with one of four possible outcomes. 1. Disk becomes a spare. This is the common case. The disk becomes a spare upon unfail, because its parent volume is complete and online. 2. Disk is assimilated into former volume. This is a recovery scenario. The disk is brought back into an existing volume, which may result in this volume coming back online. 3. Disk is assimilated into a new partial volume. This may occur in the rare case that the disk's former volume was destroyed or moved. 4. Disk returned to broken pool. This is the case if a fatal error occurs in process of unfailing the disk.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk** | | string | Name of the disk. e.g. "1.1.3" or "NET-1.1" for a virtual disk. |
| **make-spare** | | boolean optional | Specify 'true' to force the disk to become a spare upon unfail. Default value is 'false'. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDISKNOTFOUND** | |
| **EOP_DISALLOWED_DURING_REVERT** | |
| **ENOTSTARTED** | |
| **EDISKISSPARE** | |
| **ESAVECOREDISK** | |
| **E_GROUP_REPARITY** | |
| **E_MIRROR_RESYNC** | |
| **EOP_DISALLOWED_DURING_REVERT** | |
| **EDISKNOTSPARE** | |
| **EAPIMISSINGARGUMENT** | |
| **ENOTINSANITIZEMODE** | |
| **ENOTINMAINTMODE** | |
| **ERAIDGROUPDEGRADED** | |
| **EVOLUMEOFFLINE** | |
| **EALREADYSTARTED** | |

# disk-update-disk-fw

[top]

Start disk firmware download process to update firmware on disks. This operation is asynchronous, and therefore returns no errors that might occur during the download process. This operation will only update firmware on disks that do not have the latest firmware revision. The firmware revision on the disk can be monitored via the disk-list-info API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk-list** | | disk-name[] optional | List of disks to be updated. If not specified, all disks are updated. e.g. "1.1.1 1.1.2 1.1.3" or "NET-1.1 NET-1.2" for virtual disks. |
| **node-name** | | string | This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDISKNOTFOUND** | |

| | |
|---|---|
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# disk-zero-spares

[top]

Set up all non-zeroed spares owned by the filer to start zeroing. This operation is asynchronous, and therefore returns no errors that might occur when the zeroing operation actually starts, which could be several seconds after this API operation completes. Zeroing progress can be monitored via the disk-list-info API. Same can be done using 'storage-disk-get-iter' when requested from Admin Vserver LIF. The "zeroing-percent" element of disk-detail-info is returned if disk zeroing has started, and "is-zeroed" returns TRUE once the zeroing has completed (or, if zeroing wasn't necessary in the first place).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string optional | Name of the node on which spare disks to be zeroed When requested from Admin Vserver LIF and node name is not specified, spare disks from all nodes in the cluster will be zeroed. |
| **use-physical-zeroing** | | boolean optional | If set to true, the ZAPI will not use fast zeroing, even if the nodes(s) owning the disks have the feature enabled. This will usually lead to much longer completion times. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **disk-info**

[top]

Information for each disk in the plex.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of a member disk. |
| **vbn-end** | **[0..2^64-1].** | integer optional | VBN end value of a disk. |
| **vbn-start** | **[0..2^64-1].** | integer optional | VBN start value of a disk. |

# Element definition: **disk-name**

[top]

Disk path name

[none]

# Element definition: **disk-sanown-detail-info**

[top]

Disk sanown information.

| Name | Range | Type | Description |
|---|---|---|---|
| **checksum** | | string optional | Only returned on RAID array LUNs. The possible values:<br>• "advanced_zoned" - advanced_zoned checksum (azcs),<br>• "block" - block,<br>• "zoned" - zoned (this value is no longer supported). |
| **dr-home-id** | **[0..2^32-1].** | integer optional | ID (NVRAM ID) of home owner of a disk in switchover state when there is a disaster. Before disaster switchover, the value of this field is zero. At the time of switchover, it would be changed so as to keep track of whom to give the disks to, at the time of switchback. If the disk has no dr home id, this will not be returned. |
| **dr-home-owner** | | string optional | This is the name of home owner of a disk in switchover state when there is a disaster. Before disaster switchover, the value of this field is a NULL string. At the time of switchover, it would be changed so as to keep track of whom to give the disks to, at the time of switchback. If the disk has no dr home owner, this will not be returned. |
| **home** | | string optional | The home of the disk. On NG will be different than owner if the home node has been taken over. On Classic this will be the same as owner. If the disk has no owner, this will not be returned. |
| **home-id** | | integer optional | ID (NVRAM ID) of disk home. Range : [0..2^32-1]. |
| **is-failed** | | boolean | 'true' if the disk is failed, 'false' otherwise. |
| **name** | | string | Name of the disk, e.g. v1.1 Wildcarding for disk string is suuported, e.g. v1.* |
| **owner** | | string optional | Current owner of the disk. If disk has no owner, this will not be returned. |
| **owner-id** | | integer optional | ID (NVRAM ID) of owner if there is one. Range : [0..2^32-1]. |
| **pool** | | integer optional | Pool the disk belongs to, if it has a owner. |
| **reserved-by** | | integer | ID (NVRAM ID) of node with the reservation on this disk, 0 if there is none. Range : [0..2^32-1]. |
| **serial-no** | | string | Serial number of the disk. |
| **type** | | string optional | Indicates the type of disk or device being being reported. Values are one of following: "FCAL", "D_ATA", "LUN", "MSATA", "SSD", "UNKNOWN" |

# Element definition: **disk-sanown-filer-detail-info**

[top]

Disk sanown filer information.

| Name | Range | Type | Description |
|---|---|---|---|
| **filer-id** | | integer | ID (NVRAM ID) of owner. Range : [0..2^32-1]. |
| **filer-name** | | string optional | Name of the filer. If the filer name hasn't been written to the disks, this will not be returned. |

# APIs in Category: **disk-encrypt**


disk-encrypt-get
disk-encrypt-get-iter
disk-encrypt-modify
disk-encrypt-modify-iter
disk-encrypt-sanitize
disk-encrypt-sanitize-iter
disk-encrypt-status-get
disk-encrypt-status-get-iter


This set of disk-encrypt ZAPIs allows management of the encryption parameters of self-encrypting disks, either SEDs or FIPS drives, on systems that support them. When properly set, these controls protect data at rest on the disk media. For FIPS-certified devices, these controls place the drives into compliance with their FIPS PUB 140-2 level 2 ("FIPS") certification. The authentication keys (AKs) are passphrases that allow the system to manipulate these controls.

To provide the maximum protection of disk data, set the data AK (using its corresponding key ID) to a key other than the default AK. The default AK can be either the manufacture secure ID (MSID, key ID 0x0) or a null AK (key ID displayed as blank). When a nondefault value is set as the data AK, the system automatically enables power-cycle protection, so that if a drive is removed or power-cycled, the current data AK must be presented to the device before it will transfer any data.

For FIPS-certified drives, also set the FIPS AK to place the drives into FIPS-compliance mode. In SAS FIPS drives, setting a nondefault FIPS key automatically engages firmware download protection so that the FIPS AK must be presented to the SED at each firmware download. NVMe drives use a drive-validated secure signature to prove the firmware is valid rather than requiring the FIPS key.

## disk-encrypt-get

[top]

Return data key ID, FIPS key ID and protection mode of a self-encrypting disk.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | disk-encrypt-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **disk-name** | | string | Name of the self-encrypting disk. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | disk-encrypt-info | The attributes of the disk-encrypt. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# disk-encrypt-get-iter

[top]

Return data key ID, FIPS key ID and protection mode of one or more self-encrypting disks.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | disk-encrypt-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 2000 |
| **query** | | disk-encrypt-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the disk-encrypt object. All disk-encrypt objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | disk-encrypt-info[] optional | The list of attributes of disk-encrypt objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more disk-encrypt objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# disk-encrypt-modify

[top]

The disk-encrypt-modify API alters encryption parameters on a self-encrypting disk (SED or FIPS).

The API output <results status="passed"> indicates only that the operation has started. Monitor operation progress using the disk-encrypt-status-get or disk-encrypt-status-get-iter API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **data-key-id** | | string optional | Modify the data authentication key to the key that corresponds to this key ID |
| **disk-name** | | disk-name | The name specifier of the self-encrypting disks (SEDs). |
| **fips-key-id** | | string optional | Modify the FIPS-compliance authentication key to the key that corresponds to this key ID |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

| | |
|---|---|
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |

# disk-encrypt-modify-iter

[top]

The disk-encrypt-modify-iter API alters encryption parameters on one or more self-encrypting disks (SEDs).

The API output <results status="passed"> indicates only that the operation has started. Monitor operation progress using the disk-encrypt-status-get or disk-encrypt-status-get-iter API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple disk-encrypt objects match a given query. If set to true, the API will continue with the next matching disk-encrypt even when the operation fails for the disk-encrypt. If set to false, the API will return on the first failure. Default: false |
| **data-key-id** | | string optional | Key ID of the New Data Authentication Key |
| **fips-key-id** | | string optional | Key ID of the New Authentication Key for FIPS Compliance |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching disk-encrypt even when the operation on a previous matching disk-encrypt fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of disk-encrypt objects to be operated in this call. Default: 20 |
| **query** | | disk-encrypt-info | If operating on a specific disk-encrypt, this input element must specify all keys. If operating on disk-encrypt objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of disk-encrypt objects (just keys) that were not operated on due to some error. If set to false, the list of disk-encrypt objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of disk-encrypt objects (just keys) that were successfully operated on. If set to false, the list of disk-encrypt objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | disk-encrypt-modify-iter-info[] optional | Information about disk-encrypt objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching disk-encrypt objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of disk-encrypt objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of disk-encrypt objects that matched the query and were successfully processed. |
| **success-list** | | disk-encrypt-modify-iter-info[] optional | The disk-encrypt objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# disk-encrypt-sanitize

[top]

The disk-encrypt-sanitize API cryptographically erases a self-encrypting disk (SED) that is in the spare or broken state.

The API output <results status="passed"> indicates only that the operation has started. Monitor operation progress using the disk-encrypt-status-get or disk-encrypt-status-get-iter API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk-name** | | string | The name specifier of the self-encrypting disks (SEDs). |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |

# disk-encrypt-sanitize-iter

[top]

The disk-encrypt-sanitize-iter API cryptographically erases one or more self-encrypting disks that are in the spare or broken state.

The API output <results status="passed"> indicates only that the operation has started. Monitor operation progress using the disk-encrypt-status-get or disk-encrypt-status-get-iter API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple disk-encrypt objects match a given query. If set to true, the API will continue with the next matching disk-encrypt even when the operation fails for the disk-encrypt. If set to false, the API will return on the first failure. Default: false |
| | | | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed |

| | | | |
|---|---|---|---|
| **max-failure-count** | **[1..2^32-1]** | integer optional | operations before the server gives up and returns. If set, the API will continue with the next matching disk-encrypt even when the operation on a previous matching disk-encrypt fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of disk-encrypt objects to be operated in this call. Default: 20 |
| **query** | | disk-encrypt-info | If operating on a specific disk-encrypt, this input element must specify all keys. If operating on disk-encrypt objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of disk-encrypt objects (just keys) that were not operated on due to some error. If set to false, the list of disk-encrypt objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of disk-encrypt objects (just keys) that were successfully operated on. If set to false, the list of disk-encrypt objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | disk-encrypt-sanitize-iter-info[] optional | Information about disk-encrypt objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching disk-encrypt objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of disk-encrypt objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of disk-encrypt objects that matched the query and were successfully processed. |
| **success-list** | | disk-encrypt-sanitize-iter-info[] optional | The disk-encrypt objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# disk-encrypt-status-get

[top]

Return information about the latest self-encrypting disk command for a node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | disk- | |

| | | | |
|---|---|---|---|
| **desired-attributes** | | encrypt-show-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | string | The node reporting this status. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | disk-encrypt-show-status-info | The attributes of the disk-encrypt. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# disk-encrypt-status-get-iter

[top]

Return information about the latest self-encrypting disk command for one or more nodes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | disk-encrypt-show-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | disk-encrypt-show-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the disk-encrypt object. All disk-encrypt objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | disk-encrypt-show-status-info[] optional | The list of attributes of disk-encrypt objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more disk-encrypt objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
| --- | --- |
| **EINTERNALERROR** | |

# Element definition: **disk-encrypt-info**

[top]

Self-Encrypting Disk parameters. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
| --- | --- | --- | --- |
| **compliance-standard** | | string optional | Security standard the device supports. Attributes: non-creatable, non-modifiable |
| **control-standard** | | string optional | Control Standard. Attributes: non-creatable, non-modifiable |
| **data-key-id** | | string optional | Key ID of the data authentication key. Attributes: non-creatable, non-modifiable |
| **disk-name** | | string optional | Name of the self-encrypting disk. Attributes: key, non-creatable, non-modifiable |
| **fips-key-id** | | string optional | Key ID of the FIPS authentication key. Attributes: non-creatable, non-modifiable |
| **is-fips-certified** | | boolean optional | Whether drive is FIPS-certified. Attributes: non-creatable, non-modifiable |
| **is-sed** | | boolean optional | Is self-encrypting disk? Attributes: non-creatable, non-modifiable |
| **overall-security** | | string optional | Overall Security. Attributes: non-creatable, non-modifiable |
| **protection-mode** | | string optional | Protection mode of the device.<br><br>Possible values are:<br><br>• 'open' ... disk is unprotected,<br>• 'data' ... data protection only without FIPS compliance,<br>• 'part' ... partial protection with FIPS compliance only,<br>• 'full' ... full data and FIPS compliance protection, and<br>• 'miss' ... protection information is not available<br><br>Attributes: non-creatable, non-modifiable |
| | | | Disk Type Attributes: non-creatable, non-modifiable Possible values:<br><br>• "ata" - Advanced Technology Attachment,<br>• "bsas" - Bridged Serial Attached SCSI (bridged from SATA),<br>• "fcal" - Fibre Channel Arbitrated Loop,<br>• "fsas" - High-Capacity (Fat) Serial Attached SCSI,<br>• "lun" - SCSI Logical Unit Number (e.g. Array),<br>• "sas" - Serial Attached SCSI, |

| | | | |
|---|---|---|---|
| **type** | | string optional | "msata" - Multiple bridged SATA disks in a single carrier,<br>• "ssd" - Solid-State Disk,<br>• "vmdisk" - Hypervisor Virtual Disk,<br>• "unknown" - unknown,<br>• "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_dc" - Data Center Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_cap" - High Capacity Solid-State Disk,<br>• "vmlun" - Hypervisor Virtual LUN,<br>• "vmlun_ssd" - Hypervisor Virtual SSD LUN,<br>• "ssd_zns" - Zoned Namespaces Solid-State Disk |

# Element definition: **disk-encrypt-modify-iter-info**

[top]

Information about the operation that was attempted/performed against disk-encrypt object.

| Name | Range | Type | Description |
|---|---|---|---|
| **disk-encrypt-key** | | disk-encrypt-info | The keys for the disk-encrypt object to which the operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |

# Element definition: **disk-encrypt-sanitize-iter-info**

[top]

Information about the operation that was attempted/performed against disk-encrypt object.

| Name | Range | Type | Description |
|---|---|---|---|
| **disk-encrypt-key** | | disk-encrypt-info | The keys for the disk-encrypt object to which the operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |

# Element definition: **disk-encrypt-show-status-info**

[top]

Information about storage encryption disk operations When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **disk-done-count** | **[0..2^32-1]** | integer optional | Number of drives that finished the operation, whether successful or not. Attributes: non-creatable, non-modifiable |
| **disk-start-count** | **[0..2^32-1]** | integer optional | Number of drives that started the operation. Attributes: non-creatable, non-modifiable |
| **disk-success-count** | **[0..2^32-1]** | integer optional | Number of drives that successfully completed the operation. Attributes: non-creatable, non-modifiable |
| **is-fips-support** | | boolean optional | Value is 'true' if the node supports FIPS-certified Self-Encrypting Drives. Attributes: non-creatable, non-modifiable |
| **latest-op** | | string optional | Latest operation. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Operation unknown/unspecified,<br>• "destroy" - Cryptograpically destroy encrypting drive,<br>• "modify" - Change encrypting drive parameters,<br>• "revert_original" - Revert drive to as-manufactured state,<br>• "sanitize" - Cryptographically sanitize encrypting drive,<br>• "show" - Show encrypting drive parameters,<br>• "status" - Display the status of encryption operations |
| **node-name** | | string optional | The node reporting this status. Attributes: key, non-creatable, non-modifiable |
| **op-execute-time** | **[0..2^32-1]** | integer optional | Execution time of the operation. Attributes: non-creatable, non-modifiable |
| **op-start-time** | **[0..2^31-1]** | integer optional | Date and time the operation started. Attributes: non-creatable, non-modifiable |

# Element definition: **disk-name**

[top]

Disk path name

[none]

# Element definition: **disk-encrypt-info**

[top]

Self-Encrypting Disk parameters. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **compliance-standard** | | string optional | Security standard the device supports. Attributes: non-creatable, non-modifiable |
| **control-standard** | | string optional | Control Standard. Attributes: non-creatable, non-modifiable |
| **data-key-id** | | string optional | Key ID of the data authentication key. Attributes: non-creatable, non-modifiable |
| **disk-name** | | string optional | Name of the self-encrypting disk. Attributes: key, non-creatable, non-modifiable |
| **fips-key-id** | | string optional | Key ID of the FIPS authentication key. Attributes: non-creatable, non-modifiable |
| **is-fips-certified** | | boolean optional | Whether drive is FIPS-certified. Attributes: non-creatable, non-modifiable |
| **is-sed** | | boolean optional | Is self-encrypting disk? Attributes: non-creatable, non-modifiable |
| **overall-security** | | string optional | Overall Security. Attributes: non-creatable, non-modifiable |
| **protection-mode** | | string optional | Protection mode of the device.<br><br>Possible values are:<br><br>• 'open' ... disk is unprotected,<br>• 'data' ... data protection only without FIPS compliance,<br>• 'part' ... partial protection with FIPS compliance only,<br>• 'full' ... full data and FIPS compliance protection, and<br>• 'miss' ... protection information is not available<br><br>Attributes: non-creatable, non-modifiable |
| **type** | | string optional | Disk Type Attributes: non-creatable, non-modifiable Possible values:<br><br>• "ata" - Advanced Technology Attachment,<br>• "bsas" - Bridged Serial Attached SCSI (bridged from SATA),<br>• "fcal" - Fibre Channel Arbitrated Loop,<br>• "fsas" - High-Capacity (Fat) Serial Attached SCSI,<br>• "lun" - SCSI Logical Unit Number (e.g. Array),<br>• "sas" - Serial Attached SCSI,<br>• "msata" - Multiple bridged SATA disks in a single carrier,<br>• "ssd" - Solid-State Disk,<br>• "vmdisk" - Hypervisor Virtual Disk,<br>• "unknown" - unknown,<br>• "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_dc" - Data Center Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_cap" - High Capacity Solid-State Disk,<br>• "vmlun" - Hypervisor Virtual LUN,<br>• "vmlun_ssd" - Hypervisor Virtual SSD LUN,<br>• "ssd_zns" - Zoned Namespaces Solid-State Disk |

# APIs in Category: **ems**


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The Event Management System (EMS) is a mechanism in the Data ONTAP kernel that supports creation, forwarding, and consumption of event indications. Ems events are generated by ONTAP when errors occur or to log status. These event indications are logged to /etc/log/ems and, depending on the event and its severity, to the syslog/console. If an event has a SNMP definition, SNMP traps will also be generated by the event indication.

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ems-mail-history-get-iter
ems-message-get
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ems-snmp-history-destroy
ems-snmp-history-destroy-iter
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ems-status-get
ems-status-get-iter

# ems-autosupport-log

[top]

This API is used by SnapDrive to log SnapDrive specific events occurring on a host system to the the appliance and optionally use the appliance to generate an autosupport message. This event information will be encapsulated in an app.log.x EMS event based on error level. If auto-support is true, an autosupport message will be sent from the filer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **app-version** | | string | Version of application invoking the API. |
| **auto-support** | | boolean validate | If 'true', an AutoSupport message will be generated. |
| **category** | | string | Application defined category of the event. |
| **computer-name** | | string | Host name invoking the API. |
| **event-description** | | string | Description of event to log. An application defined message to log. |
| **event-id** | | integer validate | ID of event. A user defined event-id, range [0..2^32-2]. |
| **event-source** | | string | Name of the application invoking the API. |
| **log-level** | | integer validate | Log level. Accepted values are 0 for 'emergency', 1 for 'alert', 2 for 'critical', 3 for 'error', 4 for 'warning', 5 for 'notice', 6 for 'info', and 7 for 'debug'. As of Data ONTAP 9.0, log-level's 2 and 4 are no longer supported. Specifying 2 or 4 would be equivalent to specifying 3 or 5, respectively. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |

| Vfiler-enabled |
| --- |
| Yes |

# ems-config-get

[top]

Return the EMS Configuration.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **desired-attributes** | | ems-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **attributes** | | ems-config-info | The attributes of the ems-config. |

| Errno | Description |
| --- | --- |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-config-modify

[top]

Modify the EMS Configuration.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **auto-suppress-exempt-filter** | | string optional | Name of event filter exempt from auto-suppression |
| **console** | | boolean optional | Whether console logging should be used. |
| **console-log-level** | | emsseverity optional | Console logging level. Possible values:<br>• "node_fault" - A data corruption has been detected or the node is unable to provide client service,<br>• "svc_fault" - A temporary loss of service has been detected, typically a transient software fault,<br>• "node_error" - A hardware error has been detected which is not immediately fatal,<br>• "svc_error" - A software error has been detected which is not immediately fatal,<br>• "warning" - A high-priority message, does not indicate a fault,<br>• "notice" - A normal-priority message, |

| | | | |
|---|---|---|---|
| | | | does not indicate a fault,<br>• "info" - A low-priority message, does not indicate a fault,<br>• "debug" - A debugging message, typically suppressed from customer,<br>• "var" - Message has variable severity, selected at runtime |
| **duplicate-suppression-duration** | **[0..2^32-1]** | integer<br>optional | Duration in seconds for suppression of identical messages |
| **log-rotation-size** | | size<br>optional | Log file size (in bytes) needed to trigger rotation |
| **mail-from** | | mail-address<br>optional | The from address of ems mail. |
| **mail-server** | | string<br>optional | The mail server to use when sending mail. |
| **max-destination-count** | **[0..2^32-1]** | integer<br>optional | Maximum number of event notification destinations in system. |
| **max-filter-count** | **[0..2^32-1]** | integer<br>optional | Maximum number of event filters in system. |
| **max-filter-rule-count** | **[0..2^32-1]** | integer<br>optional | Maximum number of event filter rules in system. |
| **max-log-show-size** | **[1..10000]** | integer<br>optional | Maximum number of events to show. |
| **max-notification-count** | **[0..2^32-1]** | integer<br>optional | Maximum number of event notifications in system. |
| **max-target-event-bytes** | **[10..134217728]** | integer<br>optional | Maximum bytes per event per week. Used by autosuppression to control growth of log file size. |
| **max-target-log-size** | **[1048576..134217728]** | integer<br>optional | The target upper limit of the event log file size in bytes. Used by autosuppression to control growth of log file size. |
| **proxy-url** | | string<br>optional | HTTP/HTTPS proxy URL to use when sending to REST API destinations. |
| **proxy-user** | | string<br>optional | User name to use for the HTTP/HTTPS proxy when sending to REST API destinations. |
| **rest-delivery-timeout** | **[1..1000]** | integer<br>optional | REST API URL delivery timeout in seconds. |
| **suppression** | | boolean<br>optional | Whether suppression should be used. |
| **trace-log-size** | **[1..10000]** | integer<br>optional | Maximum number of traces kept. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-config-set-proxy-password

[top]

Modify the password for proxy server

| Input Name | Range | Type | Description |
|---|---|---|---|
| **password-for-proxy-server** | | string optional | Password for proxy server |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **E_EMS_PASSWORDS_NOT_MATCH** | |
| **E_EMS_PASSWORD_REQUIRED** | |

# ems-destination-create

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Creates an EMS destination.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hide-parameters** | | boolean optional | Hide parameter values? |
| **mail** | | mail-address[] optional | The e-mail address to which events are sent. |
| **name** | | string | The name of the EMS destination. |
| **return-record** | | boolean optional | If set to true, returns the ems-destination on successful creation. Default: false |
| **snmp** | | remote-ip[] optional | The SNMP addresses to which traps are sent. |
| **snmp-community** | | string optional | The SNMP community name. |
| **syslog** | | remote-ip[] optional | The remote syslog servers to which messages are sent. |
| **syslog-facility** | | syslog-facility optional | The syslog logging facility. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | ems-destination-info optional | The ems-destination created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-destination-destroy

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Deletes the specified EMS destination.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | The name of the EMS destination. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-destination-destroy-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Deletes several EMS destinations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple ems-destination objects match a given query. If set to true, the API will continue deleting the next matching ems-destination even when the deletion of a previous ems-destination fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching ems-destination even when the deletion of a previous matching ems-destination fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of ems-destination objects to delete in this call. Default: 20 |
| **query** | | ems-destination-info | If deleting a specific ems-destination, this input element must specify all keys. If deleting multiple ems-destination objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of ems-destination objects (just keys) that were not deleted due to some error. If set to false, the list of ems-destination objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-destination objects (just keys) that were successfully deleted. If set to false, the list of ems-destination objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | ems-destination-destroy-iter-info[] optional | Information about ems-destination objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| | | string | Tag for the next call. Not present when there are no more |

| | | | |
|---|---|---|---|
| **next-tag** | | optional | matching ems-destination objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of ems-destination objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of ems-destination objects that matched the query and were successfully deleted. |
| **success-list** | | ems-destination-destroy-iter-info[] optional | The ems-destination objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-destination-get

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return the specified EMS destination information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-destination-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **name** | | string | The name of the EMS destination. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ems-destination-info | The attributes of the ems-destination. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-destination-get-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return information on EMS destinations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-destination-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | ems-destination-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-destination object. All ems-destination objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ems-destination-info[] optional | The list of attributes of ems-destination objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-destination objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-destination-modify

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Modifies the specified EMS destination.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hide-parameters** | | boolean optional | Hide parameter values? |
| **mail** | | mail-address[] optional | The e-mail address to which events are sent. |
| **name** | | string | The name of the EMS destination. |
| **snmp** | | remote-ip[] optional | The SNMP addresses to which traps are sent. |
| **snmp-community** | | string optional | The SNMP community name. |
| **syslog** | | remote-ip[] optional | The remote syslog servers to which messages are sent. |
| **syslog-facility** | | syslog-facility optional | The syslog logging facility. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-destination-modify-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Modifies

several EMS destinations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ems-destination-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple ems-destination objects match a given query. If set to true, the API will continue modifying the next matching ems-destination even when modification of a previous ems-destination fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching ems-destination even when the modification of a previous matching ems-destination fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | ems-destination-info | If modifying a specific ems-destination, this input element must specify all keys. If modifying ems-destination objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of ems-destination objects (just keys) that were not modified due to some error. If set to false, the list of ems-destination objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-destination objects (just keys) that were successfully updated. If set to false, the list of ems-destination objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | ems-destination-modify-iter-info[] optional | Information about ems-destination objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching ems-destination objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of ems-destination objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of ems-destination objects that matched the query and were successfully updated. |
| **success-list** | | ems-destination-modify-iter-info[] optional | The ems-destination objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

## ems-event-catalog-get-iter

[top]

Return information on several EMS messages.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | event-catalog-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | event-catalog-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-catalog object. All ems-event-catalog objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | event-catalog-info[] optional | The list of attributes of ems-event-catalog objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more ems-event-catalog objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

## ems-event-filter-copy

[top]

Copy an Event filter including all its rules

| Input Name | Range | Type | Description |
|---|---|---|---|
| filter-name | | string | Event Filter Name. |
| new-filter-name | | string | New Event Filter Name. |

| Errno | Description |
|---|---|
| EDUPLICATEENTRY | |
| EINTERNALERROR | |
| EOBJECTNOTFOUND | |

| | |
|---|---|
| **E_EMS_EMPTY_FILTERNAME** | |
| **E_EMS_FILTERNAME_HAS_SPACES** | |
| **E_EMS_INVALID_FILTERNAME** | |
| **E_EMS_MAX_FILTER_LIMIT_EXCEEDED** | |

# ems-event-filter-create

[top]

Create a new event filter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **filter-name** | | string | Filter Name. The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen). |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDUPLICATEENTRY** | |
| **E_EMS_EMPTY_FILTERNAME** | |
| **E_EMS_FILTERNAME_HAS_SPACES** | |
| **E_EMS_INVALID_FILTERNAME** | |
| **E_EMS_MAX_FILTER_LIMIT_EXCEEDED** | |
| **E_EMS_CLUSTER_NOT_CAPABLE** | |

# ems-event-filter-destroy-iter

[top]

Delete one or more existing event filters. To delete the event notifications associated with the filter as well, set the force flag.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple ems-event-filter objects match a given query. If set to true, the API will continue with the next matching ems-event-filter even when the operation fails for the ems-event-filter. If set to false, the API will return on the first failure. Default: false |
| **force-delete-notification** | | boolean optional | If true, delete the event notifications that have the specified filter. The default is false. |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching ems-event-filter even when the operation on a previous matching ems-event-filter fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of ems-event-filter objects to be operated in this call. Default: 20 |
| | | | If operating on a specific ems-event-filter, this input element must |

| | | | |
|---|---|---|---|
| **query** | | event-filter | specify all keys. If operating on ems-event-filter objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of ems-event-filter objects (just keys) that were not operated on due to some error. If set to false, the list of ems-event-filter objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-event-filter objects (just keys) that were successfully operated on. If set to false, the list of ems-event-filter objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | ems-event-filter-destroy-iter-info[] optional | Information about ems-event-filter objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching ems-event-filter objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of ems-event-filter objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of ems-event-filter objects that matched the query and were successfully processed. |
| **success-list** | | ems-event-filter-destroy-iter-info[] optional | The ems-event-filter objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **E_EMS_CANNOT_ALTER_DEFAULT_FILTER** | |
| **E_EMS_FILTER_HAS_NOTIFICATIONS** | |

# ems-event-filter-get-iter

[top]

Iterate over a list of event filters.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | event-filter optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | event-filter optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-filter object. All ems-event-filter objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | event-filter[] optional | The list of attributes of ems-event-filter objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-event-filter objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-event-filter-rename

[top]

Rename an Event filter

| Input Name | Range | Type | Description |
|---|---|---|---|
| **filter-name** | | string | Event Filter Name. |
| **new-filter-name** | | string | New Event Filter Name. |

| Errno | Description |
|---|---|
| **EDUPLICATEENTRY** | |
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **E_EMS_EMPTY_FILTERNAME** | |
| **E_EMS_FILTERNAME_HAS_SPACES** | |
| **E_EMS_INVALID_FILTERNAME** | |
| **E_EMS_CANNOT_ALTER_DEFAULT_FILTER** | |

# ems-event-filter-rule-add

[top]

Add a rule to an event filter

| Input Name | Range | Type | Description |
|---|---|---|---|
| **filter-name** | | string | Filter Name |
| **message-** | | string | Message Name. Default: * |

| | | | |
|---|---|---|---|
| **name** | | optional | |
| **position** | | integer optional | An optional field to specify the position at which the rule needs to be added. Default: Added one below the last position which is the default rule. |
| **severity** | | string[] optional | Severity<br><br>Possible values:<br><br>• 'emergency' - Disruption,<br>• 'alert' - Single point of failure,<br>• 'error' - Degradation,<br>• 'notice' - Information,<br>• 'informational' - Information,<br>• 'debug' - Debug information,<br>• '*' - All of the above<br><br>Default: * |
| **snmp-trap-type** | | string[] optional | SNMP Trap Type<br><br>Possible values:<br><br>• 'standard' - Standard SNMP traps,<br>• 'built-in' - Built-in SNMP traps,<br>• 'severity-based' - Severity based SNMP traps<br>• '*' - All of the above<br><br>Default: * |
| **type** | | event-rule-type | Rule Type |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **E_EMS_CLUSTER_NOT_CAPABLE** | |
| **E_EMS_NEW_RULE_FOR_UNKNOWN_FILTER** | |
| **E_EMS_CANNOT_ALTER_DEFAULT_FILTER** | |
| **E_EMS_MAX_FILTER_RULE_LIMIT_EXCEEDED** | |
| **E_EMS_ONLY_DEFAULT_RULE_ID** | |
| **E_EMS_INVALID_EVENT_FILTER_RULE_ID** | |
| **E_EMS_NO_EVENT_MATCHED_THE_RULE** | |
| **E_EMS_NO_REQUIRED_VALUE** | |
| **E_EMS_STAR_CANNOT_COEXIST** | |
| **E_EMS_INVALID_TRAP_TYPE** | |
| **E_EMS_SEVERITIES_NOT_SUPPORTED** | |
| **E_EMS_FILTER_RULE_INVALID_MESSAGENAME** | |
| **E_EMS_FILTER_RULE_INVALID_SEVERITY** | |
| **E_EMS_FILTER_RULE_INVALID_TRAP** | |
| **E_EMS_FILTER_RULE_INVALID_SEVERITY_TRAP** | |

# ems-event-filter-rule-delete

[top]

Delete a rule for an event filter

| Input Name | Range | Type | Description |
|---|---|---|---|
| **filter-name** | | string | Filter Name |
| **position** | **[0..2^32-1]** | integer | Rule Position |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **E_EMS_UNKNOWN_FILTER** | |
| **E_EMS_CANNOT_ALTER_DEFAULT_FILTER** | |
| **E_EMS_CANNOT_DELETE_DEFAULT_RULE** | |
| **E_EMS_ONLY_DEFAULT_RULE_PRESENT** | |
| **E_EMS_ONLY_DEFAULT_RULE_ID** | |
| **E_EMS_INVALID_EVENT_FILTER_RULE_ID** | |

# ems-event-filter-rule-reorder

[top]

Reorder the rules based on the new position for a given rule

| Input Name | Range | Type | Description |
|---|---|---|---|
| **filter-name** | | string | Filter Name |
| **position** | **[0..2^32-1]** | integer | Rule Positon |
| **to-position** | **[0..2^32-1]** | integer | New Rule Position |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **E_EMS_UNKNOWN_FILTER** | |
| **E_EMS_CANNOT_ALTER_DEFAULT_FILTER** | |
| **E_EMS_ONLY_DEFAULT_RULE_ID** | |
| **E_EMS_INVALID_EVENT_FILTER_RULE_ID** | |

# ems-event-filter-test

[top]

Test an event filter

| Input Name | Range | Type | Description |
|---|---|---|---|
| **filter-name** | | string | Filter Name |
| **message-name** | | ems-id optional | Message Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | Gives the total number of events that are included in the filter. The format is: ' events will be included in the given filter.' If messagename |

| | | | |
|---|---|---|---|
| **output** | | string | is provided, it specifies if the messagename is included or excluded in the filter. The format is: 'The messagename is included/excluded from the given filter.' |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-event-notification-create

[top]

Create an event notification

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destinations** | | string[] | List of Event Notification Destinations |
| **filter-name** | | string | Filter Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **id** | **[0..2^32-1]** | integer optional | A non persistent ID assigned to the newly created notification. This can be used to update/delete the notification. Note: This ID is non-persistent and will be changed every time a previously created notification is deleted. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDUPLICATEENTRY** | |
| **E_EMS_CLUSTER_NOT_CAPABLE** | |
| **E_EMS_MAX_NOTIFICATION_LIMIT_EXCEEDED** | |
| **E_EMS_FILTER_DOESNT_EXIST** | |
| **E_EMS_DESTINATIONS_REQUIRED** | |
| **E_EMS_DESTINATION_NOT_PRESENT** | |

# ems-event-notification-destination-check

[top]

Check connectivity to an event notification destination

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-name** | | string | Event Notification Destination Name |
| **node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **check-passed** | | boolean | Connectivity Check Passed? |
| **result-log** | | string | Provides the result information after trying to connect to the given destination. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# ems-event-notification-destination-create

[top]

Create an event notification destination

| Input Name | Range | Type | Description |
|---|---|---|---|
| certificate-authority | | string optional | Use this field and certificate-serial to specify the client certificate to use when being authenticated by the REST API server. |
| certificate-serial | | string optional | Use this field and certificate-authority to specify the client certificate to use when being authenticated by the REST API server. |
| email | | string optional | Use this field to specify an email destination. Note: Each destination name can only be associated with either an email destination or a syslog destination. SNMP destinations can be created/updated only through the 'system snmp traphost' command and they are associated with the default destination name 'snmp-traphost'. The format of the email destination is as per RFC standard. |
| name | | string | Destination Name.The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen). |
| rest-api-url | | string optional | Use this field to specify REST API server URL to which event notifications will be sent. Enter the full URL, which must start either with an http:// or https:// prefix. |
| return-record | | boolean optional | If set to true, returns the ems-event-notification-destination on successful creation. Default: false |
| syslog | | string optional | Use this field to specify a syslog destination. Note: Each destination name can only be associated with either an email destination or a syslog destination. SNMP destinations can be created/updated only through the 'system snmp traphost' command and they are associated with the default destination name 'snmp-traphost'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| result | | event-notification-destination optional | The ems-event-notification-destination created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EDUPLICATEENTRY | |
| E_EMS_CLUSTER_NOT_CAPABLE | |
| E_EMS_EMPTY_FILTERNAME | |
| E_EMS_FILTERNAME_HAS_SPACES | |
| E_EMS_FILTERNAME_SYNTAX_ERROR | |
| E_EMS_INVALID_SYSLOG_DEST | |
| E_EMS_MAX_DESTINATION_LIMIT_EXCEEDED | |
| E_EMS_CLIENT_CERT_DOES_NOT_EXIST | |
| E_EMS_CLIENT_KEY_DOES_NOT_EXIST | |

| | |
|---|---|
| **E_EMS_CERT_INFO_INCOMPLETE** | |
| **E_EMS_HTTP_WITH_CERT** | |

# ems-event-notification-destination-destroy-iter

[top]

Delete one or more existing event destinations

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple ems-event-notification-destination objects match a given query. If set to true, the API will continue with the next matching ems-event-notification-destination even when the operation fails for the ems-event-notification-destination. If set to false, the API will return on the first failure. Default: false |
| **force-delete-notification** | | boolean optional | If true, delete the event notifications that have the specified destination as the only destination as well. The default is false. |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching ems-event-notification-destination even when the operation on a previous matching ems-event-notification-destination fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of ems-event-notification-destination objects to be operated in this call. Default: 20 |
| **query** | | event-notification-destination | If operating on a specific ems-event-notification-destination, this input element must specify all keys. If operating on ems-event-notification-destination objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of ems-event-notification-destination objects (just keys) that were not operated on due to some error. If set to false, the list of ems-event-notification-destination objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-event-notification-destination objects (just keys) that were successfully operated on. If set to false, the list of ems-event-notification-destination objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | ems-event-notification-destination-destroy-iter-info[] | Information about ems-event-notification-destination objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |

| | | | |
|---|---|---|---|
| | | optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching ems-event-notification-destination objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of ems-event-notification-destination objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of ems-event-notification-destination objects that matched the query and were successfully processed. |
| **success-list** | | ems-event-notification-destination-destroy-iter-info[] optional | The ems-event-notification-destination objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **E_EMS_CANNOT_ALTER_DEFAULT_SNMP_DESTINATION** | |
| **E_EMS_DESTINATION_HAS_NOTIFICATIONS** | |

# ems-event-notification-destination-get-iter

[top]

Returns information about one or more event notification destinations. The fields is-server-ca-present, certificate-authority, certificate-serial and is-certificate-valid are only applicable for a destination of type 'rest-api' and the destination being an HTTPS destination.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | event-notification-destination-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | event-notification-destination-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-notification-destination object. All ems-event-notification-destination objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | event-notification-destination-info[] optional | The list of attributes of ems-event-notification-destination objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-event-notification-destination objects to return. |

| | | | |
|---|---|---|---|
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-event-notification-destination-modify-iter

[top]

Modify one or more event notification destinations

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | event-notification-destination | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple ems-event-notification-destination objects match a given query. If set to true, the API will continue modifying the next matching ems-event-notification-destination even when modification of a previous ems-event-notification-destination fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching ems-event-notification-destination even when the modification of a previous matching ems-event-notification-destination fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | event-notification-destination | If modifying a specific ems-event-notification-destination, this input element must specify all keys. If modifying ems-event-notification-destination objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of ems-event-notification-destination objects (just keys) that were not modified due to some error. If set to false, the list of ems-event-notification-destination objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-event-notification-destination objects (just keys) that were successfully updated. If set to false, the list of ems-event-notification-destination objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | ems-event-notification- | |

| | | | |
|---|---|---|---|
| **failure-list** | | destination-modify-iter-info[] optional | Information about ems-event-notification-destination objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching ems-event-notification-destination objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of ems-event-notification-destination objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of ems-event-notification-destination objects that matched the query and were successfully updated. |
| **success-list** | | ems-event-notification-destination-modify-iter-info[] optional | The ems-event-notification-destination objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **E_EMS_CANNOT_ALTER_DEFAULT_SNMP_DESTINATION** | |
| **E_EMS_CANNOT_MODIFY_DESTINATION_TYPE** | |
| **E_EMS_INVALID_SYSLOG_DEST** | |
| **E_EMS_CLIENT_CERT_DOES_NOT_EXIST** | |
| **E_EMS_CLIENT_KEY_DOES_NOT_EXIST** | |
| **E_EMS_CERT_INFO_INCOMPLETE** | |
| **E_EMS_HTTP_WITH_CERT** | |

# ems-event-notification-destroy-iter

[top]

Delete one or more event notifications

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple ems-event-notification objects match a given query. If set to true, the API will continue deleting the next matching ems-event-notification even when the deletion of a previous ems-event-notification fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching ems-event-notification even when the deletion of a previous matching ems-event-notification fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-** | integer | The maximum number of ems-event-notification objects to |

| | | | |
|---|---|---|---|
| | 1] | optional | delete in this call. Default: 20 |
| **query** | | event-notification | If deleting a specific ems-event-notification, this input element must specify all keys. If deleting multiple ems-event-notification objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of ems-event-notification objects (just keys) that were not deleted due to some error. If set to false, the list of ems-event-notification objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-event-notification objects (just keys) that were successfully deleted. If set to false, the list of ems-event-notification objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | ems-event-notification-destroy-iter-info[] optional | Information about ems-event-notification objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching ems-event-notification objects to be deleted. |
| **num-failed** | [0..2^32-1] | integer optional | Number of ems-event-notification objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | [0..2^32-1] | integer optional | The number of ems-event-notification objects that matched the query and were successfully deleted. |
| **success-list** | | ems-event-notification-destroy-iter-info[] optional | The ems-event-notification objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# ems-event-notification-get-iter

[top]

Returns information about one or more event notifications

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | event-notification optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | event-notification | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-notification object. All ems-event-notification objects matching |

| | | | |
|---|---|---|---|
| | | optional | this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | event-notification[] optional | The list of attributes of ems-event-notification objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-event-notification objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-event-notification-history-get-iter

[top]

Return EMS messages sent to a destination.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | event-notification-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination** | | string | The destination name. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | event-notification-history-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-notification-history object. All ems-event-notification-history objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | event-notification-history-info[] optional | The list of attributes of ems-event-notification-history objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-event-notification-history objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-event-notification-modify-iter

[top]

Modify one or more event notifications

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | event-notification | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple ems-event-notification objects match a given query. If set to true, the API will continue modifying the next matching ems-event-notification even when modification of a previous ems-event-notification fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching ems-event-notification even when the modification of a previous matching ems-event-notification fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | event-notification | If modifying a specific ems-event-notification, this input element must specify all keys. If modifying ems-event-notification objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of ems-event-notification objects (just keys) that were not modified due to some error. If set to false, the list of ems-event-notification objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-event-notification objects (just keys) that were successfully updated. If set to false, the list of ems-event-notification objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | ems-event-notification-modify-iter-info[] optional | Information about ems-event-notification objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching ems-event-notification objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of ems-event-notification objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of ems-event-notification objects that matched the query and were successfully updated. |

| | | | |
|---|---|---|---|
| **success-list** | | ems-event-notification-modify-iter-info[] optional | The ems-event-notification objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **E_EMS_FILTER_DOESNT_EXIST** | |
| **E_EMS_DESTINATIONS_REQUIRED** | |
| **E_EMS_DESTINATION_NOT_PRESENT** | |

# ems-invoke

[top]

Invoke an ems event. This functionality is intended for use in testing syslog parsers or upper level SNMP management software. The event will be forwarded to the ems log at /etc/log/ems and optionally to the syslog or SNMP trap generator. Invoked events in /etc/log/ems will have the attribute 'inv' set to "1". This is to allow auto-support to differentiate between real and invoked events. Syslog entries resulting from invoked events will contain the text "invoked event:" so that they aren't confused with real events. Invoked events by default are only logged to the /etc/log/ems log. To have an event go to the syslog or generate an snmp trap, the 'syslog' and/or 'snmp' flags need to be set.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **event-id** | | string | Name of the event to invoke. Each ems event has a unique identifier (event-id) that can be used by this api to 'fake' an event. Example event-id's: kern.syslog.msg kern.uptime.filer raid.cksum.replay.nvram raid.cksum.replay.summary raid.fsm.commitStateTransit |
| **event-version** | | integer optional | If set, specifies the version of the event to invoke. By default, the latest version is used. Accepted values are [1..n]. Event-version is only used when multiple versions of an event exist simultaneously within a given build of ONTAP. Most events have an event-version of 1. |
| **params** | | param[] optional | |
| **severity** | | string optional | For events with variable severity, specfies the severity to invoke the event at. Shouldn't be set for events that don't have variable severity. Possible Values: debug info notice warning svc_error node_error svc_fault node_fault |
| **snmp** | | boolean optional | If set, and event has an SNMP definition, generate SNMP trap for event. Invoked messages by default do not generate SNMP traps. |
| **syslog** | | boolean optional | If set, and the event has a syslog format definition, forward invoked message to syslog. Invoked messages are by default not forwarded to syslog |

| Errno | Description |
|---|---|
| **EEMS_INVOKE_FAILED** | |
| **EEMS_INVOKE_BAD_PARAM** | |
| **EEMS_INVOKE_ID_BAD** | |
| **EEMS_INVOKE_SEVERITY_REQUIRED** | |
| **EEMS_INVOKE_SEVERITY_INVALID** | |
| **EEMS_INVOKE_SEVERITY_NOT_VARIABLE** | |

| | |
|---|---|
| **EEMS_INVOKE_PARAMS_INSUFFICIENT** | |
| **EEMS_INVOKE_VERSION_INVALID** | |
| **EEMS_INVOKE_SUPRESS_DUP** | |
| **EEMS_INVOKE_SUPRESS_TIMER** | |
| **EEMS_INVOKE_NVRAM_TOO_BIG** | |
| **EEMS_INVOKE_QUEUE_FULL** | |

# ems-mail-history-destroy

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Delete an individual mail history entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node emitting the EMS message. |
| **seq-num** | | seqnum | The message sequence number. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-mail-history-destroy-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Delete mail history entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple ems-mail-history objects match a given query. If set to true, the API will continue deleting the next matching ems-mail-history even when the deletion of a previous ems-mail-history fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching ems-mail-history even when the deletion of a previous matching ems-mail-history fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of ems-mail-history objects to delete in this call. Default: 20 |
| **query** | | ems-mail-history-info | If deleting a specific ems-mail-history, this input element must specify all keys. If deleting multiple ems-mail-history objects based on query, this input element must specify a query. |
| **return-** | | boolean | If set to true, the API will return the list of ems-mail-history objects (just keys) that were not deleted due to some error. If set to false, |

| | | | |
|---|---|---|---|
| **failure-list** | | optional | the list of ems-mail-history objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-mail-history objects (just keys) that were successfully deleted. If set to false, the list of ems-mail-history objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | ems-mail-history-destroy-iter-info[] optional | Information about ems-mail-history objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching ems-mail-history objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of ems-mail-history objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of ems-mail-history objects that matched the query and were successfully deleted. |
| **success-list** | | ems-mail-history-destroy-iter-info[] optional | The ems-mail-history objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-mail-history-get

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return an individual mail history entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-mail-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node emitting the EMS message. |
| **seq-num** | | seqnum | The message sequence number. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | ems-mail- | |

| | | | |
|---|---|---|---|
| **attributes** | | history-info | The attributes of the ems-mail-history. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-mail-history-get-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return information mail history.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-mail-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ems-mail-history-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-mail-history object. All ems-mail-history objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ems-mail-history-info[] optional | The list of attributes of ems-mail-history objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-mail-history objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-message-get

[top]

Return an EMS message.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **desired-attributes** | | ems-message-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node emitting the EMS message. |
| **seq-num** | | seqnum | The message sequence number. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ems-message-info | The attributes of the ems-message. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-message-get-iter

[top]

Return EMS messages.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-message-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ems-message-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-message object. All ems-message objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ems-message-info[] optional | The list of attributes of ems-message objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-message objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-routing-add-destination

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Add EMS Destinations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destinations** | | ems-destination[] | Destinations |
| **message-name** | | ems-id | The name of the EMS message. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-routing-get

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return the specified EMS route information. In general, specifying the severity input parameter is not needed. If specified, it must match that of the event identified by the message-name input parameter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-routing-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **message-name** | | ems-id | The name of the EMS message. |
| **severity** | | eventseverity optional | The event severity. As of Data ONTAP 9.0, 'critical' and 'warning' severities are no longer supported. Possible values:<br>• "emergency" - Disruption,<br>• "alert" - Single point of failure,<br>• "critical" - Critical condition,<br>• "error" - Degradation,<br>• "warning" - Warning condition,<br>• "notice" - Information,<br>• "informational" - Information,<br>• "debug" - Debug information |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ems-routing-info | The attributes of the ems-routing. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-routing-get-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return information on several EMS routes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-routing-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ems-routing-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-routing object. All ems-routing objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ems-routing-info[] optional | The list of attributes of ems-routing objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-routing objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-routing-modify

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Modifies the specified EMS route.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destinations** | | ems-destination[] optional | The event destinations. |
| **frequency-threshold** | | integer optional | Number of times an event occurs before a repeat notification of the event is sent. |
| **message-name** | | ems-id | The name of the EMS message. |
| **time-threshold** | | integer optional | Minimum number of seconds between repeat notifications of an event. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

| EINTERNALERROR | |
|---|---|

# ems-routing-modify-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Modifies several EMS route.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ems-routing-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple ems-routing objects match a given query. If set to true, the API will continue modifying the next matching ems-routing even when modification of a previous ems-routing fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching ems-routing even when the modification of a previous matching ems-routing fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | ems-routing-info | If modifying a specific ems-routing, this input element must specify all keys. If modifying ems-routing objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of ems-routing objects (just keys) that were not modified due to some error. If set to false, the list of ems-routing objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-routing objects (just keys) that were successfully updated. If set to false, the list of ems-routing objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | ems-routing-modify-iter-info[] optional | Information about ems-routing objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching ems-routing objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of ems-routing objects that matched the query, but were not modified due to some error. |
| **num-** | **[0..2^32-** | integer | The number of ems-routing objects that matched the query and |

| | | | |
|---|---|---|---|
| **succeeded** | **1]** | optional | were successfully updated. |
| **success-list** | | ems-routing-modify-iter-info[] optional | The ems-routing objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## ems-routing-remove-destination

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Remote EMS Destinations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destinations** | | ems-destination[] | Destinations |
| **message-name** | | ems-id | The name of the EMS message. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## ems-snmp-history-destroy

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Delete an individual SNMP history entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node emitting the EMS message. |
| **seq-num** | | seqnum | The message sequence number. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## ems-snmp-history-destroy-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Delete SNMP history entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | This input element is useful when multiple ems-snmp-history |

| | | | |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | objects match a given query. If set to true, the API will continue deleting the next matching ems-snmp-history even when the deletion of a previous ems-snmp-history fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching ems-snmp-history even when the deletion of a previous matching ems-snmp-history fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of ems-snmp-history objects to delete in this call. Default: 20 |
| **query** | | ems-snmp-history-info | If deleting a specific ems-snmp-history, this input element must specify all keys. If deleting multiple ems-snmp-history objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of ems-snmp-history objects (just keys) that were not deleted due to some error. If set to false, the list of ems-snmp-history objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-snmp-history objects (just keys) that were successfully deleted. If set to false, the list of ems-snmp-history objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | ems-snmp-history-destroy-iter-info[] optional | Information about ems-snmp-history objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching ems-snmp-history objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of ems-snmp-history objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of ems-snmp-history objects that matched the query and were successfully deleted. |
| **success-list** | | ems-snmp-history-destroy-iter-info[] optional | The ems-snmp-history objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-snmp-history-get

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return an individual SNMP history entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-snmp-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node emitting the EMS message. |
| **seq-num** | | seqnum | The message sequence number. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ems-snmp-history-info | The attributes of the ems-snmp-history. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-snmp-history-get-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return information SNMP history.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-snmp-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ems-snmp-history-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-snmp-history object. All ems-snmp-history objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | ems- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | snmp-history-info[] optional | The list of attributes of ems-snmp-history objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-snmp-history objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-status-get

[top]

Return information on an EMS message.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **message-name** | | ems-id | The message name. |
| **node** | | node-name | Node emitting the EMS message. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ems-status-info | The attributes of the ems-status. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-status-get-iter

[top]

Return information on EMS messages.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | ems-status- | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-status object. All |

| | | | |
|---|---|---|---|
| **query** | | info optional | ems-status objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ems-status-info[] optional | The list of attributes of ems-status objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-status objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **ems-config-info**

[top]

EMS Configuration Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **auto-suppress-exempt-filter** | | string optional | Name of event filter exempt from auto-suppression Attributes: non-creatable, modifiable |
| **console** | | boolean optional | Whether console logging should be used. Attributes: non-creatable, modifiable |
| **console-log-level** | | emsseverity optional | Console logging level. Attributes: non-creatable, modifiable Possible values:<br>• "node_fault" - A data corruption has been detected or the node is unable to provide client service,<br>• "svc_fault" - A temporary loss of service has been detected, typically a transient software fault,<br>• "node_error" - A hardware error has been detected which is not immediately fatal,<br>• "svc_error" - A software error has been detected which is not immediately fatal,<br>• "warning" - A high-priority message, does not indicate a fault, |

| | | | |
|---|---|---|---|
| | | | • "notice" - A normal-priority message, does not indicate a fault,<br>• "info" - A low-priority message, does not indicate a fault,<br>• "debug" - A debugging message, typically suppressed from customer,<br>• "var" - Message has variable severity, selected at runtime |
| **duplicate-suppression-duration** | **[0..2^32-1]** | integer optional | Duration in seconds for suppression of identical messages Attributes: non-creatable, modifiable |
| **log-rotation-size** | | size optional | Log file size (in bytes) needed to trigger rotation Attributes: non-creatable, modifiable |
| **mail-from** | | mail-address optional | The from address of ems mail. Attributes: non-creatable, modifiable |
| **mail-server** | | string optional | The mail server to use when sending mail. Attributes: non-creatable, modifiable |
| **max-destination-count** | **[0..2^32-1]** | integer optional | Maximum number of event notification destinations in system. Attributes: non-creatable, modifiable |
| **max-filter-count** | **[0..2^32-1]** | integer optional | Maximum number of event filters in system. Attributes: non-creatable, modifiable |
| **max-filter-rule-count** | **[0..2^32-1]** | integer optional | Maximum number of event filter rules in system. Attributes: non-creatable, modifiable |
| **max-log-show-size** | **[1..10000]** | integer optional | Maximum number of events to show. Attributes: non-creatable, modifiable |
| **max-notification-count** | **[0..2^32-1]** | integer optional | Maximum number of event notifications in system. Attributes: non-creatable, modifiable |
| **max-target-event-bytes** | **[10..134217728]** | integer optional | Maximum bytes per event per week. Used by autosuppression to control growth of log file size. Attributes: non-creatable, modifiable |
| **max-target-log-size** | **[1048576..134217728]** | integer optional | The target upper limit of the event log file size in bytes. Used by autosuppression to control growth of log file size. Attributes: non-creatable, modifiable |
| **proxy-url** | | string optional | HTTP/HTTPS proxy URL to use when sending to REST API destinations. Attributes: non-creatable, modifiable |
| **proxy-user** | | string optional | User name to use for the HTTP/HTTPS proxy when sending to REST API destinations. Attributes: non-creatable, modifiable |
| **rest-delivery-timeout** | **[1..1000]** | integer optional | REST API URL delivery timeout in seconds. Attributes: non-creatable, modifiable |
| **suppression** | | boolean optional | Whether suppression should be used. Attributes: non-creatable, modifiable |
| **trace-log-size** | **[1..10000]** | integer optional | Maximum number of traces kept. Attributes: non-creatable, modifiable |

## Element definition: **ems-destination**

[top]

EMS destination

[none]

# Element definition: **ems-destination-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against ems-destination object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-destination-key** | | ems-destination-info | The keys for the ems-destination object to which the deletion applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |

# Element definition: **ems-destination-info**

[top]

EMS Destination Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **hide-parameters** | | boolean optional | Hide parameter values? Attributes: optional-for-create, modifiable |
| **mail** | | mail-address[] optional | The e-mail address to which events are sent. Attributes: optional-for-create, modifiable |
| **name** | | string optional | The name of the EMS destination. Attributes: key, required-for-create, non-modifiable |
| **snmp** | | remote-ip[] optional | The SNMP addresses to which traps are sent. Attributes: optional-for-create, modifiable |
| **snmp-community** | | string optional | The SNMP community name. Attributes: optional-for-create, modifiable |
| **syslog** | | remote-ip[] optional | The remote syslog servers to which messages are sent. Attributes: optional-for-create, modifiable |
| **syslog-facility** | | syslog-facility optional | The syslog logging facility. Attributes: optional-for-create, modifiable |

# Element definition: **ems-destination-modify-iter-info** [top]

Information about the modify operation that was attempted/performed against ems-destination object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-destination-key** | | ems-destination-info | The keys for the ems-destination object to which the modify operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |

# Element definition: **ems-event-filter-destroy-iter-info** [top]

Information about the operation that was attempted/performed against ems-event-filter object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-event-filter-key** | | event-filter | The keys for the ems-event-filter object to which the operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |

# Element definition: **ems-event-notification-destination-destroy-iter-info** [top]

Information about the operation that was attempted/performed against ems-event-notification-destination object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-event-notification-destination-key** | | event-notification-destination | The keys for the ems-event-notification-destination object to which the operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |

# Element definition: **ems-event-notification-destination-modify-iter-info** [top]

Information about the modify operation that was attempted/performed against ems-event-notification-destination object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-event-notification-destination-key** | | event-notification-destination | The keys for the ems-event-notification-destination object to which the modify operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |

# Element definition: **ems-event-notification-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against ems-event-notification object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-event-notification-key** | | event-notification | The keys for the ems-event-notification object to which the deletion applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |

# Element definition: **ems-event-notification-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against ems-event-notification object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-event-notification-key** | | event-notification | The keys for the ems-event-notification object to which the modify operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |

# Element definition: **ems-id**

[top]

EMS Id

[none]

[top]

# Element definition: **ems-mail-history-destroy-iter-info**

Information about the deletion operation that was attempted/performed against ems-mail-history object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-mail-history-key** | | ems-mail-history-info | The keys for the ems-mail-history object to which the deletion applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |

# Element definition: **ems-mail-history-info**

[top]

EMS Mail History Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **drops-since-previous-time** | **[0..2^32-1]** | integer optional | Number of drops since previous transmission. Attributes: non-creatable, non-modifiable |
| **mail-address** | | mail-address[] optional | The mail address. Attributes: non-creatable, non-modifiable |
| **message** | | string optional | The alert message. Attributes: non-creatable, non-modifiable |
| **message-name** | | ems-id optional | The emitted message's name. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node emitting the EMS message. Attributes: key, required-for-create, non-modifiable |
| **previous-time** | | datetime optional | Previous transmission time. Attributes: non-creatable, non-modifiable |
| **seq-num** | | seqnum optional | The message sequence number. Attributes: key, required-for-create, non-modifiable |
| **time** | | datetime optional | The mail transmission time. Attributes: non-creatable, non-modifiable |

# Element definition: **ems-message-info**

[top]

EMS Message Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-severity** | | emsseverity optional | Message EMS severity. Attributes: non-creatable, non-modifiable Possible values:<br>• "node_fault" - A data corruption has been detected or the node is unable to provide client service,<br>• "svc_fault" - A temporary loss of service has been detected, typically a transient software fault,<br>• "node_error" - A hardware error has been detected which is not immediately fatal,<br>• "svc_error" - A software error has been detected which is not immediately fatal,<br>• "warning" - A high-priority message, does not indicate a fault,<br>• "notice" - A normal-priority message, does not indicate a fault,<br>• "info" - A low-priority message, does not indicate a fault,<br>• "debug" - A debugging message, typically suppressed from customer,<br>• "var" - Message has variable severity, selected at runtime |
| **event** | | string optional | The EMS event. Attributes: non-creatable, non-modifiable |
| **event-xml-len** | **[0..2^32-1]** | integer optional | EMS event XML length in bytes. Attributes: non-creatable, non-modifiable |
| **filter-name** | | ems-filter optional | Name of the filter to apply on events. Attributes: non-creatable, non-modifiable |
| **kernel-gen** | **[0..2^64-1]** | integer optional | The emitted message's kernel generation number. Attributes: non-creatable, non-modifiable |
| **kernel-seq-num** | **[0..2^64-1]** | integer optional | The emitted message's kernel sequence number. Attributes: non-creatable, non-modifiable |
| **message-name** | | ems-id optional | The emitted message's name. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node emitting the EMS message. Attributes: key, non-creatable, non-modifiable |
| **num-suppressed-since-last** | **[0..2^32-1]** | integer optional | Number of times suppressed since last time the event was logged. Attributes: non-creatable, non-modifiable |
| **parameters** | | parameter[] optional | Event parameter's name and value. |
| **seq-num** | | seqnum optional | The message sequence number. Attributes: key, non-creatable, non-modifiable |
| | | | Message severity. As of Data ONTAP 9.0, 'critical' and 'warning' severities are no longer supported. Attributes: non-creatable, non-modifiable Possible values:<br>• "emergency" - Disruption, |

| | | | |
|---|---|---|---|
| **severity** | | eventseverity optional | • "alert" - Single point of failure,<br>• "critical" - Critical condition,<br>• "error" - Degradation,<br>• "warning" - Warning condition,<br>• "notice" - Information,<br>• "informational" - Information,<br>• "debug" - Debug information |
| **source** | | string optional | The emitted message's source. Attributes: non-creatable, non-modifiable |
| **time** | | datetime optional | The time of message emission. Attributes: non-creatable, non-modifiable |
| **version** | **[0..2^32-1]** | integer optional | Version number of the event. Attributes: non-creatable, non-modifiable |

# Element definition: **ems-routing-info**

[top]

EMS Routing Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **action** | | string optional | The corrective action. Attributes: non-creatable, non-modifiable |
| **description** | | string optional | The event description. Attributes: non-creatable, non-modifiable |
| **destinations** | | ems-destination[] optional | The event destinations. Attributes: non-creatable, modifiable |
| **frequency-threshold** | **[0..2^32-1]** | integer optional | Number of times an event occurs before a repeat notification of the event is sent. Attributes: non-creatable, modifiable |
| **message-name** | | ems-id optional | The name of the EMS message. Attributes: key, non-creatable, non-modifiable |
| **severity** | | eventseverity optional | The event severity. As of Data ONTAP 9.0, 'critical' and 'warning' severities are no longer supported. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "emergency" - Disruption,<br>• "alert" - Single point of failure,<br>• "critical" - Critical condition,<br>• "error" - Degradation,<br>• "warning" - Warning condition,<br>• "notice" - Information,<br>• "informational" - Information,<br>• "debug" - Debug information |
| **snmp-** | | boolean | Indicates whether or not the event supports SNMP traps. |

| | | | |
|---|---|---|---|
| **support** | | optional | Attributes: non-creatable, non-modifiable |
| **time-threshold** | **[0..2^32-1]** | integer optional | Minimum number of seconds between repeat notifications of an event. Attributes: non-creatable, modifiable |

# Element definition: **ems-routing-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against ems-routing object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-routing-key** | | ems-routing-info | The keys for the ems-routing object to which the modify operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |

# Element definition: **ems-snmp-history-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against ems-snmp-history object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-snmp-history-key** | | ems-snmp-history-info | The keys for the ems-snmp-history object to which the deletion applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |

# Element definition: **ems-snmp-history-info**

[top]

EMS SNMP History Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **drops-since-previous-time** | **[0..2^32-1]** | integer optional | Number of drops since previous transmission. Attributes: non-creatable, non-modifiable |
| | | string | |

| | | | |
|---|---|---|---|
| **message** | | optional | The alert message. Attributes: non-creatable, non-modifiable |
| **message-name** | | ems-id optional | The emitted message's name. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node emitting the EMS message. Attributes: key, required-for-create, non-modifiable |
| **previous-time** | | datetime optional | Previous transmission time. Attributes: non-creatable, non-modifiable |
| **seq-num** | | seqnum optional | The message sequence number. Attributes: key, required-for-create, non-modifiable |
| **snmp-address** | | string[] optional | The SNMP client address. Attributes: non-creatable, non-modifiable |
| **time** | | datetime optional | The SNMP transmission time. Attributes: non-creatable, non-modifiable |

# Element definition: **ems-status-info**

[top]

EMS Message Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **accumulated-bytes** | **[0..2^32-1]** | integer optional | The total number of bytes the event has accumulated in the log file. Attributes: non-creatable, non-modifiable |
| **change-since** | | boolean optional | The algorithm to determine which events are considered chatter is run periodically. The change-since parameter indicates whether the event has been posted since the last time the chatter determination algorithm has run. Attributes: non-creatable, non-modifiable |
| **drops** | **[0..2^32-1]** | integer optional | Number of times the event has been dropped. An event is dropped if it is suppressed or has exceeded incoming rate limits. Attributes: non-creatable, non-modifiable |
| **indications** | **[0..2^32-1]** | integer optional | Number of times the event has been posted. Attributes: non-creatable, non-modifiable |
| **is-chatter** | | boolean optional | Whether the event is considered chatter, and therefore subject to autosuppression. Attributes: non-creatable, non-modifiable |
| **last-day-histogram** | **[0..2^64-1]** | integer[] optional | 24-hour histogram. Number of times the event was posted in the last day. The histogram is divided into 24 buckets, each bucket collecting one hour. The buckets are displayed in reverse chronological order (most recent first). Attributes: non-creatable, non-modifiable |
| **last-hour-histogram** | **[0..2^64-1]** | integer[] optional | 60-minute histogram. Number of times the event was posted in the last hour. The histogram is divided into sixty buckets, each bucket collecting one minute. The buckets are displayed in reverse chronological order (most recent first). Attributes: |

| | | | |
|---|---|---|---|
| | | | non-creatable, non-modifiable |
| **last-time-dropped** | | datetime optional | Time the event was most recently posted and suppressed. Attributes: non-creatable, non-modifiable |
| **last-time-occurred** | | datetime optional | Time the event was most recently posted. Attributes: non-creatable, non-modifiable |
| **last-time-processed** | | datetime optional | Time the event was most recently posted and not suppressed. Attributes: non-creatable, non-modifiable |
| **last-week-histogram** | **[0..2^64-1]** | integer[] optional | 7-day histogram. Number of times the event was posted in the last week. The histogram is divided into 7 buckets, each bucket collecting one day. The buckets are displayed in reverse chronological order (most recent first). Attributes: non-creatable, non-modifiable |
| **message-name** | | ems-id optional | The message name. Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Node emitting the EMS message. Attributes: key, non-creatable, non-modifiable |
| **num-asup-dropped** | **[0..2^64-1]** | integer optional | Number of times the event destined for AutoSupport has been dropped. Attributes: non-creatable, non-modifiable |
| **num-autosuppressed** | **[0..2^32-1]** | integer optional | Number of times the event has been autosuppressed. Attributes: non-creatable, non-modifiable |
| **num-console-dropped** | **[0..2^64-1]** | integer optional | Number of times the event destined for console output has been dropped. Attributes: non-creatable, non-modifiable |
| **num-dup-suppressed** | **[0..2^32-1]** | integer optional | Number of times the event has been duplicate suppressed. Attributes: non-creatable, non-modifiable |
| **num-dup-suppressed-after-120s** | **[0..2^64-1]** | integer optional | Number of times the event has been duplicate suppressed because an identical event was generated after 120 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable |
| **num-dup-suppressed-in-120s** | **[0..2^64-1]** | integer optional | Number of times the event has been duplicate suppressed because an identical event was generated within 120 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable |
| **num-dup-suppressed-in-30s** | **[0..2^64-1]** | integer optional | Number of times the event has been duplicate suppressed because an identical event was generated within 30 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable |
| **num-dup-suppressed-in-60s** | **[0..2^64-1]** | integer optional | Number of times the event has been duplicate suppressed because an identical event was generated within 60 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable |
| **num-dup-suppressed-in-90s** | **[0..2^64-1]** | integer optional | Number of times the event has been duplicate suppressed because an identical event was generated within 90 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable |
| **num-email-dropped** | **[0..2^64-1]** | integer optional | Number of times the event destined for an email destination has been dropped. Attributes: non-creatable, non-modifiable |
| **num-logger-dropped** | **[0..2^32-1]** | integer optional | Number of times the event has been dropped by the logger. Attributes: non-creatable, non-modifiable |
| **num-mgwd-dropped** | **[0..2^64-1]** | integer optional | Number of times the event destined for Management Gateway has been dropped. Attributes: non-creatable, non-modifiable |
| **num-rate-limited** | **[0..2^32-1]** | integer optional | Number of times the event has been rate limited. Attributes: non-creatable, non-modifiable |
| **num-router-dropped** | **[0..2^64-1]** | integer optional | Number of times the event has been dropped by the EMS router. Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **num-suppressed-since-last** | **[0..2^32-1]** | integer optional | Number of times suppressed since last time logged. Attributes: non-creatable, non-modifiable |
| **num-timer-suppressed** | **[0..2^32-1]** | integer optional | Number of times the event has been timer suppressed. Attributes: non-creatable, non-modifiable |
| **probability** | **[0..100]** | integer optional | Probability of an event being suppressed via autosuppress. Attributes: non-creatable, non-modifiable |
| **severity** | | emsseverity optional | The severity of the event. Attributes: non-creatable, non-modifiable Possible values:<br>• "node_fault" - A data corruption has been detected or the node is unable to provide client service,<br>• "svc_fault" - A temporary loss of service has been detected, typically a transient software fault,<br>• "node_error" - A hardware error has been detected which is not immediately fatal,<br>• "svc_error" - A software error has been detected which is not immediately fatal,<br>• "warning" - A high-priority message, does not indicate a fault,<br>• "notice" - A normal-priority message, does not indicate a fault,<br>• "info" - A low-priority message, does not indicate a fault,<br>• "debug" - A debugging message, typically suppressed from customer,<br>• "var" - Message has variable severity, selected at runtime |
| **stat-starting-time** | | datetime optional | Time the event was first posted. Attributes: non-creatable, non-modifiable |

# Element definition: **emsseverity**

[top]

NODE_FAULT|SVC_FAULT|NODE_ERROR|SVC_ERROR|WARNING|NOTICE|INFO|DEBUG|VAR Possible values:

- "node_fault" - A data corruption has been detected or the node is unable to provide client service,
- "svc_fault" - A temporary loss of service has been detected, typically a transient software fault,
- "node_error" - A hardware error has been detected which is not immediately fatal,
- "svc_error" - A software error has been detected which is not immediately fatal,
- "warning" - A high-priority message, does not indicate a fault,
- "notice" - A normal-priority message, does not indicate a fault,
- "info" - A low-priority message, does not indicate a fault,
- "debug" - A debugging message, typically suppressed from customer,
- "var" - Message has variable severity, selected at runtime

[none]

# Element definition: **event-catalog-info**

[top]

Event catalog information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **action** | | string optional | The corrective action. Attributes: non-creatable, non-modifiable |
| **deprecated** | | boolean optional | The flag that indicates whether or not the event is deprecated. Attributes: non-creatable, non-modifiable |
| **description** | | string optional | The event description. Attributes: non-creatable, non-modifiable |
| **filter-name** | | string optional | Filter Name Attributes: non-creatable, non-modifiable |
| **message-name** | | ems-id optional | The name of the EMS message. Attributes: key, non-creatable, non-modifiable |
| **severity** | | string optional | Severity<br><br>Possible values:<br><br>• 'emergency' - Disruption,<br>• 'alert' - Single point of failure,<br>• 'error' - Degradation,<br>• 'notice' - Information,<br>• 'informational' - Information,<br>• 'debug' - Debug information<br><br>Attributes: non-creatable, non-modifiable |
| **snmp-trap-type** | | snmptraptypes optional | The type of SNMP trap. Attributes: non-creatable, non-modifiable<br>Possible values:<br><br>• "standard" - Standard SNMP traps,<br>• "built_in" - Built-in SNMP traps,<br>• "severity_based" - Severity based SNMP traps |

# Element definition: **event-filter**

[top]

Event filter creation. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **event-filter-rule** | | event-filter-rule-info[] optional | List of rules added to each filter. |
| **filter-name** | | string optional | Filter Name. The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen). Attributes: key, required-for-create, non-modifiable |

# Element definition: **event-notification**

[top]

Event notifications. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **destinations** | | string[] optional | List of Event Notification Destinations Attributes: required-for-create, modifiable |
| **filter-name** | | string optional | Event Filter Name Attributes: required-for-create, modifiable |
| **id** | **[0..2^32-1]** | integer optional | Event Notification ID Attributes: key, required-for-create, non-modifiable |

# Element definition: **event-notification-destination**

[top]

Event notification destinations. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **certificate-authority** | | string optional | Use this field and certificate-serial to specify the client certificate to use when being authenticated by the REST API server. Attributes: optional-for-create, modifiable |
| **certificate-** | | string | Use this field and certificate-authority to specify the client certificate to use when being authenticated by the REST API server. Attributes: optional-for- |

| | | | |
|---|---|---|---|
| **serial** | | optional | create, modifiable |
| **email** | | string optional | Use this field to specify an email destination. Note: Each destination name can only be associated with either an email destination or a syslog destination. SNMP destinations can be created/updated only through the 'system snmp traphost' command and they are associated with the default destination name 'snmp-traphost'. The format of the email destination is as per RFC standard. Attributes: optional-for-create, modifiable |
| **name** | | string optional | Destination Name.The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen). Attributes: key, required-for-create, non-modifiable |
| **rest-api-url** | | string optional | Use this field to specify REST API server URL to which event notifications will be sent. Enter the full URL, which must start either with an http:// or https:// prefix. Attributes: optional-for-create, modifiable |
| **syslog** | | string optional | Use this field to specify a syslog destination. Note: Each destination name can only be associated with either an email destination or a syslog destination. SNMP destinations can be created/updated only through the 'system snmp traphost' command and they are associated with the default destination name 'snmp-traphost'. Attributes: optional-for-create, modifiable |

# Element definition: **event-notification-destination-info**

[top]

Event notification destinations. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **certificate-authority** | | string optional | Issuing Certificate Authority (CA) of client certificate. Attributes: non-creatable, non-modifiable |
| **certificate-serial** | | string optional | Serial number of certificate in hexadecimal format. Attributes: non-creatable, non-modifiable |
| **destination** | | string[] optional | An output field to view the destination. Attributes: non-creatable, non-modifiable |
| **is-certificate-valid** | | boolean optional | This field indicates whether the client certificate specified by the certificate-authority and certificate-serial fields is valid. If not, and if the REST API server requires client authentication, event messages will not be sent to the server. Attributes: non-creatable, non-modifiable |
| **is-server-ca-present** | | boolean optional | This field indicates whether certificates of the server-ca type exist in the system. If not, event messages will not be sent to a rest-api type destination having an HTTPS URL. Attributes: non-creatable, non-modifiable |
| **name** | | string optional | Destination Name.The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen). Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **type** | | string optional | An output field to view the type of the destination. The type could be one of email, syslog, REST API server URL or SNMP. SNMP destinations are displayed under the default destination name 'snmp-traphost'. The SNMP destinations associated with 'snmp-traphost' can be created/updated only through the 'system snmp traphost' command. Attributes: non-creatable, non-modifiable Possible values:<br>• "snmp" - SNMP destination,<br>• "email" - Email destination,<br>• "syslog" - Syslog Destination,<br>• "rest_api" - REST API URL Destination |

# Element definition: **event-notification-history-info**

[top]

Event notification history info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **event** | | string optional | The EMS event. Attributes: non-creatable, non-modifiable |
| **message-name** | | ems-id optional | The emitted message's name. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node emitting the EMS message. Attributes: key, non-creatable, non-modifiable |
| **seq-num** | | seqnum optional | The message sequence number. Attributes: key, non-creatable, non-modifiable |
| **severity** | | string optional | Severity<br><br>Possible values:<br>• 'emergency' - Disruption,<br>• 'alert' - Single point of failure,<br>• 'error' - Degradation,<br>• 'notice' - Information,<br>• 'informational' - Information,<br>• 'debug' - Debug information<br><br>Attributes: non-creatable, non-modifiable |
| **time** | | datetime optional | The time of message emission. Attributes: non-creatable, non-modifiable |

# Element definition: **event-rule-type**

[top]

include|exclude Possible values:

- "include" - Event(s) matching this rule is included in the specified filter,
- "exclude" - Event(s) matching this rule is excluded in the specified filter

[none]

## Element definition: **eventseverity**

[top]

EMERGENCY|ALERT|ERROR|NOTICE|INFORMATIONAL|DEBUG Possible values:

- "emergency" - Disruption,
- "alert" - Single point of failure,
- "critical" - Critical condition,
- "error" - Degradation,
- "warning" - Warning condition,
- "notice" - Information,
- "informational" - Information,
- "debug" - Debug information

[none]

## Element definition: **mail-address**

[top]

E-mail Address

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **param**

[top]

one parameter required by the event.

[none]

## Element definition: **remote-ip**

[top]

Remote IP Address

[none]

## Element definition: **seqnum**

[top]

Reverse-ordered Integer Range : [0..2^64-1].

[none]

## Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **syslog-facility**

[top]

The syslog facility.

[none]

## Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

## Element definition: **ems-destination**

[top]

EMS destination

[none]

## Element definition: **ems-destination-info**

[top]

EMS Destination Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **hide-parameters** | | boolean optional | Hide parameter values? Attributes: optional-for-create, modifiable |
| **mail** | | mail-address[] optional | The e-mail address to which events are sent. Attributes: optional-for-create, modifiable |
| **name** | | string optional | The name of the EMS destination. Attributes: key, required-for-create, non-modifiable |
| **snmp** | | remote-ip[] optional | The SNMP addresses to which traps are sent. Attributes: optional-for-create, modifiable |
| **snmp-community** | | string optional | The SNMP community name. Attributes: optional-for-create, modifiable |
| **syslog** | | remote-ip[] optional | The remote syslog servers to which messages are sent. Attributes: optional-for-create, modifiable |
| **syslog-facility** | | syslog-facility optional | The syslog logging facility. Attributes: optional-for-create, modifiable |

# Element definition: **ems-filter**

[top]

EMS Filter Name

[none]

# Element definition: **ems-id**

[top]

EMS Id

[none]

# Element definition: **ems-routing-info**

[top]

EMS Routing Info When returned as part of the output, all elements of this typedef are reported, unless

otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **action** | | string optional | The corrective action. Attributes: non-creatable, non-modifiable |
| **description** | | string optional | The event description. Attributes: non-creatable, non-modifiable |
| **destinations** | | ems-destination[] optional | The event destinations. Attributes: non-creatable, modifiable |
| **frequency-threshold** | **[0..2^32-1]** | integer optional | Number of times an event occurs before a repeat notification of the event is sent. Attributes: non-creatable, modifiable |
| **message-name** | | ems-id optional | The name of the EMS message. Attributes: key, non-creatable, non-modifiable |
| **severity** | | eventseverity optional | The event severity. As of Data ONTAP 9.0, 'critical' and 'warning' severities are no longer supported. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "emergency" - Disruption,<br>• "alert" - Single point of failure,<br>• "critical" - Critical condition,<br>• "error" - Degradation,<br>• "warning" - Warning condition,<br>• "notice" - Information,<br>• "informational" - Information,<br>• "debug" - Debug information |
| **snmp-support** | | boolean optional | Indicates whether or not the event supports SNMP traps. Attributes: non-creatable, non-modifiable |
| **time-threshold** | **[0..2^32-1]** | integer optional | Minimum number of seconds between repeat notifications of an event. Attributes: non-creatable, modifiable |

# Element definition: **event-filter-rule-info**

[top]

List of rules added to each filter.

| Name | Range | Type | Description |
|---|---|---|---|
| **message-name** | | string optional | Message Name Attributes: non-creatable, non-modifiable |
| **position** | **[0..2^32-1]** | integer optional | Rule Position Attributes: non-creatable, non-modifiable |
| | | | Severity<br><br>Possible values:<br>• 'emergency' - Disruption, |

| | | | |
|---|---|---|---|
| **severity** | | string[] optional | • 'alert' - Single point of failure,<br>• 'error' - Degradation,<br>• 'notice' - Information,<br>• 'informational' - Information,<br>• 'debug' - Debug information,<br>• '*' - All of the above<br><br>Default:* Attributes: non-creatable, non-modifiable |
| **snmp-trap-type** | | string[] optional | SNMP Trap Type<br><br>Possible values:<br><br>• 'standard' - Standard SNMP traps,<br>• 'built-in' - Built-in SNMP traps,<br>• 'severity-based' - Severity based SNMP traps<br>• '*' - All of the above<br><br>Default: * Attributes: non-creatable, non-modifiable |
| **type** | | event-rule-type optional | Rule Type Attributes: non-creatable, non-modifiable Possible values:<br><br>• "include" - Event(s) matching this rule is included in the specified filter,<br>• "exclude" - Event(s) matching this rule is excluded in the specified filter |

# Element definition: **event-rule-type**

[top]

include|exclude Possible values:

- "include" - Event(s) matching this rule is included in the specified filter,
- "exclude" - Event(s) matching this rule is excluded in the specified filter

[none]

# Element definition: **eventseverity**

[top]

EMERGENCY|ALERT|ERROR|NOTICE|INFORMATIONAL|DEBUG Possible values:

- "emergency" - Disruption,
- "alert" - Single point of failure,
- "critical" - Critical condition,
- "error" - Degradation,
- "warning" - Warning condition,
- "notice" - Information,
- "informational" - Information,
- "debug" - Debug information

[none]

## Element definition: **mail-address** [top]

E-mail Address

[none]

## Element definition: **parameter** [top]

Event parameter's name and value.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | List of event parameter names. Attributes: non-creatable, non-modifiable |
| **value** | | string optional | List of event parameter values. Attributes: non-creatable, non-modifiable |

## Element definition: **remote-ip** [top]

Remote IP Address

[none]

## Element definition: **snmptraptypes** [top]

Standard|Built-in|Severity-based Possible values:

- "standard" - Standard SNMP traps,
- "built_in" - Built-in SNMP traps,
- "severity_based" - Severity based SNMP traps

[none]

## Element definition: **syslog-facility** [top]

The syslog facility.

[none]

# Element definition: **ems-destination**

[top]

EMS destination

[none]

# Element definition: **ems-id**

[top]

EMS Id

[none]

# APIs in Category: **environment**

| | |
|---|---|
| environment-sensors-get-iter | Environmental subsystem is a module to monitor the system's environmental states by reading the hardware sensors on various components. According to the states of the sensors, the subsystem will take actions based on a predefined environmental policy. This category contains the APIs for the environmental subsystem. |

## environment-sensors-get-iter

[top]

Returns the sensors information from the environmental subsystem.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | environment-sensors-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **discrete-sensor-state** | | sensor-state-enum optional | Discrete-valued sensor state |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 300 |
| **query** | | environment-sensors-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the environment object. All environment objects matching this query up to 'max-records' will be returned. |
| **sensor-name** | | string optional | Name of the sensor in the environmental subsystem. The maximum length of the sensor name is 32 |
| **sensor-type** | | sensor-type-enum optional | Type of the sensor. See sensor-type-enum for possible values |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |
| **threshold-sensor-state** | | sensor-state-enum optional | Threshold-based sensor state |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | environment-sensors-info[] optional | The list of attributes of environment objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more environment objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# Element definition: **environment-sensors-info**

[top]

Environment Sensor Info. The environmental subsystem monitors a set of hardware sensors in the system. Each sensor represents a pair of state and value that can be measured to reflect the physical state of device(s). Based on the values the sensors represent, the sensors can be grouped to discrete-valued sensors and threshold-based sensors. The discrete-valued sensors have a set of discrete values that represent states of sensors. The threshold-based sensors have a numeral value that represnts a value on an axis, and may have a set of thresholds (points on that axis) are used to define the state of the sensor (ranging from critically low to critically high). This typedef defines the information for both groups of sensors. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **critical-high-threshold** | **[-2^31..2^31-1]** | integer optional | Critical high threshold Attributes: non-creatable, non-modifiable |
| **critical-low-threshold** | **[-2^31..2^31-1]** | integer optional | Critical low threshold Attributes: non-creatable, non-modifiable |
| **discrete-sensor-state** | | sensor-state-enum optional | Discrete-valued sensor state Attributes: non-creatable, non-modifiable Possible values:<br>• "normal" - The device is normal,<br>• "warn-low" - The device state is lower than the warning low threshold and higher than the critical low threshold,<br>• "warn-high" - The device state is higher than the warning high threshold and lower than the critical high threshold,<br>• "crit-low" - The device state is lower than the critical low threshold,<br>• "crit-high" - The device state is higher than the critical higher threshold,<br>• "disabled" - The sensor is disabled, only available for SP-based filers,<br>• "uninitialized" - The sensor is not yet initialized, only available for SP-based filers,<br>• "init-failed" - The sensor failed to initialize, only available for SP-based filers,<br>• "not-available" - The sensor is temporarily not able to report status, only available for SP-based filers,<br>• "invalid" - The status returned from the sensor is not valid, only available for SP-based filers,<br>• "retry" - The sensor is in the rety state, only available for non SP-based filers,<br>• "bad" - The device is bad, only available for non SP-based filers,<br>• "not-present" - The device is not present, only available for |

| | | | |
|---|---|---|---|
| | | | non SP-based filers,<br>• "failed" - The sensor failed to report status,<br>• "ignored" - The sensor state is ignored, only available for SP-based filers,<br>• "unknown" - The sensor state is uknown |
| **discrete-sensor-value** | | string optional | Discrete-valued sensor value Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | Node name the sensor is associated with Attributes: key, non-creatable, non-modifiable |
| **sensor-name** | | string optional | Name of the sensor in the environmental subsystem. The maximum length of the sensor name is 32 Attributes: non-creatable, non-modifiable |
| **sensor-type** | | sensor-type-enum optional | Type of the sensor Attributes: non-creatable, non-modifiable Possible values:<br>• "fan" - FAN RPM sensors,<br>• "thermal" - Temerature sensors,<br>• "voltage" - Voltage measurement sensors,<br>• "current" - Current measurement sensors,<br>• "battery-life" - Sensors report battery life,<br>• "discrete" - Discrete sensors,<br>• "fru" - FRU sensors,<br>• "nvmem" - Sensors on the NVMEM module,<br>• "counter" - Sensors report in counters,<br>• "minutes" - Sensors report by minutes,<br>• "percent" - Sensors report in percentage,<br>• "agent" - Sensors on or throught the Agent device,<br>• "unknown" - Unknown sensors |
| **threshold-sensor-state** | | sensor-state-enum optional | Threshold-based sensor state Attributes: non-creatable, non-modifiable Possible values:<br>• "normal" - The device is normal,<br>• "warn-low" - The device state is lower than the warning low threshold and higher than the critical low threshold,<br>• "warn-high" - The device state is higher than the warning high threshold and lower than the critical high threshold,<br>• "crit-low" - The device state is lower than the critical low threshold,<br>• "crit-high" - The device state is higher than the critical higher threshold,<br>• "disabled" - The sensor is disabled, only available for SP-based filers,<br>• "uninitialized" - The sensor is not yet initialized, only available for SP-based filers,<br>• "init-failed" - The sensor failed to initialize, only available for SP-based filers,<br>• "not-available" - The sensor is temporarily not able to report status, only available for SP-based filers,<br>• "invalid" - The status returned from the sensor is not valid, only available for SP-based filers,<br>• "retry" - The sensor is in the rety state, only available for non SP-based filers,<br>• "bad" - The device is bad, only available for non SP-based filers,<br>• "not-present" - The device is not present, only available for non SP-based filers, |

| | | | |
|---|---|---|---|
| | | | • "failed" - The sensor failed to report status,<br>• "ignored" - The sensor state is ignored, only available for SP-based filers,<br>• "unknown" - The sensor state is uknown |
| **threshold-sensor-value** | **[-2^31..2^31-1]** | integer optional | Threshold-based sensor value Attributes: non-creatable, non-modifiable |
| **value-units** | | string optional | The units of the threshold-based sensor value. More than 90 possible unit types. Refer to the "Sensor Unit Type Codes" in the IPMI spec for possible types. Attributes: non-creatable, non-modifiable |
| **warning-high-threshold** | **[-2^31..2^31-1]** | integer optional | Warning high threshold Attributes: non-creatable, non-modifiable |
| **warning-low-threshold** | **[-2^31..2^31-1]** | integer optional | Warning low threshold Attributes: non-creatable, non-modifiable |

# Element definition: **sensor-state-enum**

[top]

normal|warn-low|warn-high|crit-low|crit-high|disabled|uninitialized|init-failed|not-available|invalid|retry|bad|not-present|failed|ignored|fault|unknown Possible values:

- "normal" ,
- "warn_low" ,
- "warn_high" ,
- "crit_low" ,
- "crit_high" ,
- "disabled" ,
- "uninitialized" ,
- "init_failed" ,
- "not_available" ,
- "invalid" ,
- "retry" ,
- "bad" ,
- "not_present" ,
- "failed" ,
- "ignored" ,
- "fault" ,
- "unknown"

[none]

# Element definition: **sensor-type-enum**

[top]

fan|thermal|voltage|current|battery-life|discrete|fru|nvmem|counter|minutes|percent|agent|unknown Possible values:

- "fan" ,
- "thermal" ,

"voltage" ,
- "current" ,
- "battery_life" ,
- "discrete" ,
- "fru" ,
- "nvmem" ,
- "counter" ,
- "minutes" ,
- "percent" ,
- "agent" ,
- "unknown"

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

# APIs in Category: **exports**


export-check-access-get-iter
export-policy-create
export-policy-destroy
export-policy-get
export-policy-get-iter
export-policy-rename
export-rule-add-clientmatches
export-rule-create
export-rule-destroy
export-rule-get
export-rule-get-create-defaults
export-rule-get-iter
export-rule-modify
export-rule-remove-clientmatches
export-rule-set-index
exports-access-cache-all-vservers-get
exports-access-cache-all-vservers-modify
exports-access-cache-config-get
exports-access-cache-config-get-iter
exports-access-cache-config-modify


This set of ZAPIs allows managing Export policies and rules for NFSv2, NFSv3, NFSv4, and CIFS protocols. Contains methods to create, modify, delete, and obtain information about Export policies and rules in a cluster. FlexGroups do not support Export policies that allow NFSv4 protocol access.

## export-check-access-get-iter

[top]

Shows the access information for supplied client

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-type** | | export-access-rights | Access Rights to Check for |
| **authentication-method** | | security-flavor | Authentication Method |
| **client-ip** | | ip-address | Client IP Address |
| **desired-attributes** | | export-check-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| | | | |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **protocol** | | access-protocol | Protocol |
| **query** | | export-check-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Client access check information object. All Client access check information objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |
| **volume** | | volume-name | Volume Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | export-check-info[] optional | The list of attributes of Client access check information objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Client access check information objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# export-policy-create

[top]

Create an Export policy configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | export-policy-name | Export policy name. |
| **return-record** | | boolean optional | If set to true, returns the Export policy configuration. on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | export-policy-info optional | The Export policy configuration. created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

[top]

# export-policy-destroy

Delete an Export policy configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | export-policy-name | Export policy name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# export-policy-get

[top]

Get an Export policy configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | export-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy-name** | | export-policy-name | Export policy name. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | export-policy-info | The attributes of the Export policy configuration.. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# export-policy-get-iter

[top]

Get a group of Export policy configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | export-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | export-policy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Export policy configuration. object. All Export policy configuration. objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | export-policy-info[] optional | The list of attributes of Export policy configuration. objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Export policy configuration. objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# export-policy-rename

[top]

Rename an Export policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-policy-name** | | export-policy-name | New Export policy name. |
| **policy-name** | | export-policy-name | Export policy name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# export-rule-add-clientmatches

[top]

Add list of clientmatch strings to an existing export-policy rule

| Input Name | Range | Type | Description |
|---|---|---|---|
| **clientmatches** | | string | List of Clientmatch Strings to Add |
| **policy-name** | | export-policy-name | Export policy name. |
| **rule-index** | **[0..2^32-1]** | integer | Export policy rule index. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| | |

| | |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# export-rule-create

[top]

Create an Export rule configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **anonymous-user-id** | | string<br>optional | User name or ID to which anonymous users are mapped. Default value is '65534'. |
| **client-match** | | string | List of client match specifications for Export rule. The clients specified are enforced with this Export rule. The rule with the higher rule index value takes precedence. |
| **export-chown-mode** | | exportchownmode<br>optional | Change ownership mode. Possible values are 'restricted', 'unrestricted'. Default value is 'restricted'. |
| **export-ntfs-unix-security-ops** | | exportntfsunixsecops<br>optional | Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail'. Default value is 'fail'. |
| **is-allow-dev-is-enabled** | | boolean<br>optional | If 'true', the NFS server will allow creation of devices. Default value is 'true'. |
| **is-allow-set-uid-enabled** | | boolean<br>optional | If 'true', NFS server will honor SetUID bits in SETATTR operation. Default value is 'true'. |
| **policy-name** | | export-policy-name | Export policy name. |
| **protocol** | | access-protocol[]<br>optional | Client access protocol. Default value is 'any'. |
| **ro-rule** | | security-flavor[] | Rule for read-only access. |
| **rule-index** | | integer<br>optional | Export rule index. A next available value is assigned if no value is provided during create else the rule is inserted at the given rule index position in the export-rule table. |
| **rw-rule** | | security-flavor[] | Rule for read-write access. |
| **super-user-security** | | security-flavor[]<br>optional | Security flavors for the superuser. Default value is 'none'. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# export-rule-destroy

[top]

Delete an Export rule configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | export-policy-name | Export policy name. |
| **rule-index** | **[0..2^32-1]** | integer | Export rule index. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# export-rule-get

[top]

Get an Export rule configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | export-rule-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy-name** | | export-policy-name | Export policy name. |
| **rule-index** | **[0..2^32-1]** | integer | Export rule index. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | export-rule-info | The attributes of the Export rule configuration.. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# export-rule-get-create-defaults

[top]

Obtain the default values for Export rule configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | export-rule-info optional | Optionally specify the value for attributes if available. The default values for some attributes may depend on the values specified for some other attribute. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **defaults** | | export-rule-info | The default attributes for the Export rule configuration.. |

# export-rule-get-iter

[top]

Get a group of Export rule configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | export-rule-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | export-rule-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Export rule configuration. object. All Export rule configuration. objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | export-rule-info[] optional | The list of attributes of Export rule configuration. objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Export rule configuration. objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# export-rule-modify

[top]

Modify an Export rule configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **anonymous-user-id** | | string optional | User name or ID to which anonymous users are mapped. Default value is '65534'. |
| **client-match** | | string optional | List of client match specifications for Export rule. The clients specified are enforced with this Export rule. The rule with the higher rule index value takes precedence. |
| **export-chown-mode** | | exportchownmode optional | Change ownership mode. Possible values are 'restricted', 'unrestricted'. Default value is 'restricted'. |
| **export-ntfs-unix-security-ops** | | exportntfsunixsecops optional | Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail'. Default value is 'fail'. |
| **is-allow-dev-is-** | | boolean | If 'true', the NFS server will allow creation of devices. |

| | | | |
|---|---|---|---|
| **enabled** | | optional | Default value is 'true'. |
| **is-allow-set-uid-enabled** | | boolean optional | If 'true', NFS server will honor SetUID bits in SETATTR operation. Default value is 'true'. |
| **policy-name** | | export-policy-name | Export policy name. |
| **protocol** | | access-protocol[] optional | Client access protocol. Default value is 'any'. |
| **ro-rule** | | security-flavor[] optional | Rule for read-only access. |
| **rule-index** | **[0..2^32-1]** | integer | Export rule index. |
| **rw-rule** | | security-flavor[] optional | Rule for read-write access. |
| **super-user-security** | | security-flavor[] optional | Security flavors for the superuser. Default value is 'none'. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# export-rule-remove-clientmatches

[top]

Remove clientmatch strings from an existing export-policy rule

| Input Name | Range | Type | Description |
|---|---|---|---|
| **clientmatches** | | string | List of Clientmatch Strings to Remove |
| **policy-name** | | export-policy-name | Export policy name. |
| **rule-index** | **[0..2^32-1]** | integer | Export policy rule index. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# export-rule-set-index

[top]

Move a rule to the specified index

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-rule-index** | **[0..2^32-1]** | integer | New ruleindex value for the Export rule. The rule will be inserted into the rule-index position in the export-rule table. |
| **policy-name** | | export-policy-name | Export policy name. |

| | | | |
|---|---|---|---|
| **rule-index** | **[0..2^32-1]** | integer | Export policy rule index. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# exports-access-cache-all-vservers-get

[top]

Get the NFS Exports Access Cache Refresh Periods.This API is deprecated in Data ONTAP 9.0.0 and later.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | access-cache-attributes-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | access-cache-attributes-info | The attributes of the NFS Exports Access Cache. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# exports-access-cache-all-vservers-modify

[top]

Modify the NFS Exports Access Cache Refresh Periods. This API is deprecated in Data ONTAP 9.0.0 and later.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **harvest-timeout** | **[60..2592000]** | integer optional | Harvest Timeout (Secs) |
| **refresh-period-negative** | **[60..86400]** | integer optional | TTL For Negative Entries (Secs) |
| **refresh-period-positive** | **[300..86400]** | integer optional | TTL For Positive Entries (Secs) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# exports-access-cache-config-get

[top]

Get the exports access cache configuration for the given Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | exports-access-cache-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | exports-access-cache-config-info | The attributes of the Exports Access Cache Configuration. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# exports-access-cache-config-get-iter

[top]

Iterate over the list of Vservers for exports access cache configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | exports-access-cache-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | exports-access-cache-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Exports Access Cache Configuration object. All Exports Access Cache Configuration objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-** | | exports-access-cache- | |

| | | | |
|---|---|---|---|
| **list** | | config-info[] optional | The list of attributes of Exports Access Cache Configuration objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Exports Access Cache Configuration objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## exports-access-cache-config-modify

[top]

Modify the exports access cache configuration for the given Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **harvest-timeout** | **[60..2592000]** | integer optional | The timeout in seconds after which unused access cache entries will be deleted. Default value is 36000 seconds |
| **ttl-failure** | **[1..60]** | integer optional | TTL in seconds for access cache entries that failed to fetch export rules from management gateway. Default value is 5 seconds |
| **ttl-negative** | **[60..86400]** | integer optional | TTL in seconds for access cache entries that deny access. Default value is 3600 seconds |
| **ttl-positive** | **[300..86400]** | integer optional | TTL in seconds for access cache entries that allow access. Default value is 3600 seconds |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

## Element definition: **access-cache-attributes-info**

[top]

NFS Exports Access Cache Attributes When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **harvest-timeout** | **[60..2592000]** | integer optional | Harvest Timeout (Secs) Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **refresh-period-negative** | **[60..86400]** | integer optional | TTL For Negative Entries (Secs) Attributes: non-creatable, non-modifiable |
| **refresh-period-positive** | **[300..86400]** | integer optional | TTL For Positive Entries (Secs) Attributes: non-creatable, non-modifiable |

# Element definition: **access-protocol**

[top]

Client Access Protocol Possible values:

- "any" - Any,
- "nfs2" - NFS Version 2,
- "nfs3" - NFS Version 3,
- "nfs" - Any Version of NFS,
- "cifs" - CIFS,
- "nfs4" - NFS Version 4,
- "flexcache" - Flexcache,
- "nfs4_1" - NFS Version 4.1,
- "nfs4_2" - NFS Version 4.2

[none]

# Element definition: **export-access-rights**

[top]

read|read-write|denied Possible values:

- "read" - Read,
- "read_write" - Read-Write,
- "denied" - Denied

[none]

# Element definition: **export-check-info**

[top]

Information about the client access. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | Access Rights Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **access** | | export-access-rights optional | • "read" - Read,<br>• "read_write" - Read-Write,<br>• "denied" - Denied |
| **access-type** | | export-access-rights optional | Access Rights to Check for Attributes: key, non-creatable, non-modifiable Possible values:<br>• "read" - Read,<br>• "read_write" - Read-Write,<br>• "denied" - Denied |
| **authentication-method** | | security-flavor optional | Authentication Method Attributes: key, non-creatable, non-modifiable Possible values:<br>• "any" - Any,<br>• "none" - Anonymous Access Allowed If Security Type Not Already Listed,<br>• "never" - Never,<br>• "krb5" - Kerberos 5 Authentication,<br>• "krb5i" - Kerberos 5 Authentication With Data Integrity Protection,<br>• "krb5p" - Kerberos 5 Authentication With Data Privacy Protection,<br>• "ntlm" - CIFS NTLM,<br>• "sys" - NFS AUTH_SYS |
| **client-ip** | | ip-address optional | Client IP Address Attributes: key, non-creatable, non-modifiable |
| **path** | | string optional | Path Attributes: non-creatable, non-modifiable |
| **policy** | | string optional | Export Policy Attributes: non-creatable, non-modifiable |
| **policy-owner** | | string optional | Export Policy Owner Attributes: non-creatable, non-modifiable |
| **policy-owner-type** | | policy-owner-type optional | Type of Export Policy Owner Attributes: non-creatable, non-modifiable Possible values:<br>• "volume" - Volume,<br>• "qtree" - Qtree |
| **protocol** | | access-protocol optional | Protocol Attributes: key, non-creatable, non-modifiable Possible values:<br>• "any" - Any,<br>• "nfs2" - NFS Version 2,<br>• "nfs3" - NFS Version 3,<br>• "nfs" - Any Version of NFS,<br>• "cifs" - CIFS,<br>• "nfs4" - NFS Version 4,<br>• "flexcache" - Flexcache,<br>• "nfs4_1" - NFS Version 4.1,<br>• "nfs4_2" - NFS Version 4.2 |
| **rule-index** | **[0..2^32-1]** | integer optional | Export Policy Rule Index Attributes: non-creatable, non-modifiable |
| | | security- | Security Style Attributes: non-creatable, non-modifiable Possible values:<br>• "unix" - NFS, |

| | | | |
|---|---|---|---|
| **security-style** | | style-enum optional | • "ntfs" - CIFS,<br>• "mixed" - Mixed,<br>• "unified" - Unified |
| **volume** | | volume-name optional | Volume Name Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **export-policy-info**

[top]

Information about the Export policy configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **policy-id** | **[0..2^64-1]** | integer optional | Export policy id. Attributes: non-creatable, non-modifiable |
| **policy-name** | | export-policy-name optional | Export policy name. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | string optional | Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **export-policy-name**

[top]

The name of the export policy

[none]

# Element definition: **export-rule-info**

[top]

Information about the Export rule configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **anonymous-user-id** | | string optional | User name or ID to which anonymous users are mapped. Default value is '65534'. Attributes: optional-for-create, modifiable |
| **client-match** | | string optional | List of client match specifications for Export rule. The clients specified are enforced with this Export rule. The rule with the higher rule index value takes precedence. Attributes: required-for-create, modifiable |
| **export-chown-mode** | | exportchownmode optional | Change ownership mode. Possible values are 'restricted', 'unrestricted'. Default value is 'restricted'. Attributes: optional-for-create, modifiable Possible values:<br>• "restricted" ,<br>• "unrestricted" |
| **export-ntfs-unix-security-ops** | | exportntfsunixsecops optional | Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail'. Default value is 'fail'. Attributes: optional-for-create, modifiable Possible values:<br>• "ignore" ,<br>• "fail" |
| **is-allow-dev-is-enabled** | | boolean optional | If 'true', the NFS server will allow creation of devices. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-allow-set-uid-enabled** | | boolean optional | If 'true', NFS server will honor SetUID bits in SETATTR operation. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **policy-name** | | export-policy-name optional | Export policy name. Attributes: key, required-for-create, non-modifiable |
| **protocol** | | access-protocol[] optional | Client access protocol. Default value is 'any'. Attributes: optional-for-create, modifiable Possible values:<br>• "any" - Any,<br>• "nfs2" - NFS Version 2,<br>• "nfs3" - NFS Version 3,<br>• "nfs" - Any Version of NFS,<br>• "cifs" - CIFS,<br>• "nfs4" - NFS Version 4,<br>• "flexcache" - Flexcache,<br>• "nfs4_1" - NFS Version 4.1,<br>• "nfs4_2" - NFS Version 4.2 |
| **ro-rule** | | security-flavor[] optional | Rule for read-only access. Attributes: required-for-create, modifiable Possible values:<br>• "any" - Any,<br>• "none" - Anonymous Access Allowed If Security Type Not Already Listed,<br>• "never" - Never,<br>• "krb5" - Kerberos 5 Authentication,<br>• "krb5i" - Kerberos 5 Authentication With Data Integrity Protection,<br>• "krb5p" - Kerberos 5 Authentication With Data Privacy Protection, |

| | | | |
|---|---|---|---|
| | | | • "ntlm" - CIFS NTLM,<br>• "sys" - NFS AUTH_SYS |
| **rule-index** | **[0..2^32-1]** | integer<br>optional | Export rule index. Attributes: key, optional-for-create, non-modifiable |
| **rw-rule** | | security-flavor[]<br>optional | Rule for read-write access. Attributes: required-for-create, modifiable Possible values:<br>• "any" - Any,<br>• "none" - Anonymous Access Allowed If Security Type Not Already Listed,<br>• "never" - Never,<br>• "krb5" - Kerberos 5 Authentication,<br>• "krb5i" - Kerberos 5 Authentication With Data Integrity Protection,<br>• "krb5p" - Kerberos 5 Authentication With Data Privacy Protection,<br>• "ntlm" - CIFS NTLM,<br>• "sys" - NFS AUTH_SYS |
| **super-user-security** | | security-flavor[]<br>optional | Security flavors for the superuser. Default value is 'none'. Attributes: optional-for-create, modifiable Possible values:<br>• "any" - Any,<br>• "none" - Anonymous Access Allowed If Security Type Not Already Listed,<br>• "never" - Never,<br>• "krb5" - Kerberos 5 Authentication,<br>• "krb5i" - Kerberos 5 Authentication With Data Integrity Protection,<br>• "krb5p" - Kerberos 5 Authentication With Data Privacy Protection,<br>• "ntlm" - CIFS NTLM,<br>• "sys" - NFS AUTH_SYS |
| **vserver-name** | | string<br>optional | Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **exportchownmode**

[top]

restricted|unrestricted Possible values:

- "restricted" ,
- "unrestricted"

[none]

# Element definition: **exportntfsunixsecops**

[top]

ignore|fail Possible values:

"ignore" ,
- "fail"

[none]

## Element definition: **exports-access-cache-config-info** [top]

Information about Exports Access Cache Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **harvest-timeout** | **[60..2592000]** | integer optional | The timeout in seconds after which unused access cache entries will be deleted. Default value is 36000 seconds Attributes: non-creatable, modifiable |
| **ttl-failure** | **[1..60]** | integer optional | TTL in seconds for access cache entries that failed to fetch export rules from management gateway. Default value is 5 seconds Attributes: non-creatable, modifiable |
| **ttl-negative** | **[60..86400]** | integer optional | TTL in seconds for access cache entries that deny access. Default value is 3600 seconds Attributes: non-creatable, modifiable |
| **ttl-positive** | **[300..86400]** | integer optional | TTL in seconds for access cache entries that allow access. Default value is 3600 seconds Attributes: non-creatable, modifiable |
| **vserver** | | string optional | Vserver name Attributes: key, non-creatable, non-modifiable |

## Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

## Element definition: **security-flavor** [top]

authentication method Possible values:

- "any" - Any,
- "none" - Anonymous Access Allowed If Security Type Not Already Listed,
- "never" - Never,
- "krb5" - Kerberos 5 Authentication,
- "krb5i" - Kerberos 5 Authentication With Data Integrity Protection,

- "krb5p" - Kerberos 5 Authentication With Data Privacy Protection,
- "ntlm" - CIFS NTLM,
- "sys" - NFS AUTH_SYS

[none]

## Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

## Element definition: **access-protocol**

[top]

Client Access Protocol Possible values:

- "any" - Any,
- "nfs2" - NFS Version 2,
- "nfs3" - NFS Version 3,
- "nfs" - Any Version of NFS,
- "cifs" - CIFS,
- "nfs4" - NFS Version 4,
- "flexcache" - Flexcache,
- "nfs4_1" - NFS Version 4.1,
- "nfs4_2" - NFS Version 4.2

[none]

## Element definition: **export-access-rights**

[top]

read|read-write|denied Possible values:

- "read" - Read,
- "read_write" - Read-Write,
- "denied" - Denied

[none]

## Element definition: **export-policy-name**

[top]

The name of the export policy

[none]

## Element definition: **policy-owner-type**

[top]

volume|qtree Possible values:

- "volume" - Volume,
- "qtree" - Qtree

[none]

## Element definition: **security-style-enum**

[top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **fc**


fc-config-adapter-disable
fc-config-adapter-enable
fc-config-list-info
fc-config-list-iter-end
fc-config-list-iter-next
fc-config-list-iter-start
fc-config-set-adapter-fc-type


Data ONTAP supports three separate functions with Fibre channel controllers:

- Initiator mode for FC storage loops, FC TapeSAN, and OPR functionality
- Target mode for SAN attach (FCP/Blocks access) functionality
- FC-VI mode for MetroCluster/SlideRuler interconnect functionality

These three functions are controlled by separate drivers. As DOT boots, the device driver attached to each FC adapter determines which function an adapter will support.

The fc-config interface provides a user programmable mechanism to configure the personality of Fibre channel adapters by changing what driver attached to the adapter. Not all Fibre channel adapters support FC configuration.

For more information refer to the "fcadmin config" CLI.

## fc-config-adapter-disable

[top]

Call the corresponding adapter driver disable function to bring the adapter offline. Under some circumstances an adapter can not be put offline. (e.g. when the adapter is being used by the RAID sub-system to provide disks in a volume). In some cases, manual intervention is required. When this happens, an appropriate error messages is returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | FC adapter name (e.g. 0a) |
| **node-name** | | string | This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |
| **EADAPTERINVALIDTYPE** | |
| **ENOTSTARTED** | |
| **EONTAPI_EINVAL** | |
| **ENODENOTFOUND** | |

## fc-config-adapter-enable

[top]

Call the corresponding adapter driver enable function to bring the adapter online. Under some circumstances an adapter can not be brought online. (e.g. when that adapter is in the UNCONFIGURED

state, or when there is no cable attached to the adapter port). When this happens, an appropriate error messages is returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | FC adapter name (e.g 0a) |
| **node-name** | | string | This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |
| **EADAPTERINVALIDTYPE** | |
| **ENOTSTARTED** | |
| **EONTAPI_EINVAL** | |
| **ENODENOTFOUND** | |

# fc-config-list-info

[top]

Iterate over a list of fc objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fc-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fc-config optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fc object. All fc objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fc-config[] optional | The list of attributes of fc objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more fc objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |
| | |

| | |
|---|---|
| **EADAPTERINVALIDTYPE** | |
| **ENOTSTARTED** | |
| **ENODENOTFOUND** | |

# fc-config-list-iter-end

[top]

Terminate the fc-config-list iteration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from a previous fc-config-list-iter-start. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |

# fc-config-list-iter-next

[top]

Obtain a list of FC adapter configuration information. Only provides information for adapters that are configurable.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maximum** | | integer | Maximum number of entries to retrieve. |
| **tag** | | string | Tag from a previous fc-config-list-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **adapter-info** | | fc-config-info[] | List of adapter information |
| **records** | | integer | This tells you how many records are being returned. When this value is 0, you have retrieved everything. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |

# fc-config-list-iter-start

[top]

Start iteration through the list of adapter configuration information.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number of items that have been saved for future retrieval with fc-config-list-iter-next. |
| **tag** | | string | Tag to be used in subsequent iterations. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| | |
|---|---|
| **EOPNOTSUPPORTED** | |

# fc-config-set-adapter-fc-type

[top]

fc-config-set-adapter-fc-type changes the adapter driver and/or configuration state. Each configurable adapter has an adapter-type and adapter-state. The adapter-type indicates which driver is attached to the adapter, the adapter-state indicates what the configuration state of the adapter is. The fc-type is used to modify both the adapter-type and the adapter-state. After setting the adapter fc-type a filer reboot is sometimes needed to make the change effective. Use fc-config-list-info to determine if a filer reboot is needed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | FC adapter name (e.g 0a) |
| **fc-type** | | string | Sets the type and state of the adapter. Possible inputs:<br>"unconfigured" - set adapter-type to "initiator" and adapter-state to UNCONFIGURED<br>"initiator" - set adapter-type to "initiator" and adapter-state to CONFIGURED<br>"target" - set adapter-type to "target" and adapter-state to CONFIGURED<br>"vi" - set adapter-type to "vi" and adapter-state to CONFIGURED |
| **node-name** | | string optional | This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |
| **EADAPTERINVALIDTYPE** | |
| **EOPNOTSUPPORTED** | |
| **EONTAPI_EINVAL** | |
| **ENODENOTFOUND** | |

# Element definition: **fc-config**

[top]

fc config When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string optional | Adapter name Attributes: key, non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **adapter-state** | | string optional | Adapter current state Attributes: non-creatable, non-modifiable |
| **adapter-status** | | string optional | Adapter online status Attributes: non-creatable, non-modifiable |
| **adapter-type** | | string optional | Adaptaer type Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Node name Attributes: key, non-creatable, non-modifiable |
| **pending-fc-type** | | string optional | Pending reason Attributes: non-creatable, non-modifiable |

# Element definition: **fc-config-info**

[top]

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | FC adapter name (e.g. 0c) |
| **adapter-state** | | string | Indicates what the adapter configuration state is. Possible values:<br>"UNDEFINED" - The default state. The adapter has never been configured.<br>"CONFIGURED" - The adapter port is configured and the adapter is operational.<br>"UNCONFIGURED" - The adapter is unconfigured. The initiator driver is attached, but the adapter is not operational.<br>"PENDING" - The adapter is waiting for a filer reboot to effect an fc-type change.<br>While in the PENDING state the adapter can not be used |
| **adapter-status** | | string | Possible values:<br>"online" - adapter driver is enabled<br>"offline" - adapter driver is disabled |
| **adapter-type** | | string | Indicates which driver is attached to the adapter. Possible values:<br>"initiator" - the storage Initiator driver (default)<br>"vi" - the FC-VI cluster interconnect driver<br>"target" - the FCP Target driver |
| **pending-fc-type** | | string optional | If adapter-state is PENDING, this value tells what the last fc-config-set-adapter-fc-type command was. |

# APIs in Category: **fcp**


fcp-adapter-clear-partner
fcp-adapter-config-down
fcp-adapter-config-media-type
fcp-adapter-config-up
fcp-adapter-get-iter
fcp-adapter-initiators-list-info
fcp-adapter-list-info
fcp-adapter-nameserver-list-iter-end
fcp-adapter-nameserver-list-iter-next
fcp-adapter-nameserver-list-iter-start
fcp-adapter-reset-stats
fcp-adapter-set-partner
fcp-adapter-set-speed
fcp-adapter-stats-get-iter
fcp-adapter-stats-list-info
fcp-adapter-topology-list-iter-end
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fcp-adapter-topology-list-iter-start
fcp-adapter-zone-list-iter-end
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fcp-adapter-zone-list-iter-start
fcp-get-cfmode
fcp-initiator-get-iter
fcp-interface-get-iter
fcp-nameserver-get-iter
fcp-node-get-name
fcp-node-set-name
fcp-ping
fcp-ping-igroup-view-get-iter
fcp-ping-info
fcp-ping-initiator-get-iter
fcp-port-name-get-iter
fcp-port-name-list-info
fcp-port-name-set
fcp-port-name-swap
fcp-service-create
fcp-service-destroy
fcp-service-get-iter
fcp-service-start
fcp-service-status
fcp-service-stop
fcp-set-cfmode
fcp-tdz-get-iter
fcp-topology-get-iter
fcp-topology-port-get-iter
fcp-wwpnalias-get-alias-info
fcp-wwpnalias-get-iter
fcp-wwpnalias-remove
fcp-wwpnalias-set

fcp-zone-get-iter

# fcp-adapter-clear-partner

[top]

Removes the name of the partner adapter which the local adapter should takeover. Partner adapter setting is obsolete and this operation is no longer supported.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string | Local FC adapter. |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |

# fcp-adapter-config-down

[top]

Bring a Fibre Channel target adapter offline. The adapter may not be offline immediately after the call returns, it may take up to a few seconds for the adapter to change state. In Data ONTAP 7-Mode, if the FCP service is not running then all adapters are automatically offlined. They cannot be brought online again until FCP service is started. adapter to change state. In Data ONTAP Cluster-Mode, offlining an adapter will operationally disable all FCP logical interfaces (LIFs) hosted by the adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string | FC adapter to bring offline. |
| **node** | | string | The name of the storage system node where the adapter is installed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |
| **EADAPTERINVALIDTYPE** | |
| **EADAPTERPARTNER** | |
| **ENOTSTARTED** | |
| **ENTAPI_EINVAL** | |

# fcp-adapter-config-media-type

[top]

Sets the link type on the Fibre Channel target adapter. It can be configured to establish a point-to-point link, a loop configuration or to automatically sense whether the connection type is a point-to-point or loop link. Setting the link to point-to-point in a loop configuration can prevent the loop from coming up properly. If the adapter is online, it must be brought offline and then online in order for a new mediatype to take effect. This may temporarily disrupt fcp service on the target adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string | FC adapter to bring offline. |
| | | | |

| | | | |
|---|---|---|---|
| **media-type** | | string | Media type to set. Valid values are point-to-point ("ptp"), loop configuration ("loop"), or automatic ("auto"). |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |
| **EADAPTERINVALIDTYPE** | |
| **EADAPTERPARTNER** | |
| **ENOTSTARTED** | |
| **ECLUSTERED** | |
| **EONTAPI_EINVAL** | |

# fcp-adapter-config-up

[top]

Bring a Fibre Channel target adapter online. The adapter may not be online immediately after the call returns, it may take up to a few seconds for the adapter to initialize. In Data ONTAP 7-Mode, if the FCP service is not running then all adapters are automatically offlined. They cannot be brought online again until FCP service is started. In Data ONTAP Cluster-Mode, offlining an adapter will operationally disable all FCP logical interfaces (LIFs) hosted by the adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string | FC adapter to bring online. |
| **node** | | string | The name of the storage system node where the adapter is installed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |
| **EADAPTERINVALIDTYPE** | |
| **EADAPTERPARTNER** | |
| **ENOTSTARTED** | |
| **EONTAPI_EINVAL** | |

# fcp-adapter-get-iter

[top]

Iterate over the list of physical FC adapters.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-config-adapter-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fcp-config-adapter- | A query that specifies which objects to return. A query could be specified on any number of attributes in the FC Adapter object. All |

| | | | |
|---|---|---|---|
| | | info optional | FC Adapter objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-config-adapter-info[] optional | The list of attributes of FC Adapter objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more FC Adapter objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-adapter-initiators-list-info

[top]

Get the list of initiators currently connected to the specified Fibre Channel target adapter, or if none specified, a list of initiators connected to any FC target adapter. Information returned for each initiator includes the portname of initiators that are currently logged in with the the FC target adapters. If the portname is in an initiator group, then the group name is also included. Also the Fibre Channel host address and the nodename/portname of the initiators are included as well. Connectivity of adapters running on behalf of partners are not included in the list when requesting for all adapters. If listing for all adapters and an error occurred for while retrieving connection status for an adapter, status for that adapter will not be returned, and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string optional | Adapter to get initiator list for. If no adapter is specified, information is returned for all initiators connected through any fcp adapter in the system. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapters** | | fcp-adapter-initiators-info[] | A list of FC adapters containing list of initiators and their aliases. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-list-info

[top]

Gets information such as nodename/portname and link state about the specified Fibre Channel target adapter, or if no adapter is specified, about all the FC target adapters.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string optional | FC target Adapter to get config information for. If no adapter is specified, information is returned for all FC target Adapters. |
| **partner-only** | | boolean optional | This field is obsolete and no longer used beginning with Data ONTAP 8.0. |
| **verbose** | | boolean optional | If specified with "true", additional adapter info is returned. Look at description of output for what additions. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fcp-config-adapters** | | fcp-config-adapter-info[] | List of adapter configuration information. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |
| **ENOADAPTERNOTFOUND** | |
| **ENOVIRTUALADAPTERS** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-nameserver-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from a previous fcp-adapter-nameserver-list-iter-start. |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-nameserver-list-iter-next

[top]

Return items from a previous call to fcp-adapter-nameserver-list-iter-start Information returned for each nameserver entry include the port identifier, port type, port name, node name, symbolic port name, symbolic node name, fabric port name, class of service, and registered FC4 types.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **maximum** | | integer | The maximum number of entries to retrieve. |
| **tag** | | string | Tag from a previous fcp-adapter-nameserver-list-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter-nameserver-objects** | | fcp-adapter-nameserver-object-info[] | List of nameserver objects. |
| **records** | | integer | This tells you how many records are being returned from this particular call to fcp-adapter-nameserver-list-iter-next When this value is 0, you have retrieved everything. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-nameserver-list-iter-start

[top]

Get the fabric nameserver objects the results of which are retrieved by using fcp-adapter-nameserver-list-iter-next. Connectivity of adapters running on behalf of partners are not included in the list when requesting for all adapters. If listing for all adapters and an error occurs while retrieving connection status for an adapter, status for that adapter will not be returned and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string optional | Adapter to get nameserver objects for. If no adapter is specified, information is returned for all fcp adapter. |
| **zoned** | | boolean optional | If true, returns only devices that are zoned to the target adapter. Otherwise, all devices in the fabric are returned. Default is false. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number which tells you how many items have been saved for future retrieval with fcp-adapter-nameserver-list-iter-next. |
| **tag** | | string | Tag to be used in subsequent calls to fcp-adapter-nameserver-list-iter-next. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-reset-stats

[top]

Resets the stats for the specified Fibre Channel Target Adapter. If none specified, reset stats for all FC adapters.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string optional | FC Target adapter. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |

# fcp-adapter-set-partner

[top]

Sets the name of the partner adapter which the local adapter should takeover. Partner adapter setting is obsolete and this operation is no longer supported.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string | Local FC adapter. |
| **partner-adapter** | | string | Partner FC adapter to takeover. |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |

# fcp-adapter-set-speed

[top]

Sets the speed on the Fibre Channel target adapter. It can be configured to run at 1Gb, 2Gb, 4Gb, 8Gb, 10Gb, 16Gb or to auto negotiate. The 10Gb adapter only supports the 10Gb speed. The 16Gb adapter only supports speeds of 16Gb, 8Gb, and 4Gb. The 8Gb adapter only supports speeds of 8Gb, 4Gb, and 2Gb. The 4Gb adapter only supports speeds of 4Gb, 2Gb, and 1Gb. If the adapter is online it must be brought offline before setting the speed, and then online in order for a new speed to take effect. This may temporarily disrupt fcp service on the target adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string | FC Target adapter |
| **node** | | string | The name of the storage system node where the adapter is installed. |
| **speed** | | string | Link speed (in Gb). Possible values: "1", "2", "4", "8", "10", "16" or "auto" (auto negotiate speed). |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |
| **EADAPTERINVALIDTYPE** | |
| **EADAPTERPARTNER** | |
| **ENOTSTARTED** | |
| **EONTAPI_EINVAL** | |

# fcp-adapter-stats-get-iter

[top]

Iterate over a list of fcp objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-adapter-stats-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fcp-adapter-stats-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fcp object. All fcp objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-adapter-stats-info[] optional | The list of attributes of fcp objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more fcp objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-adapter-stats-list-info

[top]

Get statistics about the Fibre Channel target adapters. Statistics of adapters running on behalf of partners are not included in the list when requesting stats for all adapters. If listing stats for all adapters and an error occurred for while retrieving stats for an adapter, stats for that adapter will not be returned, and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string optional | FC target Adapter. If no adapter is specified, statistics for all the adapters are returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter-** | | fcp-adapter- | List of statistics for FC adapters. |

| | | | |
|---|---|---|---|
| **stats** | | stats-info[] | |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |

# fcp-adapter-topology-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from a previous fcp-adapter-topology-list-iter-start. |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-topology-list-iter-next

[top]

Return items from a previous call to fcp-adapter-topology-list-iter-start Information returned for each switch includes the nodename, logical name, domain identifier, vendor, release version, and port information. If a port has devices attached to it, then information about each attached device is included as well.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maximum** | | integer | The maximum number of entries to retrieve. |
| **tag** | | string | Tag from a previous fcp-adapter-topology-list-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter-topology-switches** | | fcp-adapter-topology-switch-info[] | Information about the connected FC switch. |
| **records** | | integer | This tells you how many records are being returned from this particular call to fcp-adapter-topology-list-iter-next When this value is 0, you have retrieved everything. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-topology-list-iter-start

[top]

Get the fabric topology for one or more switches the results of which are retrieved by using fcp-adapter-topology-list-iter-next. Connectivity of adapters running on behalf of partners are not included in the list when requesting for all adapters. If listing for all adapters and an error occurs while retrieving connection status for an adapter, information for that adapter will not be returned and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string optional | Adapter to get topology information for. If no adapter is specified, information is returned for all fcp adapter. |
| **verbose** | | boolean optional | If true, returns verbose information including port information about each switch in the fabric. Default is true. |
| **zoned** | | boolean optional | If true, returns only devices in the fabric that are zoned to the target adapter. Default is false. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number which tells you how many items have been saved for future retrieval with fcp-adapter-topology-list-iter-next. |
| **tag** | | string | Tag to be used in subsequent calls to fcp-adapter-topology-list-iter-next. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-zone-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from a previous fcp-adapter-zone-list-iter-start. |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-zone-list-iter-next

[top]

Return items from a previous call to fcp-adapter-zone-list-iter-start Information returned for each zone entry include the active zone set name, the zone name, and the zone members.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maximum** | | integer | The maximum number of entries to retrieve. Range: [0..2^32-1] |
| **tag** | | string | Tag from a previous fcp-adapter-zone-list-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter-zones** | | fcp-adapter-zone-info[] | List of zone entries. |
| **records** | | integer | This tells you how many records are being returned from this particular call to fcp-adapter-zone-list-iter-next When this value is 0, you have retrieved everything. Range: [0..2^32-1] |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-zone-list-iter-start

[top]

Get the active zone set information from the zone server. The results can then be retrieved by using fcp-adapter-zone-list-iter-next. Connectivity of adapters running on behalf of partners is not included in the list when requesting for all adapters. If listing for all adapters and an error occurs while retrieving connection status for an adapter, status for that adapter will not be returned and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string optional | Adapter to get zone information for. If no adapter is specified, information is returned for all fcp adapter. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number which tells you how many items have been saved for future retrieval with fcp-adapter-zone-list-iter-next. Range: [0..2^32-1] |
| **tag** | | string | Tag to be used in subsequent calls to fcp-adapter-zone-list-iter-next. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-get-cfmode

[top]

Get the current cfmode setting for the system.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fcp-cfmode** | | string | Current FCP cfmode setting. Possible values: single_image, unknown |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| ENOTCLUSTERED | |

# fcp-initiator-get-iter

[top]

List all initiators connected to FCP target LIFs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | fcp-adapter-initiators-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | fcp-adapter-initiators-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the connected FCP initiator object. All connected FCP initiator objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | fcp-adapter-initiators-info[] optional | The list of attributes of connected FCP initiator objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more connected FCP initiator objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# fcp-interface-get-iter

[top]

Iterate over a list of FCP Target Logical Interfaces (LIF).

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | fcp-interface-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is |

| | | | |
|---|---|---|---|
| | | optional | available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fcp-interface-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the FCP data LIF object. All FCP data LIF objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-interface-info[] optional | The list of attributes of FCP data LIF objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more FCP data LIF objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-nameserver-get-iter

[top]

Iterates over the list of entries in the fabric name server database.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-nameserver-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fcp-nameserver-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Shows entries in the fabric name server database. object. All Shows entries in the fabric name server database. objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-nameserver-info[] optional | The list of attributes of Shows entries in the fabric name server database. objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Shows entries in the fabric name server database. objects to |

| | | | |
|---|---|---|---|
| | | | return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-node-get-name

[top]

Get the current FCP World Wide Node Name (WWNN). This WWNN name is in the form XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. In Data ONTAP 7-Mode, this is the WWNN of the individual storage system. In "single_image" cfmode, the WWNN of the system and its high availability partner will be the same. In Data ONTAP Cluster-Mode, this is the WWNN of the Vserver FCP Service.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string | Current FCP World Wide Node Name (WWNN). |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |

# fcp-node-set-name

[top]

Set the current FCP World Wide Node Name (WWNN). This WWNN is in the form XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. The provided WWNN must also be within one of the allowed vendor-registered namespaces unless the force parameter is specified. In Data ONTAP 7-Mode, all Fibre Channel adapters must be offline. The allowed vendor namespace is "50:0a:09:80:8X:XX:XX". Changes will take place when the adapters are brought online. In Data ONTAP Cluster-Mode, the FCP service must be offline. The allowed vendor namespace is one of following:

- 2X:XX:00:a0:98:XX:XX:XX
- 2X:XX:00:a0:b8:XX:XX:XX
- 2X:XX:d0:39:ea:XX:XX:XX

Changes will take place when the service is brought online.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean<br>optional | If true, allow setting the WWNN to a value outside the vendor's registered namespace for the current mode. If false or not present, the request will fail unless the supplied WWNN is inside the correct namespace. |
| **node-name** | | string | FCP World Wide Node Name. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EONTAPI_EINVAL** | |
| **EALREADYSTARTED** | |
| **EOPNOTSUPPORTED** | |

| | |
|---|---|
| **EVDISK_ERROR_DUPLICATE_TARGET_NAME** | |
| **E_SAN_NOT_READY** | |

# fcp-ping

[top]

Send an ELS ECHO frame to a Fibre Channel address or WWPN. EHOSTNOTFOUND is returned if the WWPN cannot be resolved. EONTAPI_EHOSTDOWN is returned if the address cannot be pinged.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string | Adapter to send the ping request from. |
| **payload** | | string optional | Additional data to send in the payload of the ELS ECHO frame. The payload can be up to 248 characters long. |
| **port-id-or-wwpn** | | string | The Fibre Channel address or the WWPN to ping. The format of a Fibre channel address is a hexadecimal or numeric value with the range [0..2^24-1]. The format of a WWPN is XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. |

| Errno | Description |
|---|---|
| **EHOSTNOTFOUND** | |
| **EONTAPI_EHOSTDOWN** | |
| **EADAPTERNOTFOUND** | |
| **EONTAPI_EINVAL** | |

# fcp-ping-igroup-view-get-iter

[top]

Iterate over a list of FCP ping igroup results objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-ping-igroup-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fcp-ping-igroup-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the FCP ping igroup results object. All FCP ping igroup results objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | fcp- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | ping-igroup-status-info[] optional | The list of attributes of FCP ping igroup results objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more FCP ping igroup results objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-ping-info

[top]

Send an ELS ECHO frame to a Fibre Channel address or WWPN. The API pings the address or WWPN count times and returns the number of successful pings and times. EHOSTNOTFOUND is returned if the WWPN cannot be resolved. EONTAPI_EHOSTDOWN is returned if the address cannot be pinged. The interval between ping attempts is 1 second.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string | Adapter to send the ping request from. |
| **payload** | | string optional | Additional data to send in the payload of the ELS ECHO frame. The payload can be up to 248 characters long. |
| **ping-count** | | integer optional | The number of pings. Default is 3. Range: [1..16] |
| **port-id-or-wwpn** | | string | The Fibre Channel address or the WWPN to ping. The format of a Fibre channel address is a hexadecimal or numeric value with the range [0..2^24-1]. The format of a WWPN is XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **frames-received** | | integer optional | The number of frames received. The number of frames lost is the frames-transmitted minus frames-received. Range: [0..16] |
| **frames-transmitted** | | integer optional | Number of frames transmitted. Should be equal to ping-count. Range: [1..16] |
| **round-trip-maximum-time** | | integer optional | Maximum time in microseconds for a round trip between the target adapter and the destination if frames-received is greater than zero. Range: [0..2^31-1] |
| **round-trip-mean-time** | | integer optional | Mean time in microseconds for a round trip between the target adapter and the destination if frames-received is greater than zero. Range: [0..2^31-1] |
| **round-trip-minimum-time** | | integer optional | Minimum time in microseconds for a round trip between the target adapter and the destination if frames-received is greater than zero. Range: [0..2^31-1] |

| Errno | Description |
|---|---|
| **EHOSTNOTFOUND** | |
| **EONTAPI_EHOSTDOWN** | |
| **EADAPTERNOTFOUND** | |
| **EONTAPI_EINVAL** | |

# fcp-ping-initiator-get-iter

[top]

Iterate over a list of FCP ping by FCP initiator objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-ping-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fcp-ping-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the FCP ping by FCP initiator object. All FCP ping by FCP initiator objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-ping-status-info[] optional | The list of attributes of FCP ping by FCP initiator objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more FCP ping by FCP initiator objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-port-name-get-iter

[top]

Iterate over the list of valid Fibre Channel target port names on a Vserver's FCP LIFs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-port-name-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | fcp- | |

| | | | |
|---|---|---|---|
| **query** | | port-name-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Fibre Channel target port name object. All Fibre Channel target port name objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-port-name-info[] optional | The list of attributes of Fibre Channel target port name objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Fibre Channel target port name objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-port-name-list-info

[top]

Get the list of valid Fibre Channel target port names on a filer's local adapters. The filer needs to be in standby or single_image cfmode.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **verbose** | | boolean optional | If specified with "true", unused port names are also reported. Default value is "false". |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fcp-port-names** | | fcp-port-name-info[] | List of valid local port names and associated adapters. |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |
| **EADAPTERNOTFOUND** | |

# fcp-port-name-set

[top]

Set a valid but unused port name on a Fibre Channel target interface.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string | FCP target interface to set the WWPN on. In Data ONTAP 7-Mode, the name of a local adapter in standby single_image cfmode. In Data ONTAP Cluster-Mode, the name of an FCP data LIF in the vserver. |

| | | | |
|---|---|---|---|
| **port-name** | | string | WWPN to be set on the interface. It has to be a valid and unused one. |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |
| **EONTAPI_EINVAL** | |
| **EADAPTERNOTFOUND** | |
| **EADAPTERINVALIDTYPE** | |
| **EINTERNALERROR** | |
| **EALREADYSTARTED** | |
| **E_SAN_NOT_READY** | |

# fcp-port-name-swap

[top]

Swap port names of two local Fibre Channel target adapters.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter-1** | | string | One of the adapters to swap their port names. It has to be a local adapter in standby or single_image cfmode. |
| **fcp-adapter-2** | | string | One of the adapters to swap their port names. It has to be a local adapter in standby or single_image cfmode. |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |
| **EONTAPI_EINVAL** | |
| **EADAPTERNOTFOUND** | |
| **EADAPTERINVALIDTYPE** | |
| **EINTERNALERROR** | |
| **EALREADYSTARTED** | |
| **E_SAN_NOT_READY** | |

# fcp-service-create

[top]

Create an FCP Service in a Vserver. Each Vserver requires an online FCP Service in order to serve data via the Fibre Channel protocol.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force-node-name** | | boolean optional | If true, allow setting the WWNN to a value outside the vendor's registered namespaces. If false, the node-name must match one of the following namespaces:<br>• 2X:XX:00:a0:98:XX:XX:XX<br>• 2X:XX:00:a0:b8:XX:XX:XX<br>• 2X:XX:d0:39:ea:XX:XX:XX<br>. The default i false. |
| **node-name** | | string optional | The FCP World Wide Node Name (WWNN) for the FCP service. If not provided, one will be auto-generated. |

| | | | |
|---|---|---|---|
| **start** | | boolean optional | Determine the initial state of the FCP Service. If true, the service will be automatically started after creation completes. If false, the service will be left in the stopped state and the caller must subsequently call fcp-service-start to start the service. The default is true. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string | The world-wide node name (WWNN) of the FCP target in the Vserver. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EONTAPI_EINVAL** | |
| **EVDISK_ERROR_DUPLICATE_TARGET_NAME** | |
| **EONTAPI_EEXIST** | |
| **EVSERVERNOTRUNNING** | |
| **E_SAN_NOT_READY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **FCP** |

# fcp-service-destroy

[top]

Destroy the FCP Service in a Vserver.

| Errno | Description |
|---|---|
| **E_SAN_NOT_READY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **FCP** |

# fcp-service-get-iter

[top]

Iterate over the list of FCP Services.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-service-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | fcp- | A query that specifies which objects to return. A query could be |

| | | | |
|---|---|---|---|
| **query** | | service-info optional | specified on any number of attributes in the FCP Service object. All FCP Service objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-service-info[] optional | The list of attributes of FCP Service objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more FCP Service objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-service-start

[top]

Starts FCP service. When FCP service is started, the adapters are brought online. The service will be available once the call returns with success. The adapters however, may not be available immediately after the call, it may take up to a few seconds for the adapters to initialize.

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EALREADYSTARTED** | |
| **VDISK_ERROR_CFMODE_MISMATCH** | |
| **VDISK_ERROR_PARTNER_NOT_REACHABLE** | |
| **EREVERTINPROGRESS** | |
| **VDISK_ERROR_PARTNER_WWNN_MISMATCH_FOR_SSI** | |
| **EVSERVERNOTRUNNING** | |
| **E_SAN_NOT_READY** | |

# fcp-service-status

[top]

Get status of the FCP service, whether or not it is running.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-available** | | boolean | "true" if FCP service is running, "false" otherwise. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-service-stop

[top]

Stops FCP service. When FCP service is stopped, the adapters are brought offline. The service will be unavailable once the call returns with success.

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ENOTSTARTED** | |
| **E_SAN_NOT_READY** | |

# fcp-set-cfmode

[top]

Set the current cfmode setting for the system. This setting controls how the cluster behaves during a takeover/giveback. It also controls if the filer should use multiple virtual target adapters per physical target adapter. fcp service must be stopped before executing this API. The only valid value for cfmode is 'single_image' If cfmode is set to 'single_image' the filer connects to the FC fabric in ptp mode by default but is configurable, and all luns in the cluster are visible on all FC target ports. In this mode all hosts require multipathing software. When setting the cfmode to 'single_image' configuration checks are performed. If these checks fail an EPERM error will be returned. See the lun-config-check-single-image-info API for more information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-cfmode** | | string | Set current cfmode setting. Possible values: single_image |
| **force** | | boolean optional | Forcibly change the cfmode, overriding cluster partner checks. Obsolete. |

| Errno | Description |
|---|---|
| **ENOTCLUSTERED** | |
| **ESERVICENOTSTOPPED** | |
| **EINTERNALERROR** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EPERM** | |
| **EVDISK_ERROR_PARTNER_NOT_REACHABLE** | |
| **EVDISK_ERROR_IN_TAKEOVER** | |

# fcp-tdz-get-iter

[top]

Iterates over the list of entries in the tdz database.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-tdz-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fcp-tdz-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Shows entries in the fabric tdz database. object. All Shows entries in the fabric tdz database. objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-tdz-info[] optional | The list of attributes of Shows entries in the fabric tdz database. objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Shows entries in the fabric tdz database. objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-topology-get-iter

[top]

Iterates over the list of FCP topology interconnect elements.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-topology-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fcp-topology-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Show FCP topology interconnect elements. object. All Show FCP topology interconnect elements. objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-topology-info[] optional | The list of attributes of Show FCP topology interconnect elements. objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Show FCP topology interconnect elements. objects to return. |
| **num-records** | **[0..2^32-** | integer | The number of records returned in this call. |

| | | | |
|---|---|---|---|
| | 1] | | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# fcp-topology-port-get-iter

[top]

Iterates over the list of entries in the fabric name server database.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | fcp-topology-port-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | fcp-topology-port-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Shows FCP topology interconnect elements per adapter. object. All Shows FCP topology interconnect elements per adapter. objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | fcp-topology-port-info[] optional | The list of attributes of Shows FCP topology interconnect elements per adapter. objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more Shows FCP topology interconnect elements per adapter. objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# fcp-wwpnalias-get-alias-info

[top]

Get the list of WWPN for a given alias or an alias for for a given WWPN or complete list of all current alias- WWPN mappings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| alias | | string optional | Alias for a WWPN is the 32-character alias that may contain A-Z, a-z, 0-9, _,-,.,{,} and no spaces. When supplied, the alias with the corresponding WWPN will be returned. Otherwise, all aliases with their |

| | | | |
|---|---|---|---|
| | | | WWPNs present in the system will be returned. |
| **wwpn** | | string optional | WWPN for which all aliases will be returned. When supplied all aliases for that WWPN will be returned. Otherwise, all aliases with their WWPNs present in the system will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **aliases** | | aliases-info[] | A list of alias-WWPN mappings |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_WWPN_ALIASES_NOT_SET** | |
| **EVDISK_ERROR_WWPN_ALIAS_INVALID** | |
| **EVDISK_ERROR_WWPN_ALIAS_NOT_FOUND** | |
| **EVDISK_ERROR_NOT_VALID_FC_WWN** | |
| **EVDISK_ERROR_WWPN_ALIAS_REMOVE_INVALID_NUM_ARGS** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-wwpnalias-get-iter

[top]

Iterate over the list of assigned World Wide Port Name (WWPN) aliases.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aliases-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aliases-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the WWPN aliases object. All WWPN aliases objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aliases-info[] optional | The list of attributes of WWPN aliases objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more WWPN aliases objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-wwpnalias-remove

[top]

Remove an alias for a World Wide Port Name of an initiator. Either the alias or the wwpn argument must be provided.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **alias** | | string optional | WWPN Alias to be removed. Either the alias or the wwpn argument must be provided. |
| **wwpn** | | string optional | WWPN for which all aliases are to be removed. Either the wwpn or the alias argument must be provided. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_WWPN_ALIAS_NOT_FOUND** | |
| **EVDISK_ERROR_WWPN_NOT_FOUND** | |
| **EVDISK_ERROR_WWPN_ALIAS_REMOVE_INVALID_NUM_ARGS** | |

# fcp-wwpnalias-set

[top]

Set an alias for a World Wide Port Name of an initiator that might login to the target.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **alias** | | string | Alias to be set for the given WWPN ("wwpn"); The alias can be 32-characters long and may contain: A-Z, a-z, 0-9, _,-,.,{,} and no spaces |
| **force** | | boolean optional | When set to true, the WWPN associated with the alias will be over-written. Default value is false. |
| **wwpn** | | string | WWPN for which alias is being set |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_WWPN_ALIASES_TOO_MANY** | |
| **EVDISK_ERROR_WWPN_ALIAS_INVALID** | |
| **EVDISK_ERROR_NOT_VALID_FC_WWN** | |
| **EVDISK_ERROR_WWPN_ALIAS_ALREADY_SET** | |

# fcp-zone-get-iter

[top]

Iterates over the list of entries in the fabric name server database.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-zone-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | fcp-zone-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Shows the active zone set information. object. All Shows the active zone set information. objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-zone-info[] optional | The list of attributes of Shows the active zone set information. objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Shows the active zone set information. objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **aliases-info**

[top]

A list of WWPNs and their aliases generated according to the input - alias, WWPN or nothing.

| Name | Range | Type | Description |
|---|---|---|---|
| **aliases-alias** | | string | The 32-character alias for a given FCP WWPN |
| **aliases-wwpn** | | string | The FCP WWPN for which the alias is given |
| **vserver** | | string optional | Vserver containing the alias |

# Element definition: **fcp-adapter-initiators-info**

[top]

A list of initiators currently connected to the FC adapter or FCP data LIF.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter** | | string | In Data ONTAP 7-Mode, the name of the physical FC adapter. In Data ONTAP Cluster-Mode, the name of the FC data LIF. |
| **data-protocol** | | fcp-adapter-data-protocol optional | The data protocol of the LIF. This field is available in Data ONTAP 9.4 and later. |
| **fcp-connected-initiators** | | fcp-connected-initiator-info[] | Information about the connected initiators |
| **vserver** | | string optional | Vserver of the FCP LIF. |

# Element definition: **fcp-adapter-nameserver-object-info**

[top]

Information about a nameserver object entry.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter** | | string | The adapter this nameserver object is visible through. |
| **class-service** | | string optional | Registered class of services as defined in the FC-FS standard. This element is omitted if the device has not registered a class of service. Comma separated possible values: "F", "1", "2", "3", "4", and "6". |
| **fabric-port-name** | | string optional | Fabric world wide port name (WWPN) of this entry. This element is omitted if the fabric WWPN is not registered. |
| **fc4-type** | | string optional | Registered FC4 Types. This element is omitted if the device has not registered an FC4 Type. Comma separated possible values: "llc/snap", "ipfc", "fcp", "gpp", "ipi-3m", "ipi-3s", "ipi-3p", "sbccs-ch", "sbccs-cu", "fc-sb-3_ch2cu", "fc-sb-3_cu2ch", "fc-gs", "fc-sw", "fc-al", "snmp", "hippi-fp", "mil-std-1553", "asm", "fc-vi", and "fc-av". |
| **node-name** | | string optional | World wide node name (WWNN) of this entry. This element is omitted if the device has not registered a WWNN. |
| **port-id** | | integer | Assigned port identifier of this entry. Range: [0..2^24-1] |
| **port-name** | | string optional | World wide port name (WWPN) of this entry. This element is omitted if the device has not registered a WWPN. |
| **port-type** | | string | Port type of this entry. Possible values: "n-port", "nl-port", "fnl-port", "nx-port", "f-port", "fl-port", "e-port", "b-port", "nv-port", "fv-port", "sd-port", "te-port", "tl-port", and "none". |
| **symbolic-node-name** | | string optional | Registered symbolic node name. If the device has not registered one, this element will be omitted. |
| **symbolic-port-name** | | string optional | Registered symbolic port name. If the device has not registered one, this element will be omitted. |

# Element definition: **fcp-adapter-stats-info**

[top]

Statistics for one FC adapter. Starting Data ONTAP 8.3, the SFP related attributes have been superseded by the same attributes in type fcp-config-adapter-info, and are retained in here for compatibility only.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter** | | string | Which FC adapter. |
| **adapter-resets** | | integer | Number of adapter resets occurred. |
| **crc-errors** | | integer | Total CRC errors occurred. |
| **discarded-frames** | | integer | Number of frames discarded by the target HBA. Range [0..2^31-1] |
| **frame-overruns** | | integer | Number of frame overruns detected by the adapter during write requests. |
| **frame-underruns** | | integer | Number of frame underruns detected by the adapter during read requests. |
| **initiators-** | | integer | Total number of initiators connected to this target adapter. |

| | | | |
|---|---|---|---|
| **connected** | | | |
| **invalid-xmit-words** | | integer | Number of invalid words transmitted. Range [0..2^31-1] |
| **is-sfp-diagnostics-internally-calibrated** | | boolean optional | Indicates if the SFP diagnostics are internally calibrated or not. The optional SFP rx/tx fields are invalid (and therefore not provided) if the SFP diagnostics are not internally calibrated. |
| **is-sfp-optical-transceiver-valid** | | boolean | Validity of the optical transceiver. Until Data ONTAP 8.0.0, this field was incorrectly named "is-spf-optical-transceiver-valid". While that field is also returned for backward compatibility, all new applications must use the current version. |
| **is-sfp-rx-power-in-range** | | boolean optional | Flag to indicate received optical power is in range. |
| **is-sfp-tx-power-in-range** | | boolean optional | Flag to indicate transmitted optical power is in range. |
| **link-breaks** | | integer | Number of times that the link breaks. |
| **lip-resets** | | integer | Number of times that a selective Reset LIP (Loop Initialization Primitive) occurred. LIP reset is used to preform a vendor-specific reset at the loop port specified by the AL-PA value. |
| **lr-received** | | integer | Number of LRs (Link Reset) received by the target HBA. Range [0..2^31-1] |
| **lr-sent** | | integer | Number of LRs (Link Reset) sent from the target HBA. Range [0..2^31-1] |
| **node** | | node-name | The name of the node where the adapter is installed. |
| **nos-received** | | integer | Number of NOSs (Not_Operational Primitive Sequence)received by the target HBA. Range [0..2^31-1] |
| **ols-received** | | integer | Number of OLSs (Offline Primitive Sequence) received by the target HBA. Range [0..2^31-1] |
| **protocol-errors** | | integer | Number of protocol errors occurred. Range [0..2^31-1] |
| **queue-depth** | | integer | Counts the queue depth on the target HBA. |
| **scsi-requests-dropped** | | integer | Number of SCSI requests being dropped. |
| **sfp-connector** | | string optional | Connector used with the optical transceiver. |
| **sfp-date-code** | | string optional | Date code for the optical transceiver. |
| **sfp-encoding** | | string optional | Encoding used with the optical transceiver. Possible values ["8B10B", "?????"] |
| **sfp-fc-speedcapabilities** | | string optional | FC speed capabilities for the optical transceiver. Possible values [1, 2, 4, 8 in Gbps] |
| **sfp-formfactor** | | string optional | Form factor of the optical transceiver. Possible values: "SFP" (for Small FormFactor). |
| **sfp-part-number** | | string optional | Part number for the optical transceiver. |
| **sfp-rev** | | string optional | Revision for the optical transceiver. |
| **sfp-rx-power** | | string optional | SFP received optical power, reported to tenth decimal in uWatts. |
| **sfp-serial-number** | | string optional | Serial number for the optical transceiver. |
| **sfp-tx-power** | | string optional | SFP transmitted optical power, reported to tenth decimal in uWatts. |
| | | string | |

| | | | |
|---|---|---|---|
| **sfp-vendor-name** | | optional | Vendor name for the optical transceiver. |
| **sfp-vendor-oui** | | string optional | Vendor OUI (The IEEE Organizationally Unique Identifier) for the optical transceiver. |
| **sfp-wavelength** | | integer optional | Wavelength for the optical transceiver. Measured in nanometers. Range [830..860] |
| **spurious-interrupts** | | integer | Count of spurious interrupts. |
| **total-logins** | | integer | Counts the times of initiators added. Each time a new initiator is added, the total logins is incremented by 1. Each time an initiator is removed, the total logouts is incremented by 1. |
| **total-logouts** | | integer | Counts the times of initiators removed. Each time a new initiator is added, the total logins is incremented by 1. Each time an initiator is removed, the total logouts is incremented by 1. |

# Element definition: **fcp-adapter-topology-switch-info**

[top]

Information about an FC switch connected to an FC adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter** | | string | The name of the adapter this switch is visible through. |
| **domain** | | integer | The domain identifier of the FC switch. Range: [1..255] |
| **fcp-adapter-topology-switch-ports** | | fcp-adapter-topology-switch-port-info[] optional | List of ports for the FC switch. This is only returned if verbose is set to true. |
| **logical-name** | | string | The logical name of the FC switch. The maximum length is 64. |
| **node-name** | | string | Node name of the FC switch. The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. |
| **port-count** | | integer | The number of ports discovered on the FC switch. Range: [0..2^32-1] |
| **release** | | string | The release version of the FC switch. The maximum length is 64. |
| **vendor** | | string | The name of the FC switch vendor. The maximum length is 64. |

# Element definition: **fcp-adapter-zone-info**

[top]

Information about a zone.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter** | | string | The adapter this zone is visible through. |
| **fcp-adapter-zone-members** | | fcp-adapter-zone-member-info | List of zone members. |
| | | | |

| | | | |
|---|---|---|---|
| **zone-name** | | string | The name of the zone. The maximum length is 64. |
| **zone-set-name** | | string | The name of the zone set containing this zone. The maximum length is 64. |

# Element definition: **fcp-config-adapter-info**

[top]

Configuration information for one FC adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter** | | string optional | Adapter Attributes: key, non-creatable, non-modifiable |
| **connection-established** | | fcp-connection optional | Connection Established Attributes: non-creatable, non-modifiable Possible values:<br>• "loop" ,<br>• "ptp" |
| **data-link-rate** | **[0..2^32-1]** | integer optional | Data Link Rate (Gbit) Attributes: non-creatable, non-modifiable |
| **data-protocols-supported** | | fcp-adapter-data-protocol[] optional | Data Protocols Supported Attributes: non-creatable, non-modifiable Possible values:<br>• "fcp" ,<br>• "fc_nvme" |
| **fabric-established** | | boolean optional | Fabric Established Attributes: non-creatable, non-modifiable |
| **fabric-name** | | string optional | Fabric Name Attributes: non-creatable, non-modifiable |
| **firmware-rev** | | string optional | Firmware Revision Attributes: non-creatable, non-modifiable |
| **hardware-rev** | | string optional | Hardware Revision Attributes: non-creatable, non-modifiable |
| **info-name** | | string optional | Description Attributes: non-creatable, non-modifiable |
| **is-sfp-diagnostics-internally-calibrated** | | boolean optional | Is Internally Calibrated Attributes: non-creatable, non-modifiable |
| **is-sfp-optical-transceiver-valid** | | boolean optional | Validity Of Transceiver Attributes: non-creatable, non-modifiable |
| **is-sfp-rx-in-los** | | boolean optional | Is Receiver In LOS Attributes: non-creatable, non-modifiable |
| **is-sfp-rx-power-in-range** | | boolean optional | Is Received Power In Range Attributes: non-creatable, non-modifiable |
| **is-sfp-tx-in-disable** | | boolean | Is Xmit Disabled Attributes: non-creatable, non- |

| | | | |
|---|---|---|---|
| | | optional | modifiable |
| **is-sfp-tx-in-fault** | | boolean optional | Is Xmit In Fault Attributes: non-creatable, non-modifiable |
| **is-sfp-tx-power-in-range** | | boolean optional | Is Xmit Power In Range Attributes: non-creatable, non-modifiable |
| **max-speed** | | integer optional | Maximum Speed Attributes: non-creatable, non-modifiable |
| **media-type** | | string optional | Mediatype Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **node-name** | | string optional | Adapter WWNN Attributes: non-creatable, non-modifiable |
| **physical-protocol** | | string optional | Physical Protocol Attributes: non-creatable, non-modifiable |
| **port-address** | **[0..2^32-1]** | integer optional | Host Port Address Attributes: non-creatable, non-modifiable |
| **port-name** | | string optional | Adapter WWPN Attributes: non-creatable, non-modifiable |
| **sfp-connector** | | string optional | Connector Used Attributes: non-creatable, non-modifiable |
| **sfp-date-code** | | string optional | Date Code Of Transceiver Attributes: non-creatable, non-modifiable |
| **sfp-ddm-capabilities** | | string optional | Status Monitoring Available Attributes: non-creatable, non-modifiable |
| **sfp-ddm-status-control** | **[0..2^32-1]** | integer optional | DDM Status Attributes: non-creatable, non-modifiable |
| **sfp-diagnostic-monitoring-type** | **[0..2^32-1]** | integer optional | Diagnostic Monitoring Type Attributes: non-creatable, non-modifiable |
| **sfp-encoding** | | string optional | Encoding Used Attributes: non-creatable, non-modifiable |
| **sfp-fc-speedcapabilities** | | string optional | FC Capabilities Of Transceiver Attributes: non-creatable, non-modifiable |
| **sfp-formfactor** | | string optional | Form Factor Of Transceiver Attributes: non-creatable, non-modifiable |
| **sfp-part-number** | | string optional | Part Number Of Transceiver Attributes: non-creatable, non-modifiable |
| **sfp-rev** | | string optional | Revision Of Transceiver Attributes: non-creatable, non-modifiable |
| **sfp-rx-power** | | string optional | Received Optical Power Attributes: non-creatable, non-modifiable |
| **sfp-serial-number** | | string optional | Serial Number Of Transceiver Attributes: non-creatable, non-modifiable |
| **sfp-sff8472-compliance** | **[0..2^32-1]** | integer optional | SFF-8472 Compliance Attributes: non-creatable, non-modifiable |
| **sfp-tx-power** | | string optional | SFP Transmitted Optical Power Attributes: non-creatable, non-modifiable |
| **sfp-vendor-name** | | string optional | Vendor Name Of Transceiver Attributes: non-creatable, non-modifiable |
| **sfp-vendor-oui** | | string optional | Vendor OUI Of Transceiver Attributes: non-creatable, non-modifiable |
| **sfp-wavelength** | **[0..65535]** | integer optional | Wavelength In Nanometers Attributes: non-creatable, non-modifiable |
| | | string | Link speed Attributes: non-creatable, non- |

| | | | |
|---|---|---|---|
| **speed** | | optional | modifiable |
| **state** | | string optional | Operational Status Attributes: non-creatable, non-modifiable |
| **status-admin** | | fcp-adapter-state optional | Administrative Status Attributes: non-creatable, modifiable Possible values:<br>• "down" ,<br>• "up" |
| **status-extended** | | string optional | Extended Status Attributes: non-creatable, non-modifiable |
| **switch-port** | | string optional | Switch Port Attributes: non-creatable, non-modifiable |

# Element definition: **fcp-interface-info**

[top]

Information about a single FCP Logical Interface (LIF). When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **current-node** | | string optional | Node currently hosting the LIF. Attributes: non-creatable, non-modifiable |
| **current-port** | | string optional | FC Adapter currently hosting the LIF. Attributes: non-creatable, non-modifiable |
| **interface-name** | | string optional | Name of the LIF. Attributes: key, non-creatable, non-modifiable |
| **node-name** | | string optional | World Wide Node Name (WWNN) of the LIF. All LIFs in a Vserver have the same WWNN as the Vserver's FCP service. Attributes: non-creatable, non-modifiable |
| **port-address** | | string optional | Host port address of LIF. Attributes: non-creatable, non-modifiable |
| **port-name** | | string optional | World Wide Port Name (WWPN) of the LIF. Attributes: non-creatable, non-modifiable |
| **relative-port-id** | | integer optional | The SCSI Relative Target Port Identifier of the LIF. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver hosting the LIF. Attributes: key, non-creatable, non-modifiable |

# Element definition: **fcp-nameserver-info**

[top]

FCP name server entry for the adapter When returned as part of the output, all elements of this typedef

are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **fabric-port-wwn** | | string optional | Fabric world wide port name (WWPN) of the lif Attributes: non-creatable, non-modifiable |
| **fc4-type** | | string optional | Registered FC4 Type Attributes: non-creatable, non-modifiable |
| **lif** | | string optional | LIF Name Attributes: key, non-creatable, non-modifiable |
| **node-wwn** | | string optional | World Wide Node Name (WWNN) of the lif Attributes: non-creatable, non-modifiable |
| **port-id** | **[0..2^32-1]** | integer optional | Assigned port identifier of the lif Attributes: key, non-creatable, non-modifiable |
| **port-type** | | string optional | Port type of the lif Attributes: non-creatable, non-modifiable |
| **port-wwn** | | string optional | World Wide Port Name (WWPN) of the lif Attributes: non-creatable, non-modifiable |
| **service-class** | | string optional | Registered class of services as defined in the FC-FS standard Attributes: non-creatable, non-modifiable |
| **switch-port** | | string optional | Name of switch port connected to target array Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver hosting the FCP LIF Attributes: key, non-creatable, non-modifiable |

# Element definition: **fcp-ping-igroup-status-info**

[top]

FCP Ping result When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ext-status** | | string optional | Extended Status Attributes: non-creatable, non-modifiable |
| **igroup** | | string optional | Igroup Name Attributes: key, non-creatable, non-modifiable |
| **lif** | | string optional | LIF Name Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **node** | | string optional | Node Attributes: non-creatable, non-modifiable |
| **portset** | | string optional | Portset Attributes: non-creatable, non-modifiable |
| **status** | | string optional | Ping Status Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |
| **wwpn** | | string optional | FCP initiator WWPN Attributes: key, non-creatable, non-modifiable |

# Element definition: **fcp-ping-status-info**

[top]

Connectivity check between FCP initiator and FCP LIF When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ext-status** | | string optional | Extended Status Attributes: non-creatable, non-modifiable |
| **lif** | | string optional | LIF Name Attributes: key, non-creatable, non-modifiable |
| **node** | | string optional | Node Attributes: non-creatable, non-modifiable |
| **status** | | string optional | Ping Status Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |
| **wwpn** | | string optional | Remote WWPN Attributes: key, non-creatable, non-modifiable |

# Element definition: **fcp-port-name-info**

[top]

Information for one valid local port name.

| Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string optional | Only if this WWPN is being used by a Fibre Channel interface, the name of the interface is returned. In Data ONTAP 7-Mode, the name of a local adapter. In Data ONTAP Cluster-Mode, the name of an FCP data LIF. |
| **is-used** | | boolean | This indicates whether this WWPN is being used by a Fibre Channel target interface. |
| **port-** | | | A Fibre Channel WWPN in the form XX:XX:XX:XX:XX:XX:XX:XX where X is a |

| | | | |
|---|---|---|---|
| **name** | | string | hexadecimal digit. |
| **vserver** | | string | Vserver containing this port name |

# Element definition: **fcp-service-info**

[top]

FCP target service configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-available** | | boolean optional | true if the FCP Service is running, false otherwise. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | The world-wide node name (WWNN) of the FCP target in the Vserver. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver hosting the FCP service. Attributes: key, non-creatable, non-modifiable |

# Element definition: **fcp-tdz-info**

[top]

FCP tdz entry for the adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **lif** | | string optional | LIF Name Attributes: key, non-creatable, non-modifiable |
| **peer-zone-name** | | string optional | Peer Zone Name Attributes: key, non-creatable, non-modifiable |
| **principal-wwn** | | string optional | Principal Member WWN Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |
| **zone-wwpns** | | string optional | Zone Members Attributes: non-creatable, non-modifiable |

# Element definition: **fcp-topology-info**

[top]

FCP topology interconnect When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **domain-id** | **[0..2^32-1]** | integer optional | Domain Identifier Attributes: key, non-creatable, non-modifiable |
| **lif** | | string optional | LIF Name Attributes: key, non-creatable, non-modifiable |
| **logical-name** | | string optional | Logical Name Attributes: non-creatable, non-modifiable |
| **port-count** | **[0..2^32-1]** | integer optional | Port Count Attributes: non-creatable, non-modifiable |
| **release** | | string optional | Release Attributes: non-creatable, non-modifiable |
| **vendor** | | string optional | Vendor Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |
| **wwn** | | string optional | World Wide Name Attributes: non-creatable, non-modifiable |

# Element definition: **fcp-topology-port-info**

[top]

FCP topology interconnect elements for the adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter** | | string optional | Adapter name Attributes: key, non-creatable, non-modifiable |
| **domain-id** | **[0..2^32-1]** | integer optional | Domain Id Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **port-attached-id** | | string optional | Attached Port Id Attributes: non-creatable, non-modifiable |
| **port-attached-visible** | | string optional | Visible Attributes: non-creatable, non-modifiable |
| **port-attached-wwpn** | | string optional | Attached Port WWPN Attributes: non-creatable, non-modifiable |
| **port-count** | **[0..2^32-1]** | integer optional | Port Count Attributes: non-creatable, non-modifiable |
| **port-slot** | | string optional | Port Slot Attributes: non-creatable, non-modifiable |
| **port-state** | | fcpportstate optional | Port State Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "unknown" ,<br>• "online" ,<br>• "offline" ,<br>• "testing" ,<br>• "fault" |
| **port-type** | | fcporttype optional | Port Type Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "none" ,<br>• "n_port" ,<br>• "nl_port" ,<br>• "fnl_port" ,<br>• "nx_port" ,<br>• "f_port" ,<br>• "fl_port" ,<br>• "e_port" ,<br>• "b_port" ,<br>• "tnp_port" ,<br>• "tf_port" ,<br>• "nv_port" ,<br>• "fv_port" ,<br>• "sd_port" ,<br>• "te_port" ,<br>• "tl_port" |
| **port-wwpn** | | string optional | Port WWPN Attributes: key, non-creatable, non-modifiable |
| **switch-name** | | string optional | Switch Name Attributes: non-creatable, non-modifiable |
| **switch-release** | | string optional | Switch Release Attributes: non-creatable, non-modifiable |
| **switch-vendor** | | string optional | Switch Vendor Attributes: non-creatable, non-modifiable |
| **switch-wwn** | | string optional | Switch WWN Attributes: non-creatable, non-modifiable |

# Element definition: **fcp-zone-info**

[top]

FCP active zone set entry for the adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of

desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter** | | string optional | Adapter name Attributes: key, non-creatable, non-modifiable |
| **contents** | | string optional | Member Contents Attributes: non-creatable, non-modifiable |
| **domain-id** | **[0..2^32-1]** | integer optional | Member Domain Id Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **port** | **[0..2^32-1]** | integer optional | Member Port Attributes: non-creatable, non-modifiable |
| **port-id** | **[0..2^32-1]** | integer optional | Member Port Id Attributes: non-creatable, non-modifiable |
| **type** | **[0..2^32-1]** | integer optional | Member Type Attributes: non-creatable, non-modifiable |
| **type-name** | | string optional | Member Type Name Attributes: non-creatable, non-modifiable |
| **unique** | **[0..2^32-1]** | integer optional | (DEPRECATED)-This field is deprecated as of ONTAP 9.11, but remains in the API for backward compatibility. It is an incrementing number which is not tied to the zone and whose value can vary with each call. The caller is warned to not rely on this value to identify a zone. Attributes: key, non-creatable, non-modifiable |
| **wwn** | | string optional | Member WWN Attributes: non-creatable, non-modifiable |
| **zone-count** | **[0..2^32-1]** | integer optional | Zone Count Attributes: non-creatable, non-modifiable |
| **zone-member-count** | **[0..2^32-1]** | integer optional | Zone Member Count Attributes: non-creatable, non-modifiable |
| **zone-name** | | string optional | Zone Name Attributes: key, non-creatable, non-modifiable |
| **zoneset-name** | | string optional | Zoneset Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **fcp-adapter-data-protocol**

[top]

fcp|fc-nvme Possible values:

- "fcp" ,
- "fc_nvme"

[none]

# Element definition: **fcp-adapter-state**

[top]

down|up Possible values:

- "down" ,
- "up"

[none]

# Element definition: **fcp-adapter-topology-switch-port-info**

[top]

Information about the FC switch port.

| Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter-topology-attached-ports** | | fcp-adapter-topology-attached-port-info[] | List of devices attached to this port. |
| **port-name** | | string | World wide port name (WWPN) of the port. The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. |
| **port-number** | | integer | Port index number. Range: [0..2^32-1] |
| **port-state** | | string | Port state. Possible values: "online", "offline", "testing", "fault", and "unknown". |
| **port-type** | | string | Port type. Possible values: "n-port", "nl-port", "fnl-port", "nx-port", "f-port", "fl-port", "e-port", "b-port", "nv-port", "fv-port", "sd-port", "te-port", "tl-port", and "none". |

# Element definition: **fcp-adapter-zone-member-info**

[top]

Information about a zone member.

| Name | Range | Type | Description |
|---|---|---|---|
| **domain-id** | | integer optional | Domain identifier of the switch. This element is returned if the zone-member-type is "domain-id-port". Range: [0..2^32-1] |
| **fabric-port-name** | | string optional | World wide port name (WWPN) of the fabric port. This element is returned if the zone-member-type is "fabric-port-name". The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. |
| **node-name** | | string optional | World wide node name (WWNN) of the N-port. This element is returned if the zone-member-type is "node-name". The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. |
| **port** | | integer optional | Port number on the switch. This element is returned if the zone-member-type is "domain-id-port". Range: [0..2^32-1] |
| **port-id** | | integer optional | Assigned port identifier. This element is returned if the zone-member-type is "port-id". Range: [0..2^24-1] |
| | | | |

| | | | |
|---|---|---|---|
| **port-name** | | string optional | World wide port name (WWPN) of the N-port. This element is returned if the zone-member-type is "port-name". The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. |
| **zone-member-type** | | string | The type of zone member. Possible values are: "port-name", "domain-id-port", "port-id", "node-name", "fabric-port-name", and "unknown". |
| **zone-member-value** | | integer optional | Uninterpreted value. This element is returned if the zone-member-type is "unknown". Range: [0..2^32-1] |

# Element definition: **fcp-connected-initiator-info**

[top]

Information about an initiator connected to an FC adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-list** | | initiator-group-list-info[] optional | List of initiator groups this initiator belongs to. |
| **node-name** | | string | World Wide Node Name (WWNN) of initiator. |
| **port-address** | **[0..2^32-1]** | integer | Fibre Channel host address it is connected to. |
| **port-name** | | string | World Wide Port Name (WWPN) of the initiator. |
| **portname-alias-list** | | portname-alias-name[] optional | List of aliases for the WWPN. |

# Element definition: **fcp-connection**

[top]

loop|ptp Possible values:

- "loop" ,
- "ptp"

[none]

# Element definition: **fcpportstate**

[top]

Unknown|Online|Offline|Testing|Fault Possible values:

- "unknown" ,
- "online" ,
- "offline" ,
- "testing" ,
- "fault"

[none]

## Element definition: **fcpporttype** [top]

None|N-Port|NL-Port|FNL-Port|NX-Port|F-Port|FL-Port|E-Port|B-Port|TNP-Port|TF-Port|NV-Port|FV-Port|SD-Port|TE-Port|TL-Port Possible values:

- "none" ,
- "n_port" ,
- "nl_port" ,
- "fnl_port" ,
- "nx_port" ,
- "f_port" ,
- "fl_port" ,
- "e_port" ,
- "b_port" ,
- "tnp_port" ,
- "tf_port" ,
- "nv_port" ,
- "fv_port" ,
- "sd_port" ,
- "te_port" ,
- "tl_port"

[none]

## Element definition: **node-name** [top]

The node's name

[none]

## Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

## Element definition: **fcp-adapter-topology-attached-port-info** [top]

Information about the attached device.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-** | | boolean | Visibility of this device through this adapter from a zoning perspective. |

| | | | |
|---|---|---|---|
| **visible** | | | |
| **port-id** | | integer | Assigned port identifier of the attached device. A value of 0 indicates no value has been assigned. Range: [0..2^24-1] |
| **port-name** | | string | World wide port name (WWPN) of the attached device. The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. |

# Element definition: **initiator-group-list-info**

[top]

The initiator group this initiator belongs to.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of initiator group. |

# Element definition: **portname-alias-name**

[top]

Aliases for this WWPN

| Name | Range | Type | Description |
|---|---|---|---|
| **portname-alias** | | string | Alias for the WWPN |

# APIs in Category: **fcport**


fcport-get-link-state
fcport-reset-dev
fcport-send-lip
fcport-set-offline
fcport-set-online


## fcport-get-link-state

[top]

Get the link state of a specific adapter on this system.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b". If adapter-name is not supplied, the command will return EAPIMISSINGARGUMENT. |
| **node-name** | | string | This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **adapter-link-state** | | link-state-info[] | adapter link state info |
| **adapter-name** | | string | The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EOPNOTSUPPORTED** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

## fcport-reset-dev

[top]

When invoked the device will be reset. The device will be temporarily suspended while it is reset, after which it will resume processing device operations. This command should be used with care as it can have adverse effects, for instance pending commands to the device will be aborted when issuing this command.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **device-id** | | string | The device id is presented as a slot number followed by the port letter concatenated with the device-id. These two parts are separated by a period. For example 6b.5 If the device-id is omitted EAPIMISSINGARGUMENT will |

| | | | |
|---|---|---|---|
| | | | be returned. If the device-id is invalid EINVALIDINPUTERROR will be returned. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |

# fcport-send-lip

[top]

This will initiate a loop initialization on the specified fibrechannel loop port. The loop will be temporarily suspended while it is initialized, after which it will resume processing loop operations. This command should be used with care, because it can have adverse effects, like pending commands will be aborted when issuing this command.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **loop-id** | | string | The loop id is presented as a slot number and port letter concatenated (for example 6a). If the loop-id is omitted EAPIMISSINGARGUMENT will be returned. If the loop-id is invalid EINVALIDINPUTERROR will be returned. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EINVALIDINPUTERROR** | |
| **ELOOPUNAVAILABLE** | |

# fcport-set-offline

[top]

Offline a specific adapter on this system. This API should be used with care, as it can have adverse side effects, which you lose access to all devices of that port. The operation of offlining the already offlined adapter will be considered success.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b". If adapter-name is not supplied, the command will return EAPIMISSINGARGUMENT. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EOPNOTSUPPORTED** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

# fcport-set-online

[top]

Online a specific adapter on this system. The operation of onlining the already onlined adapter will be considered success.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b". If adapter-name is not supplied, the command will return EAPIMISSINGARGUMENT. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EOPNOTSUPPORTED** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

# Element definition: **link-state-info**

[top]

list link-state info of a specific adapter channel

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name. |
| **fc-port-info** | | fc-ports optional | fiber channel port information. Present only when link-state field value is "up". |
| **link-state** | | string | Possible values: "initing", "down", "up", "offline-physical", "offline-logical", or "zombified", which the adapter has stopped sending I/O and is ignoring link events. This state may occur when shelf firmware is being updated. |
| **node-name** | | string optional | This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name. |

# Element definition: **fc-ports**

[top]

Information about the ports belonging to the fiber channel adapter

| Name | Range | Type | Description |
|---|---|---|---|
| **port-number** | | string optional | This represents the physical port number of the FC port. Field is not present when port-type is "l-port" |
| **port-type** | | string | Type of port. Possible values: "l-port", loop port, node port used to connect a node to a Fibre Channel loop. "nl-port", network+loop port, node port which connects to both loops and switches. "n-port", network port, node port used to connect a node to a Fibre Channel switch. |
| **switch-name** | | string optional | This is the switch name, if any, connected to the FC port. Field is not present when port-type is "l-port" |
| **switch-wwn** | | string optional | This is the world wide name of the switch, if any, connected to the FC port. Field is not present when port-type is "l-port" |

# APIs in Category: **feature**


feature-status-list-info
feature-usage-get-iter
feature-usage-summary-get-iter


This set of APIs allow management of 7-Mode and Cluster-Mode features for Data ONTAP 8.2 and later. The feature status are set internally based on the enablement, entitlement, and other configuration restrictions of the feature.

## feature-status-list-info

[top]

Returns status information for managed features.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **managed-feature-status-list** | | managed-feature-status-info[] | An array, one entry per each managed feature. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## feature-usage-get-iter

[top]

Returns feature usage information for DATA ONTAP features. The feature usage information is reported on a per controller node basis.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | usage-state-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | usage-state-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the feature object. All feature objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | usage-state-info[] optional | The list of attributes of feature objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more feature objects to return. |

| | | | |
|---|---|---|---|
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## feature-usage-summary-get-iter

[top]

Returns feature usage summary information for DATA ONTAP features. The feature usage information is reported on a per controller node basis.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | usage-summary-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | usage-summary-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the feature object. All feature objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | usage-summary-info[] optional | The list of attributes of feature objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more feature objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **managed-feature-status-info**

[top]

Status information about a managed feature. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **feature-name** | | managed-feature optional | Managed feature name. Attributes: key, non-creatable, non-modifiable |
| **notes** | | string optional | Additional information about the managed feature status. Attributes: non-creatable, non-modifiable |
| **status** | | managed-feature-status optional | Status of a managed feature. Attributes: non-creatable, non-modifiable |

# Element definition: **usage-state-info**

[top]

Information about feature usage. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **date-collected** | | datetime optional | The time data was collected. Attributes: non-creatable, non-modifiable |
| **feature-message** | | string optional | Additional feature reported message. Attributes: non-creatable, non-modifiable |
| **feature-name** | | managed-feature optional | Name of the feature. Attributes: key, non-creatable, non-modifiable<br>Possible values:<br>• "cifs" ,<br>• "nfs" ,<br>• "iscsi" ,<br>• "fcp" ,<br>• "dedupe" ,<br>• "flexclone" ,<br>• "compression" ,<br>• "snaprestore" ,<br>• "snaplock" ,<br>• "snaplock_enterprise" ,<br>• "snapvault_primary" ,<br>• "snapvault_secondary" ,<br>• "snapmirror" ,<br>• "syncmirror" ,<br>• "flexcache" ,<br>• "ndmp" ,<br>• "multistore" ,<br>• "cdmi" ,<br>• "snapdrive_windows" ,<br>• "snapmanager_exchange" ,<br>• "snapmanager_sql" ,<br>• "snapmanager_sharepoint" , |

| | | | |
|---|---|---|---|
| | | | • "snapmanager_hyperv" ,<br>• "snapdrive_unix" ,<br>• "snapmanager_oracle" ,<br>• "snapmanager_sap" ,<br>• "v_storageattach" ,<br>• "mt_ek_mgmt" ,<br>• "s3" |
| **node** | | node-name optional | Name of the controller node. Attributes: key, non-creatable, non-modifiable |
| **owner** | | string optional | Name of the controller node. Attributes: non-creatable, non-modifiable |
| **serial-number** | | node-serial-number optional | Serial number of the controller node. Attributes: key, non-creatable, non-modifiable |
| **usage-status** | | feature-usage-state optional | The usage status information. Attributes: non-creatable, non-modifiable Possible values:<br>• "not_used" - Not Used,<br>• "configured" - Configured,<br>• "in_use" - In Use,<br>• "not_available" - Not Available |
| **week-number** | | seqnum optional | The week of data collection. Week number one is the oldest week of collection. Attributes: key, non-creatable, non-modifiable |

# Element definition: **usage-summary-info**

[top]

Summary information about feature usage. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | Name of the feature. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "cifs" ,<br>• "nfs" ,<br>• "iscsi" ,<br>• "fcp" ,<br>• "dedupe" ,<br>• "flexclone" ,<br>• "compression" ,<br>• "snaprestore" ,<br>• "snaplock" ,<br>• "snaplock_enterprise" ,<br>• "snapvault_primary" ,<br>• "snapvault_secondary" , |

| | | | |
|---|---|---|---|
| **feature-name** | | managed-feature optional | • "snapmirror" ,<br>• "syncmirror" ,<br>• "flexcache" ,<br>• "ndmp" ,<br>• "multistore" ,<br>• "cdmi" ,<br>• "snapdrive_windows" ,<br>• "snapmanager_exchange" ,<br>• "snapmanager_sql" ,<br>• "snapmanager_sharepoint" ,<br>• "snapmanager_hyperv" ,<br>• "snapdrive_unix" ,<br>• "snapmanager_oracle" ,<br>• "snapmanager_sap" ,<br>• "v_storageattach" ,<br>• "mt_ek_mgmt" ,<br>• "s3" |
| **last-used-time** | | datetime optional | The time when the feature was last recorded to be in-use. Attributes: non-creatable, non-modifiable |
| **owner** | | string optional | Name of the controller node. Attributes: non-creatable, non-modifiable |
| **serial-number** | | node-serial-number optional | Serial number of the controller node. Attributes: key, non-creatable, non-modifiable |
| **weeks-configured** | **[0..2147483647]** | integer optional | Number of weeks the feature was recorded to be configured. Attributes: non-creatable, non-modifiable |
| **weeks-in-use** | **[0..2147483647]** | integer optional | Number of weeks the feature was recorded to be in-use. Attributes: non-creatable, non-modifiable |
| **weeks-not-available** | **[0..2147483647]** | integer optional | Number of weeks the feature was recorded to not have usage data available. Attributes: non-creatable, non-modifiable |
| **weeks-not-used** | **[0..2147483647]** | integer optional | Number of weeks the feature was recorded to be not used. Attributes: non-creatable, non-modifiable |

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **feature-usage-state**

[top]

not-used|configured|in-use|not-available Possible values:

- "not_used" - Not Used,
- "configured" - Configured,
- "in_use" - In Use,
- "not_available" - Not Available

[none]

## Element definition: **managed-feature**

[top]

Managed Feature Possible values:

- "cifs" ,
- "nfs" ,
- "iscsi" ,
- "fcp" ,
- "dedupe" ,
- "flexclone" ,
- "compression" ,
- "snaprestore" ,
- "snaplock" ,
- "snaplock_enterprise" ,
- "snapvault_primary" ,
- "snapvault_secondary" ,
- "snapmirror" ,
- "syncmirror" ,
- "flexcache" ,
- "ndmp" ,
- "multistore" ,
- "cdmi" ,
- "snapdrive_windows" ,
- "snapmanager_exchange" ,
- "snapmanager_sql" ,
- "snapmanager_sharepoint" ,
- "snapmanager_hyperv" ,
- "snapdrive_unix" ,
- "snapmanager_oracle" ,
- "snapmanager_sap" ,
- "v_storageattach" ,
- "mt_ek_mgmt" ,
- "s3"

[none]

## Element definition: **managed-feature-status**

[top]

Represents the status of a managed feature. Possible values:

- "on" - feature is entitled and turned on,
- "available" - feature is entitled and available to be turned on. Its current on/off status is unknown,
- "on_not_configurable" - feature is no longer entitled but it was turned on before and remains to be on. Feature is not configurable at the moment,
- "off" - feature is entitled but turned off,
- "not_available" - feature is not entitled, licensing infrastructure is unavailable, or other configuration check prevents feature use. The field notes can provide additional information.

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **node-serial-number**

[top]

Assigned Node serial-number

[none]

## Element definition: **seqnum**

[top]

Reverse-ordered Integer Range : [0..2^64-1].

[none]

# APIs in Category: **file**


file-assign-qos
file-compact-data
file-create-directory
file-create-symlink
file-delete-directory
file-delete-file
file-fingerprint-abort
file-fingerprint-dump
file-fingerprint-get-iter
file-fingerprint-start
file-get-file-info
file-get-space-reservation-info
file-hole-range-query-iter
file-inode-info
file-inode-info-get-iter
file-list-directory-iter
file-list-directory-iter-end
file-list-directory-iter-next
file-list-directory-iter-start
file-punch-hole-iter
file-read-file
file-read-symlink
file-rename-file
file-set-space-reservation-info
file-truncate-file
file-usage-get
file-usage-result-get
file-usage-start
file-write-file


The path and filename values used in these APIs are "NFS" filenames by default. If a file is created with a name that is illegal in CIFS, CIFS access to the file will need to use the file's 8.3 name. Similarly, if two filenames created by these APIs differ only by case (e.g. "a" and "A"), CIFS access will see the 8.3 name for the second one created.

To access files or directories with Unicode file names, the UTF-8 equivalent of the Unicode path can be used. If a file contains Unicode-format data, the filer returns all the data in the file including the identifier in the first two bytes of the file which indicates the file contains Unicode data (0xFEFF).

A file may optionally contain multiple distinct streams of data. A stream is an on disk structure containing a sequence of bytes, analogous to a file. A stream associated with a file is identified by a name, and data may be read or written to a file or stream. A stream can be thought of as a hidden file associated with a base file, and is visible in the name space of the base file. Streams are typically used to store metadata associated with the base file

## file-assign-qos

[top]

Manage the association of QoS policy group to a specified file. QoS Policy groups define measurable Service Level Objectives (SLOs) that apply to the storage object with which the policy group is associated. In Data ONTAP 8.2 hierarchical QoS is not supported i.e. QoS policy groups cannot be assigned to multiple objects in the file's storage hierarchy - such as the parent LUN, volume or Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | The caching policy that is associated with this file. This policy is used to make caching decisions for this file. If a caching policy is not assigned to this file, the system uses the caching policy that is assigned to the containing volume. If a caching policy is not assigned to the containing volume, the system uses the caching policy that is assigned to the containing Vserver. If a caching policy is not assigned to the containing |

| | | | |
|---|---|---|---|
| **caching-policy** | | string optional | Vserver, the system uses the default cluster-wide policy. The possible options for this value are:<br><br>• none - Does not cache any user data or metadata blocks.<br>• auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks.<br>• meta - Read caches only metadata blocks.<br>• random_read - Read caches all metadata and randomly read user data blocks.<br>• random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.<br>• all_read - Read caches all metadata, randomly read and sequentially read user data blocks.<br>• all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data.<br>• all - Read caches all data blocks read and written. It does not do any write caching.<br><br>Default caching-policy is auto. |
| **file** | | string | Complete file path of the file without a trailing slash. |
| **qos-adaptive-policy-group-name** | | string optional | The QoS adaptive policy group name that is to be associated with this file in order to enforce service level objectives (SLO). NOTE: none is a reserved keyword for deleting the association of the file with a QoS adaptive policy group. |
| **qos-policy-group-name** | | string optional | The QoS Policy Group name that is to be associated with this file in order to enforce Service Level Objectives (SLO). NOTE: none is a reserved keyword for deleting the association of the file with a QoS policy group. |
| **volume** | | volume-name | Name of the Volume in which the file resides. |
| **vserver** | | vserver-name | Name of the Vserver in which the volume that hosts the file resides. |

| Errno | Description |
|---|---|
| **E_QOS_OBJECT_OVERLAP_ERROR** | |
| **E_QOS_NO_SUCH_PG** | |
| **E_QOS_TOO_MANY_USER_WIDS** | |
| **E_QOS_GENERAP_OP_ERROR** | |
| **E_QOS_VSERVERIZATION_VIOLATION** | |
| **E_QOS_FILE_IS_LUN** | |
| **E_QOS_FILE_ACCESS_ERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# file-compact-data

[top]

compact data

| Input Name | Range | Type | Description |
|---|---|---|---|
| **file** | | string | File Path |
| **node** | | filer-id | Node |

| | | | |
|---|---|---|---|
| **snapshot** | | snapshot-id | Snapshot Copy Name |
| **volume** | | volume-name | Volume Name |
| **vserver** | | vserver-name | Vserver Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-create-directory

[top]

Create a directory.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the directory to be created. The value is expected to begin with /vol/. |
| **perm** | | string | Permission of the directory to be created. It's similar to Unix style permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. Note: Prior to Data ONTAP 7.3.1 this value was treated as a base-10 number. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **EONTAPI_EPERM** | |
| **EONTAPI_EEXIST** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_ENOSPC** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EAPIVSERVERMISSING** | |
| **EVOLUMEQUIESCED** | |
| **EVOLUMEBUSY** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# file-create-symlink

[top]

Create a symlink.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the symlink file to create. The value is expected to begin with /vol/. |
| **symlink** | | string | Value of the symlink, which is the destination path contained in the symlink. This ZAPI does not check whether the destination path is accessible. This parameter may contain any arbitrary absolute or relative path. |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |
| EAPIVSERVERMISSING | |
| EVOLUMEQUIESCED | |
| EVOLUMEBUSY | |
| EINTERNALERROR | |
| EAPIERROR | |
| EVSERVER_OP_NOT_ALLOWED | |
| EONTAPI_EEXIST | |
| EONTAPI_ENOENT | |
| EONTAPI_ENAMETOOLONG | |
| EONTAPI_EPERM | |
| EONTAPI_ELOOP | |
| EONTAPI_ENOSPC | |
| EONTAPI_ENOTDIR | |

# file-delete-directory

[top]

Delete a directory.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | string | Path of the directory to delete. The value is expected to begin with /vol/. The directory must be empty in order for this API to succeed. |

| Errno | Description |
|---|---|
| EONTAPI_ENOENT | |
| EVSERVERNOTFOUND | |
| EAPIVSERVERMISSING | |
| EVOLUMEQUIESCED | |
| EVOLUMEBUSY | |
| EINTERNALERROR | |
| EVSERVER_OP_NOT_ALLOWED | |

# file-delete-file

[top]

Delete a file.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | string | path of the file or symlink to delete. the value is expected to begin with /vol/. |

| Errno | Description |
|---|---|
| EONTAPI_ENOENT | |
| EVOLUMEQUIESCED | |

| | |
|---|---|
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EAPIVSERVERMISSING** | |
| **EINTERNALERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# file-fingerprint-abort

[top]

The file-fingerprint-abort API can be used to abort an ongoing fingerprint operation. This api only aborts the fingerprint operations that have been started and have not finished. You identify the session-id with this API, and it aborts the fingerprint operation that is associated with that particular session-id. You must specify session-id when using file-fingerprint-abort.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **session-id** | **[0..2^32-1]** | integer | session-id of the fingerprint operation that needs to be stopped. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EIO** | |
| **EONTAPI_EOFFLINE** | |
| **EINTERNALERROR** | |

# file-fingerprint-dump

[top]

The file-fingerprint-dump API returns the fingerprint information for a file. The session-id must be specified when using the file-fingerprint-dump API.This is the session-id of the fingerprint operation that is returned when a fingerprint operation is started using the file-fingerprint-start API. If the fingerprint operation is complete, it will also show the complete fingerprint information for the file.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fingerprint-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **session-id** | **[0..2^32-1]** | integer | An unique identifier for the fingerprint operation. This session-id is returned when the fingerprint operation is started on a file. The session-id of the fingerprint operation can be used to get the progress of an ongoing fingerprint operation as well as the complete fingerprint output for the file once the operation is completed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | fingerprint-info | The attributes of the file. |

| Errno | Description |
|---|---|
| | |

| Errno | Description |
|---|---|
| EONTAPI_EINVAL | |
| EONTAPI_ENOENT | |
| EONTAPI_EIO | |
| EONTAPI_EOFFLINE | |
| EINTERNALERROR | |

# file-fingerprint-get-iter

[top]

The file-fingerprint-get-iter API returns information for one or several fingerprint operations. We need to specify either session-id or vserver-name and volume-name with the file-fingerprint-get-iter API. When queried with session-id, the file-fingerprint-get-iter API returns the progress of the fingerprint operation with the specified session-id. When queried with vserver-name and volume-name, the file-fingerprint-get-iter API returns the progress of all the fingerprint operations running on that particular volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | fingerprint-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | fingerprint-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the file object. All file objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | fingerprint-status-info[] optional | The list of attributes of file objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more file objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EONTAPI_EINVAL | |
| EONTAPI_ENOENT | |
| EONTAPI_EIO | |
| EONTAPI_EOFFLINE | |
| EINTERNALERROR | |

# file-fingerprint-start

[top]

The file-fingerprint-start API is used to start the fingerprint computation a file. The fingerprint computation is started on the file, and a session-id is returned. This session-id is an unique identifier for the fingerprint operation. To start the fingerprint computation on a file, the following parameters should be compulsarily specified:

- vserver : Name of the vserver which owns the volume.
- file : Complete file path of the file on which the fingerprint needs to be computed. This file path is of the form vol//

| Input Name | Range | Type | Description |
|---|---|---|---|
| **algorithm** | | string optional | The digest algorithm which will be used for the fingerprint computation. Fingerprint can be computed using one of the following digest algorithms :<br>• md5<br>• sha-256<br><br>If no algorithm is specified during file fingerprint start, then by default, we compute fingerprint of the file using the sha-256 digest alogorithm. |
| **file** | | string | Full path of the file on which fingerprint needs to be calculated. The value begins with /vol/. |
| **scope** | | string optional | The file scope which will be used for the fingerprint computation. FIngerprint can be computed over one of the following :<br>• data<br>• metadata<br>• both data and metadata<br><br>If no scope is specified during file fingerprint start, then by default, we compute fingerprint of the file over both data and metadata. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-session-id** | | integer optional | An unique identifier for the fingerprint operation. The result-session-id of the fingerprint operation can be used to get the progress of an ongoing fingerprint operation as well as the complete fingerprint output for the file once the operation is completed. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EIO** | |
| **EONTAPI_EOFFLINE** | |
| **EINTERNALERROR** | |

# file-get-file-info

[top]

Obtains the file information or properties.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Pathname of the directory to list. The value is expected to begin with /vol/. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| file-info | | file-info | File information from the stat() function. |

| Errno | Description |
|---|---|
| EONTAPI_ENOENT | |
| EVOLUMEQUIESCED | |
| EVOLUMEBUSY | |
| EVSERVERNOTFOUND | |
| EAPIVSERVERMISSING | |
| EINTERNALERROR | |
| EVOL_NOT_MOUNTED | |
| EVSERVER_OP_NOT_ALLOWED | |

| Vfiler-enabled |
|---|
| Yes |

# file-get-space-reservation-info

[top]

Queries the space reservation settings for the named file.

This API is not supported for Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | string | File to be queried. |
| volume-id | | string | The identifier of the volume in which the named file exists.<br><br>There are two legal choices for a volume identifier, either a DSID or a UUID.<br><br>DSIDs are formatted as 18-character strings composed of 16 hex characters, zero filled if required and prefixed with '0x'.<br><br>Here is an example of an actual DSID:<br><br>0x0000000000000401<br><br>UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.<br><br>Here is an example of an actual UUID:<br><br>49e370d6-5b5a-11d9-9eb5-000100000529 |

| Output Name | Range | Type | Description |
|---|---|---|---|
| is-fill-enabled | | boolean | Whether or not the file is set with fill. |
| is-overwrite-enabled | | boolean | Whether or not the file is set with overwrite. |

| Errno | Description |
|---|---|
| EOPNOTSUPPORTED | |
| EFILENOTFOUND | |
| EINTERNALERROR | |
| EVOLUMEBUSY | |
| EVOLUMEDOESNOTEXIST | |

# file-hole-range-query-iter

[top]

Return ranges of holes in a file

| Input Name | Range | Type | Description |
|---|---|---|---|
| length | | integer | The number of bytes to scan. If this is zero scan until end of file. If the length is not an integral multiple of the block size it will be rounded up to the end of the block. Range : [0..2^63-1] |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 64 |
| offset | | integer | The starting offset of the file from where the scan for holes should begin. If the offset is not an integral multiple of the block size it will be rounded down to the start of the block. Range : [0..2^63-1] |
| path | | string | The full path of the file for which hole information is to be queried. Format must be of the following: /vol/my_vol/my_file |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | hole-range-info[] optional | The list of attributes of file objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more file objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EONTAPI_ENOMEM | |
| EONTAPI_ESTALE | |
| EONTAPI_ERANGE | |
| EONTAPI_ENOENT | |
| EONTAPI_EINVAL | |
| EONTAPI_EOFFLINE | |
| EVSERVER_OP_NOT_ALLOWED | |

[top]

# file-inode-info

Get parent information for a given inode.

This API corresponds to the "inodepath" diagnostic-level CLI in ONTAP-Classic, and has the same defaults.

The input is:

- Required, a volume identifier. A volume may be specified by name, fsid, or (in some ONTAP products) UUID/DSID.
- Required, an inode number.
- Optional, a snapshot identifier to get information from a snapshot rather than the active volume. A snapshot may be specified by name or by id.
- Optional, various reporting flags (see below) to enable or disable optional output information.

The output is:

- All volume identifiers, the one used as input plus the values of the others.
- Optionally, all snapshot identifiers; the one used as input plus the value of the other.
- The number of parents for the inode.
- Optionally, one or more volume relative pathnames to the inode
- Optionally, one or more leaf names for the inode.
- Optionally, one or more of the actual parent info stored for the inode, in the form of the parent dir inode number and the parent directory cookie (fbn and offset into the fbn) used to find the dir entry that refers to the inode in the parent directory (ie. the info used to get the leaf name).

This API is only supported for flexible volumes and FlexGroup constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **encoded** | | boolean<br>optional | Specifies if non ASCII characters present in the filename will be hex encoded or not. If set to true, then all non-ASCII characters present in the filename are transformed to \XX where XX is the hex equivalent of the character. For example, if the filename has a non-ASCII character whose hex equivalent is 0x5C then the character would be encoded as a three byte sequence of '\','5' and 'C' & returned as "\5C". By default, the value is false. |
| **generation** | | integer<br>optional | The generation number for this inode.<br><br>Range: [1..2^32-1] |
| **inode-number** | | integer | The inode number for which information is desired. |
| **logical-snap-id** | | integer<br>optional | All snapshots are associated with an internal index. "logical-snap-id" is the client-visible index that maps the the underlying internal index.<br><br>Range: [1..255]. |
| **report-cifs-paths** | | boolean<br>optional | Flag for indicating if the paths returned should be cifs-paths |
| **report-leaf-name** | | boolean<br>optional | If set to true, report the leaf name of the given inode. The leaf name is equivalent to the final component of a full pathname. For example, the leaf name of:<br><br>/vol/vol0/foo/bar/baz<br>is:<br>baz<br><br>By default, the inode's leaf name is not shown. |
| **report-no-pathname** | | boolean<br>optional | If set to true, do not report on the given inode's full pathname. By default, the inode's full pathname is reported. |

| | | | |
|---|---|---|---|
| **report-other-parents** | | boolean optional | If set to true, report the requested information for all of the parents for the given inode. By default, only information about one of the given inode's parents is reported. |
| **report-parent-data** | | boolean optional | If set to true, report various other pieces of information about the given inode. This information includes the inode of the parent directory containing the given inode, along with the directory cookie by which the given inode is known in that parent directory inode. By default, this other information is not reported for the given inode. |
| **snap-id** | | integer optional | The snapshot number within the given volume in which the given inode is to be referenced. At most, one of snap-id or snap-name can be provided. If neither is provided, we reference the given inode within the active file system of the given volume. Valid snapshot ids have a range of 0 to (WAFL_SNAP_CNT - 1) (currently 255). A value of 0 will refer to the active file system of the given volume. This refers to the physical snapshot identifier. |
| **snap-name** | | string optional | A snapshot name within the given volume in which the given inode is to be referenced. At most, one of snap-id or snap-name can be provided. If neither is provided, we reference the given inode within the active file system of the given volume. |
| **volume-dsid** | | string optional | The DSID (Data Set IDentifier) of the volume containing the given inode. Exactly one of volume-fsid, volume-name, volume-uuid or volume-dsid must be specified.<br><br>DSIDs are formatted as 18-character strings composed of 16 hex characters prefixed with '0x'. NOTE: This form of volume identification is only supported in some ONTAP products (ONTAP-NG). |
| **volume-fsid** | | integer optional | The FSID (file system identifier) of the volume containing the given inode. Exactly one of volume-fsid, volume-name, volume-uuid, or volume-dsid must be specified. An FSID may have any uint32_t value. |
| **volume-name** | | string optional | The name of the volume containing the given inode. Exactly one of volume-fsid, volume-name, volume-uuid, or volume-dsid must be specified. |
| **volume-uuid** | | string optional | The UUID (Universally Unique IDentifier) of the volume containing the given inode. Exactly one of volume-fsid, volume-name, volume-uuid or volume-dsid must be specified.<br><br>UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.<br><br>An example UUID is 532ad684-c8ec-11d9-945f-00065b8c8a1e. NOTE: This form of volume identification is only supported in some ONTAP products (ONTAP-NG). |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **inode-number** | | integer | The number identifying the inode. |
| **inode-paths** | | inode-parent-info[] | List of requested paths and parent information for the given inode. |
| **logical-snap-id** | | integer optional | Logical snapshot index. This index maps to the above internal index. Logical index allows users to choose the same snapshot index across all members of a striped volume. This index is also useful for logical volume replication. A logical snapshot index of 0 implies that the |

| | | | |
|---|---|---|---|
| | | | snapshot is is not client-visible i.e. this is a un-coordinated snapshot.<br><br>Range: [0..255]. |
| **number-of-parents** | | integer | The number of parents for the inode. For a file, this is the number of links to the file. |
| **snapshot-id** | | integer optional | The snapshot id, if requested info is from a snapshot. This is the physical snapshot identifier. |
| **snapshot-name** | | string optional | The name of the snapshot, if requested info is from a snapshot. |
| **volume-dsid** | | string optional | The volume DSID. |
| **volume-fsid** | | integer | The volume FSID. |
| **volume-name** | | string | The volume name. |
| **volume-uuid** | | string | The volume UUID. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINODENUMBERTOOSMALL** | |
| **EINODENUMBERTOOLARGE** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ESNAPSHOTDOESNOTEXIST** | |
| **EINVALIDINODE** | |
| **EINELIGIBLEINODE** | |
| **EPARENTINFONOTLOADED** | |
| **EI2PNOTENABLED** | |
| **EINTERNALERROR** | |
| **EVOLUMEOFFLINE** | |
| **EWRONGSTRIPE** | |
| **EVOLUMEQUIESCED** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# file-inode-info-get-iter

[top]

Get information about all the files associated with an inode in a volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | inode-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | inode-info | A query that specifies which objects to return. A query could be specified on any number of attributes in the file object. All file objects matching this query up to 'max-records' will be returned. |

| | | | |
|---|---|---|---|
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | inode-info[] optional | The list of attributes of file objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more file objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINODENUMBERTOOSMALL** | |
| **EINODENUMBERTOOLARGE** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ESNAPSHOTDOESNOTEXIST** | |
| **EINVALIDINODE** | |
| **EPARENTINFONOTLOADED** | |
| **EI2PNOTENABLED** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEQUIESCED** | |
| **EVOLUMEBUSY** | |
| **ESNAPSHOTINVALIDID** | |
| **ESNAPSHOTDOESNOTEXIST** | |
| **EAPIMISSINGARGUMENT** | |
| **EINVALIDDSID** | |
| **EVOLUMENAMEINVALID** | |

# file-list-directory-iter

[top]

list of files in a given directory.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | file-info[] optional | Specify which attributes to return. If not set return all of them. |
| **max-records** | **[1..2^32-1]** | integer optional | Maximum number of directory entries to retrieve. |
| **path** | | string | Pathname of the directory to list. The value is expected to begin with /vol/. |
| **query** | | file-info[] optional | A query that specifies which objects to return. The query can specify any attributes in the file object. All file objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Should be empty for first call. For subsequent calls should be the value returned by next-tag below. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | file-info[] optional | Array with information for each file in the named directory. |
| **next-tag** | | string optional | Tag to be used in the next call to continue iteration. Will not be returned if there are no more entries. |
| **num-records** | **[0..2^32-1]** | integer | This tells you how many records are being returned from this particular call to file-list-directory-iter-next. When this value is 0, you have retrieved everything. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EVOLUMEQUIESCED** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EAPIVSERVERMISSING** | |
| **E_DIRECTORY_CHANGED** | |
| **EINTERNALERROR** | |
| **EVOL_NOT_MOUNTED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# file-list-directory-iter-end

[top]

Terminate a directory iteration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from a previous file-list-directory-iter-start. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |

| Vfiler-enabled |
|---|
| **Yes** |

# file-list-directory-iter-next

[top]

Obtain a list of files in a given directory.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maximum** | | integer | Maximum number of directory entries to retrieve. |
| **tag** | | string | Tag from a previous file-list-directory-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **files** | | file-info[] | Array with information for each file in the named directory. |
| | | | This tells you how many records are being returned from this particular |

| | | | |
|---|---|---|---|
| **records** | | integer | call to file-list-directory-iter-next. When this value is 0, you have retrieved everything. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EVOLUMEQUIESCED** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# file-list-directory-iter-start

[top]

Start in iteration through the list of files in a given directory.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **encoded** | | boolean optional | Specifies if non ASCII characters present in the filename will be hex encoded or not. If set to true, then all non-ASCII characters present in the filename are transformed to \XX where XX is the hex equivalent of the character. For example, if the filename has a non-ASCII character whose hex equivalent is 0x5C then the character would be encoded as a three byte sequence of '\','5' and 'C' & returned as "\5C". By default, the value is false. |
| **path** | | string | Pathname of the directory to list. The value is expected to begin with /vol/. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number of items that have been saved for future retrieval with file-list-directory-iter-next. |
| **tag** | | string | Tag to be used in subsequent iterations. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EVOLUMEQUIESCED** | |
| **EVOLUMEBUSY** | |
| **EAPIERROR** | |
| **EONTAPI_EINVAL** | |

| Vfiler-enabled |
|---|
| **Yes** |

# file-punch-hole-iter

[top]

Punch hole in the file. Hole punching involves reclaiming of blocks in a file by unallocating them and then direct or indirect blocks can be made to point to 0.

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | hole-range-info[] | This is the array containing the ranges that need to be hole punched. |
| **path** | | string | Path of the file. Format must be of the following: /vol/my_vol/path-to-file |
| **tag** | | string optional | Do not set on first iteration. Use value of next-tag on subsequent iterations. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **next-tag** | | string optional | Returned if not all ranges have been punched |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EACCES** | |
| **EONTAPI_ESTALE** | |
| **EONTAPI_EPERM** | |
| **EVSERVERNOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOL_NOT_MOUNTED** | |
| **EONTAPI_ENOSPC** | |

# file-read-file

[top]

Read data from a named file. API will fail if length exceeds 1 MB. This API should only be used on normal files or streams associated with files. The results for other file types such as LUNs is undefined.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **length** | **[0..1048576]** | integer | Number of bytes to read from the file. |
| **offset** | **[0..2^63-1]** | integer | Offset into file to start reading from. If the value of offset is beyond the eof, the API will fail with EAPIERROR. |
| **path** | | string | Name of the file to read. For example: "/vol/<volume>/<file>". |
| **stream-name** | | string optional | A stream is an on disk structure which contains a sequence of bytes, analogous to a file. A stream is always associated with exactly one file. Characters that are valid for a file name are also valid for the stream-name. e.g., "meta", "resource1". Use this option if the data should be read from the named stream associated with file specified by <path> Default is empty stream name, in which case the data is read from file specified by <path> This field is available in Data ONTAP 8.2 or later. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **data** | | string | Data read from the file. The format of the data is ASCII hex characters, two characters representing one byte from the file. (This format allows the representation of 0-valued bytes.) |
| **length** | **[0..1048576]** | integer | Number of bytes actually read from the file. If this value is 0, then you have attempted to read at or past the end of the file. |

| Errno | Description |
|---|---|
| EONTAPI_EACCES | |
| EONTAPI_ENOENT | |
| EONTAPI_EFTYPE | |
| EVSERVERNOTFOUND | |
| EAPIVSERVERMISSING | |
| EVOLUMEQUIESCED | |
| EVOLUMEBUSY | |
| EINTERNALERROR | |
| EAPIERROR | |
| EVSERVER_OP_NOT_ALLOWED | |

| Vfiler-enabled |
|---|
| Yes |

# file-read-symlink

[top]

Read the contents of a symlink.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | string | Path of the symlink file to read. The value is expected to begin with /vol/. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| symlink | | string | Value of the symlink, which is the destination path contained in the symlink. |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |
| EAPIVSERVERMISSING | |
| EVOLUMEQUIESCED | |
| EVOLUMEBUSY | |
| EINTERNALERROR | |
| EAPIERROR | |
| EVSERVER_OP_NOT_ALLOWED | |
| EONTAPI_ENOENT | |
| EONTAPI_ENAMETOOLONG | |
| ENOTAPI_EINVAL | |
| EONTAPI_EPERM | |
| EONTAPI_ELOOP | |
| EONTAPI_ENOTDIR | |

# file-rename-file

[top]

Rename a file or directory. Note that this API cannot be used to rename to a different volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **from-path** | | string | Original path of the file. The value must begin with /vol/. |
| **to-path** | | string | Final path of the file. The value must begin with /vol/. All path components except the final file name must already exist. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EEXIST** | |
| **EONTAPI_EXDEV** | |
| **EVOLUMEQUIESCED** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EAPIVSERVERMISSING** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# file-set-space-reservation-info

[top]

Sets the space reservation settings for the named file. is-overwrite-enabled and is-fill-enabled both must be the same value.

This API is not supported for Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-fill-enabled** | | boolean optional | Whether or not to set the file with fill. |
| **is-overwrite-enabled** | | boolean optional | Whether or not to set the file with overwrite. |
| **path** | | string | File to be queried. |
| **volume-id** | | string | The identifier of the volume in which the named file exists.<br><br>There are two legal choices for a volume identifier, either a DSID or a UUID.<br><br>DSIDs are formatted as 18-character strings composed of 16 hex characters, zero filled if required and prefixed with '0x'.<br><br>Here is an example of an actual DSID:<br><br>0x0000000000000401<br><br>UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.<br><br>Here is an example of an actual UUID:<br><br>49e370d6-5b5a-11d9-9eb5-000100000529<br><br>Space reservations are not supported on any volume within a Vserver |

| | | | |
|---|---|---|---|
| | | | with Infinite Volume, whether on the Infinite Volume itself or any of its constituents. |

| Errno | Description |
|---|---|
| **EFILENOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ESETSPCRESERROR** | |
| **EONTAPI_ENOSPC** | |
| **EONTAPI_EROFS** | |
| **EVOLUMEBUSY** | |
| **EONTAPI_EISVDISK** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# file-truncate-file

[top]

Truncate a file. Any data past the truncation point will be lost, of course.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the file to truncate. The value is expected to begin with /vol/. |
| **size** | **[0..2^63-1]** | integer optional | If provided, the file size in bytes is set to this value. The default value is 0. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EONTAPI_EFTYPE** | |
| **EVOLUMEQUIESCED** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EAPIVSERVERMISSING** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# file-usage-get

[top]

Reports unique bytes held in a file.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **length** | | integer optional | Length of the range in bytes. If it is not specified, the range that is reported is from start-offset to end-of-file. Range : [0..2^63-1]. |
| **path** | | string | File name to generate report: E.g., /vol/vol1/file1 |
| **start-offset** | | integer optional | Start range of file in bytes. If this is not specified, it is assumed to be beginning of file (offset 0). Range : [0..2^63-1]. |

| | | | |
|---|---|---|---|

| Output Name | Range | Type | Description |
|---|---|---|---|
| **total-bytes** | | integer | Number of bytes held by this file. Range : [0..2^63-1]. |
| **unique-bytes** | | integer | Number of bytes 'uniquely' held by this file. Range : [0..2^63-1]. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EAGAIN** | |

# file-usage-result-get

[top]

Used to poll and retrieve results for a previous file-usage-start call. EINPROGRESS indicates that the background job has not finished yet.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cookie** | | string | Cookie that was returned in an earlier file-usage-start call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **total-bytes** | | integer | Number of bytes held by this file. Range : [0..2^63-1]. |
| **unique-bytes** | | integer | Number of bytes 'uniquely' held by this file. Range : [0..2^63-1]. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_ESTALE** | |
| **EONTAPI_EINPROGRESS** | |

# file-usage-start

[top]

Starts a background job to compute unique bytes held in a file. The result can be obtained by passing the cookie to file-usage-result-get call.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **length** | | integer optional | Length of the range in bytes. If it is not specified, the range that is reported is from start-offset to end-of-file. Range : [0..2^63-1]. |
| **path** | | string | File name to generate report: E.g., /vol/vol1/file1 |
| **start-offset** | | integer optional | Start range of file in bytes. If this is not specified, it is assumed to be beginning of file (offset 0). Range : [0..2^63-1]. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **cookie** | | string | Cookie to be used with subsequent file-usage-result-get call. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EAGAIN** | |

# file-write-file

[top]

Write data into a named file. If the file/stream does not previously exist, it will be created - the owner of the file will be root and it will be readable but not writable by non-root users. API will fail if data exceeds 1 MB. This API should only be used on normal files or streams associated with files. The results for other file types such as LUNs is undefined.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **data** | | string | Data to be written. The format of the data is ASCII hex characters, two characters representing one byte. Whitespace characters, for convenience in formatting, can be present in the value and are ignored. |
| **offset** | **[-1..2^63-1]** | integer | Offset into file at which to start writing. If the offset is -1, the data is appended to the file. The valid maximum value for (offset + data length) is the maximum total file size which is Data ONTAP version and file system dependent. If the value of the (offset + data length) is beyond the maximum total file size, the API will fail with EAPIERROR. |
| **overwrite** | | boolean optional | If false, and the file already exists, then the API will fail, with an errno of EEXIST. This allows the client to ensure that it was the exclusive creator of the file. The default value is true. |
| **path** | | string | Pathname of the file to write. For example: "/vol/<volume>/<file>". |
| **stream-name** | | string optional | A stream is an on disk structure which contains a sequence of bytes, analogous to a file. A stream is always associated with exactly one file. Characters that are valid for a file name are also valid for the stream-name. e.g., "meta", "resource1". Use this option if the data should be written to the named stream associated with file specified by <path> Default is empty stream name, in which case the data is written to file specified by <path> This field is available in Data ONTAP 8.2 or later. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **length** | **[0..1048576]** | integer | Number of bytes actually written. |

| Errno | Description |
|---|---|
| **EONTAPI_EACCES** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EFTYPE** | |
| **EBADFILELENGTH** | |
| **EVOLUMEQUIESCED** | |

| | |
|---|---|
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EAPIVSERVERMISSING** | |
| **EINTERNALERROR** | |
| **EAPIERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# Element definition: **file-info**

[top]

Information about a single file.

| Name | Range | Type | Description |
|---|---|---|---|
| **accessed-timestamp** | **[0..2^32-1]** | integer | Last asscess time of the file. The value is in seconds since January 1, 1970. |
| **acl-type** | | string | The type of access control list (acl) on the file. Possible values are: "no_acl", "nt_acl", "nfs_acl", and goddess forbid, "unknown". |
| **bytes-used** | **[0..2^63-1]** | integer optional | returns the number of bytes actually used on disk by this file |
| **changed-timestamp** | **[0..2^32-1]** | integer | Last changed time of the file. The value is in seconds since January 1, 1970. |
| **creation-timestamp** | **[0..2^32-1]** | integer | Creation time of the file. The value is in seconds since January 1, 1970. |
| **dsid** | **[0..2^64-1]** | integer optional | Data Set ID |
| **file-size** | **[0..2^63-1]** | integer | The size of the file in bytes. |
| **file-type** | | string | Type of the file. Possible values: file, directory, blockdev, chardev, symlink, socket, fifo, stream, lun. |
| **group-id** | **[0..2^32-1]** | integer | The integer id of the group owner of the file. |
| **hard-links-count** | **[0..2^32-1]** | integer | The number of hard links to the file. |
| **inode-gen-number** | **[0..2^32-1]** | integer optional | Inode generation number |
| **inode-number** | **[0..2^32-1]** | integer | The file node number. |
| **is-empty** | | boolean optional | This element tells whether directory is empty or not. Directory is considered empty if it only contains entries for "." and "..". This element is present if file is directory. In some special error cases like volume goes offline in between or directory is moved in the middle of getting this info, this field might not get set. |
| **is-junction** | | boolean optional | Returns true if the directory is a junction. |
| **is-snapshot** | | boolean optional | Returns true if the directory is a snapshot. |
| **is-vm-** | | boolean | Returns true if the file is vm-aligned. A vm-aligned file is a file which is padded with zero-filled data at the beginning so that it's actual data starts at a different offset instead of zero. This is done in VM environments so that reads/writes to this file are aligned to WAFL's 4k |

| | | | |
|---|---|---|---|
| **aligned** | | optional | block boundary. The amount by which the start offset is adjusted depends on the vm-align setting of the hosting volume. Use the volume-list-info or the volume-get-iter API to get this information. |
| **modified-timestamp** | **[0..2^32-1]** | integer | Last modification time of the file. The value is in seconds since January 1, 1970. |
| **msid** | **[0..2^64-1]** | integer optional | Mirror Set ID |
| **name** | | string optional | Name of the file. |
| **owner-id** | **[0..2^32-1]** | integer | The integer id of the owner of the file. |
| **perm** | | string | File permission bits. It's similar to Unix style permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. |

# Element definition: **filer-id**

[top]

Filer UUID

[none]

# Element definition: **fingerprint-info**

[top]

FingerPrint info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-uuid** | | string optional | An Universal Unique IDentifier (UUID) for the aggregate containing the volume. Attributes: non-creatable, non-modifiable |
| **file-metadata** | | file-fingerprint-info optional | File fingerprint info |
| **filer-id** | | uuid optional | ID (NVRAM ID) of owner. Attributes: non-creatable, non-modifiable |
| **filer-name** | | string | Specifies the name of the filer. If the filer name has not been written to the disks, this will not be returned. Attributes: non- |

| | | | |
|---|---|---|---|
| | | optional | creatable, non-modifiable |
| **fingerprint-algorithm** | | fingerprintalgo optional | The digest algorithm which was used for the fingerprint computation. Fingerprint is computed using md5 or sha-256 digest algorithm. The digest algorithm to be used for the fingerprint computation can be specified when the fingerprint operation is started using the file-fingerprint-start API. If no algorithm was specified during file fingerprint start, then by default, we compute fingerprint of the file using the sha-256 digest alogorithm. Attributes: non-creatable, non-modifiable Possible values:<br>• "md5" ,<br>• "sha256" |
| **fingerprint-end-time** | **[0..2^64-1]** | integer optional | End time of fingerprint computation in seconds since January 1, 1970. Time is taken out of system clock. Range : [0..2^64-1]. Attributes: non-creatable, non-modifiable |
| **fingerprint-input-path** | | string optional | Full path of the file on which fingerprint is calculated. The value begins with /vol/. Attributes: non-creatable, non-modifiable |
| **fingerprint-scope** | | fingerprintscope optional | The file scope which was used for the fingerprint computation. Fingerprint is computed over the file data or metadata or both data and metadata depending on the scope selected when starting the fingerprint operation. If no scope was specified during file fingerprint start, then by default, we compute fingerprint of the file over both data and metadata. Attributes: non-creatable, non-modifiable Possible values:<br>• "data_and_metadata" ,<br>• "data_only" ,<br>• "metadata_only" |
| **fingerprint-start-time** | **[0..2^64-1]** | integer optional | Start time of fingerprint computation in seconds since January 1, 1970. This time is calculated using the system clock. Attributes: non-creatable, non-modifiable |
| **fingerprint-version** | | string optional | Version of the fingerprint output format. Attributes: non-creatable, non-modifiable |
| **formatted-fingerprint-end-time** | | string optional | End time of fingerprint computation in a human readable format :: in GMT timezone.Time is taken out of system clock. Attributes: non-creatable, non-modifiable |
| **formatted-fingerprint-start-time** | | string optional | Start time of fingerprint computation in a human readable format: :: in GMT timezone. This time is calculated using the system clock. Attributes: non-creatable, non-modifiable |
| **formatted-snaplock-system-compliance-clock** | | string optional | If System Compliance Clock is initialized then human readable time :: in GMT timezone. A value of 'not_initalized' indicates that System Compliance Clock has not been initialized. Attributes: non-creatable, non-modifiable |
| **formatted-snaplock-volume-compliance-clock** | | string optional | Volume Compliance Clock time for SnapLock volumes in human readable format. :: in GMT timezone. This field is not included for Non-SnapLock volumes. Attributes: non-creatable, non-modifiable |
| | | | Expiry date of the SnapLock volume in a human-readable format :: in GMT timezone. A value of 'infinite' indicates that the volume has an infinite expiry date. A value of 'indefinite' indicates that the volume has an indefinite expiry date. A value of 'unspecified' indicates that the volume has an |

| | | | |
|---|---|---|---|
| **formatted-volume-expiry-date** | | string optional | unspecified expiry date. A value of 'scan_in_progress' indicates that expiry date is not displayed since WORM scan on the volume is in progress. A value of 'no_expiry_date' indicates that expiry date is not displayed since the SnapLock volume has no WORM files and WORM Snapshot copies. This field is not included if the volume is offline or the volume is regular volume. Attributes: non-creatable, non-modifiable |
| **is-volume-expiry-date-wraparound** | | boolean optional | True if the date represented in the field volume-expiry-date is a wraparound format. The wraparound format indicates that dates after 01/19/2038 are mapped from 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. The field is not included if volume-expiry-date is not included. Attributes: non-creatable, non-modifiable |
| **session-id** | **[0..2^32-1]** | integer optional | An unique identifier for the fingerprint operation. This session-id is returned when the fingerprint operation is started on a file. The session-id of the fingerprint operation can be used to get the progress of an ongoing fingerprint operation as well as the complete fingerprint output for the file once the operation is completed. Attributes: key, non-creatable, non-modifiable |
| **snaplock-license** | | snaplocklicense optional | Status of SnapLock license. Attributes: non-creatable, non-modifiable Possible values:<br>• "available" ,<br>• "not_available" |
| **snaplock-system-compliance-clock** | **[0..2^64-1]** | integer optional | If System Compliance Clock is initialized then time in seconds in the standard UNIX format (since 01/01/1970 00:00:00) in GMT timezone. Range:[0..2^64-1]. Attributes: non-creatable, non-modifiable |
| **snaplock-volume-compliance-clock** | **[0..2^64-1]** | integer optional | Volume Compliance Clock time in seconds for the SnapLock volumes.The time is in the standard UNIX format (since 01/01/1970 00:00:00) in GMT timezone. This field is not included for Non-SnapLock volumes. Range:[0..2^64-1]. Attributes: non-creatable, non-modifiable |
| **volume-containing-aggregate** | | string optional | Specifies the name of the aggregate in which the given volume resides Attributes: non-creatable, non-modifiable |
| **volume-dsid** | **[0..2^64-1]** | integer optional | The DSID (Data Set IDentifier) of the volume containing the given file. Attributes: non-creatable, non-modifiable |
| **volume-expiry-date** | **[0..2^64-1]** | integer optional | Expiry date of the SnapLock volume in seconds in the standard UNIX format(since 01/01/1970 00:00:00).Range: [0..2^64-1]. This field is not included if<br>• Volume is non-SnapLock volume, or<br>• SnapLock volume has an infinite expiry date, or<br>• SnapLock volume has an indefinite expiry date, or<br>• SnapLock volume has an unspecified expiry date, or<br>• SnapLock volume has no WORM files or WORM Snapshot copies, or<br>• SnapLock volume has WORM scanner in progress<br><br>The volume expiry date can be in wraparound format.The wraparound format indicates that dates after 01/19/2038 are mapped from 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. Attributes: non-creatable, non-modifiable |
| **volume-msid** | **[0..2^64-1]** | integer optional | Volume's Mirror Set ID. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **volume-name** | | volume-name optional | Specifies the name of the volume on which the file resides. Attributes: non-creatable, non-modifiable |
| **volume-snaplock-type** | | snaplocktype optional | The type of the SnapLock volume. This value is only given for SnapLock volumes. The possible values are :<br>• compliance<br>• enterprise<br>Attributes: non-creatable, non-modifiable Possible values:<br>• "non_snaplock" - Non SnapLock,<br>• "compliance" - SnapLock Compliance,<br>• "enterprise" - SnapLock Enterprise |
| **vserver-id** | | uuid optional | An Universal Unique IDentifier (UUID) for the vserver owning the volume Attributes: non-creatable, non-modifiable |
| **vserver-name** | | vserver-name optional | Specifies the name of the vserver which owns the volume on which the file resides. Attributes: non-creatable, non-modifiable |

# Element definition: **fingerprint-status-info**

[top]

Fingerprint Status Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **file** | | string optional | Full path of the file on which fingerprint is calculated. The value begins with /vol/. Attributes: non-creatable, non-modifiable |
| **operation-status** | | wormopstatus optional | Specifies the operation status of the fingerprint operation. The operation-status of the fingerpirnt operation can be one of the following:<br>• In-progress<br>• Completed<br>• Failed<br>• Aborting<br>• Unknown<br>Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "in_progress" ,<br>• "failed" ,<br>• "aborting" ,<br>• "completed" |
| | | | Specifies the amount of progress that has been made on an ongoing fingerprint operation. If the operation-status of the |

| | | | |
|---|---|---|---|
| **progress-percentage** | **[0..2^32-1]** | integer optional | fingerprint operation is 'Completed' then the progress-percentage is always 100 and if the operation-status of the fingerprint operation is 'Failed' then the progress-percentage is always 0. Attributes: non-creatable, non-modifiable |
| **session-id** | **[0..2^32-1]** | integer optional | An unique identifier for the fingerprint operation. This session-id is returned when the fingerprint operation is started on a file. The session-id of the fingerprint operation can be used to get the progress of an ongoing fingerprint operation as well as the complete fingerprint output for the file once the operation is completed. Attributes: key, non-creatable, non-modifiable |
| **volume** | | volume-name optional | Specifies the name of the volume on which the file resides. If using this parameter, the following parameters should also be specified:<br>• vserver-name : Name of the vserver to which this volume belongs.<br><br>Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Specifies the name of the vserver which owns the volume on which the file resides. If using this parameter, the following parameters should also be specified:<br>• volume-name : Name of the volume on which the file resides<br><br>Attributes: key, non-creatable, non-modifiable |

# Element definition: **hole-range-info**

[top]

The hole start need not be an integral multiple of the block size. It will be rounded up to the start of the next block. The hole-size does not need to be the size of a block. It will be rounded down to the beginning of the block. It is possible that after the adjustments there is nothing to punch. That is ok and will be treated as success. Note that presently in WAFL small files are entirely within the inode. It is possible to "hole punch" those however nothing happens. The data is left alone. Considering the use case fot this ZAPI and the amount of effort to code the "correct" solution this is deemed an acceptable condition. If the file is vm-aligned then the range chosen to hole-punch could be rounded down by a block to ensure that we don't punch block containing valid user data.

| Name | Range | Type | Description |
|---|---|---|---|
| **hole-size** | | integer | Size of the hole in terms of bytes. If punching a hole WAFL presently limits this value to 4MB. Range : [0..2^63-1] |
| **hole-start** | | integer | Starting offset of the hole. Range : [0..2^63-1] |

# Element definition: **inode-info**

[top]

Inode Information.

When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **dsid** | **[0..2^64-1]** | integer optional | The DSID (Data Set IDentifier) of the volume containing the given inode. Exactly one of volume or dsid must be specified in query.<br><br>Attributes: key, non-creatable, non-modifiable |
| **file-name** | | string optional | Name of the file associated with inode.<br><br>Attributes: non-creatable, non-modifiable |
| **file-path** | | string optional | Full path name of the file associated with the inode number.<br><br>Attributes: key, non-creatable, non-modifiable |
| **inode-number** | **[0..2^32-1]** | integer | The inode number for which information is desired.<br><br>Attributes: key, non-creatable, non-modifiable |
| **parent-dir-index** | **[0..2^64-1]** | integer optional | The index of the directory entry of the file in its parent directory.<br><br>Attributes: non-creatable, non-modifiable |
| **parent-inode-number** | **[0..2^64-1]** | integer optional | Inode number of the parent directory of the file.<br><br>Attributes: non-creatable, non-modifiable |
| **snapshot-id** | **[0..255]** | integer optional | The snapshot number within the given volume in which the given inode is to be referenced. At most, one of snaphot-id or snapshot-name can be provided in query. If neither is provided, we reference the given inode within the active file system of the given volume. A value of 0 will refer to the active file system of the given volume.<br><br>Attributes: non-creatable, modifiable |
| **snapshot-name** | | string optional | The snapshot name within the given volume in which the given inode is to be referenced. At most, one of snapshot-id or snapshot-name can be provided in query. If neither is provided, we reference the given inode within the active file system of the given volume.<br><br>Attributes: non-creatable, modifiable |
| **volume** | | volume-name optional | The name of the volume containing the given inode. Exactly one of volume or dsid must be specified in query.<br><br>Attributes: key, non-creatable, non-modifiable |

# Element definition: **inode-parent-info**

[top]

Inode's path and parent information.

| Name | Range | Type | Description |
|---|---|---|---|
| **inode-name** | | string optional | Name of inode in parent directory. |
| **inode-parent-** | | integer optional | The opaque readdir cookie to determine the index of the inode in the parent directory tree. Note that this value is used as a testing hook, we do not |

| | | | |
|---|---|---|---|
| **cookie** | | | plan to support its semantics and those semantics might change over time. |
| **inode-parent-inode-number** | | integer optional | Inode number of the parent directory. |
| **inode-path** | | string optional | Full path to inode |

# Element definition: **snapshot-id**

[top]

Snapshot Id

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **file-fingerprint-info**

[top]

File fingerprint info

| Name | Range | Type | Description |
|---|---|---|---|
| **access-time** | **[0..2^64-** | integer | Access Time Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| | **1]** | optional | |
| **changed-time** | **[0..2^64-1]** | integer optional | Changed Time Attributes: non-creatable, non-modifiable |
| **creation-time** | **[0..2^64-1]** | integer optional | Creation Time Attributes: non-creatable, non-modifiable |
| **data-fingerprint** | | string optional | The digest value of data of the file. The fingerprint is base64 encoded. This field is not included if scope is 'metadata-only'. Attributes: non-creatable, non-modifiable |
| **file** | | string optional | Full path of the file on which fingerprint is calculated. The value begins with /vol/. Attributes: non-creatable, non-modifiable |
| **file-size** | **[0..2^64-1]** | integer optional | The size of the file in bytes. Range : [0..2^64-1]. Attributes: non-creatable, non-modifiable |
| **file-type** | | string optional | Type of the file. Possible values:<br>• 'worm',<br>• 'worm_appendable',<br>• 'worm_active_log',<br>• 'worm_log' and<br>• 'regular'<br><br>Attributes: non-creatable, non-modifiable |
| **fileid** | **[0..2^32-1]** | integer optional | A unique number within filesystem identifying the file for fingerprint. Range : [0..2^31-1] Attributes: non-creatable, non-modifiable |
| **formatted-access-time** | | string optional | Last access time of the file formatted in a human-readable format :: in GMT timezone. The field is included for regular files and files on Non-SnapLock volumes. Attributes: non-creatable, non-modifiable |
| **formatted-changed-time** | | string optional | Last changed time of the file formatted in a human-readable format. :: in GMT timezone. Attributes: non-creatable, non-modifiable |
| **formatted-creation-time** | | string optional | Creation time of the file formatted in a human-readable format. :: in GMT timezone. Attributes: non-creatable, non-modifiable |
| **formatted-modified-time** | | string optional | Last modification time of the file formatted in a human-readable format. :: in GMT timezone. Attributes: non-creatable, non-modifiable |
| **formatted-retention-time** | | string optional | Expiry date of the file protected by SnapLock formatted in a human-readable format. This takes care of wraparound dates and prints the expiry date of the file in the format :: in GMT timezone. A value of 'infinite' indicates that this file has infinite retention time. A value of 'indefinite' indicates that this file has indefinite retention time. A value of 'unspecified' indicates that this file has unspecified retention time. This field is not included for regular files that are not protected by SnapLock and files on Non-SnapLock volumes. Attributes: non-creatable, non-modifiable |
| **fsid** | **[0..2^32-1]** | integer optional | Filesystem ID. Range : [0..2^31-1] Attributes: non-creatable, non-modifiable |
| **group-id** | **[0..2^32-1]** | integer optional | The integer id of the group owner of the file. Range : [0..2^31-1] Attributes: non-creatable, non-modifiable |
| **is-changed-time-wraparound** | | boolean optional | This field is included for WORM files when changed-time is in wraparound format. This field is true if the date represented in changed-time is in wraparound format and false if changed-time is not is not in wraparound format. The wraparound format indicates that dates after 01/19/2038 are mapped from 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. This field is not included for regular files. Attributes: non-creatable, non-modifiable |
| | | | True if the date represented in retention-time is in wraparound format.The wraparound format indicates that dates after 01/19/2038 |

| | | | |
|---|---|---|---|
| **is-wraparound** | | boolean optional | are mapped from 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. This field is not included if retention-time is not included Attributes: non-creatable, non-modifiable |
| **litigation-count** | **[0..255]** | integer optional | The number of litigations on the file. Attributes: non-creatable, non-modifiable |
| **metadata-fingerprint** | | string optional | The digest value of metadata of the file. The metadata fingerprint is calculated for file size, file ctime, file mtime, file crtime, file retention time, file uid, gid and file type. The fingerprint is base64 encoded. This field is not included if scope is 'data-only'. Attributes: non-creatable, non-modifiable |
| **modified-time** | **[0..2^64-1]** | integer optional | Modification Time Attributes: non-creatable, non-modifiable |
| **owner-id** | **[0..2^32-1]** | integer optional | The integer id of the owner of the file. Range : [0..2^31-1] Attributes: non-creatable, non-modifiable |
| **owner-sid** | | string optional | The owner SID of the file. This field is included in the case when file has NTFS security style. Attributes: non-creatable, non-modifiable |
| **retention-time** | **[0..2^64-1]** | integer optional | Retention Time Attributes: non-creatable, non-modifiable |

# Element definition: **fingerprintalgo**

[top]

MD5|SHA256 Possible values:

- "md5" ,
- "sha256"

[none]

# Element definition: **fingerprintscope**

[top]

data-and-metadata|data-only|metadata-only Possible values:

- "data_and_metadata" ,
- "data_only" ,
- "metadata_only"

[none]

# Element definition: **snaplocklicense**

[top]

available|not_available Possible values:

- "available" ,
- "not_available"

[none]

## Element definition: **snaplocktype**

[top]

non-snaplock|compliance|enterprise Possible values:

- "non_snaplock" - Non SnapLock,
- "compliance" - SnapLock Compliance,
- "enterprise" - SnapLock Enterprise

[none]

## Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

## Element definition: **wormopstatus**

[top]

Unknown|In-Progress|Failed|Aborting|Completed Possible values:

- "unknown" ,
- "in_progress" ,
- "failed" ,
- "aborting" ,
- "completed"

[none]

# APIs in Category: **file-directory-security**


file-directory-effective-permissions-get
file-directory-security-get
file-directory-security-ntfs-create
file-directory-security-ntfs-dacl-add
file-directory-security-ntfs-dacl-get-iter
file-directory-security-ntfs-dacl-modify
file-directory-security-ntfs-dacl-remove
file-directory-security-ntfs-delete
file-directory-security-ntfs-get-iter
file-directory-security-ntfs-modify
file-directory-security-ntfs-sacl-add
file-directory-security-ntfs-sacl-get-iter
file-directory-security-ntfs-sacl-modify
file-directory-security-ntfs-sacl-remove
file-directory-security-policy-create
file-directory-security-policy-delete
file-directory-security-policy-get-iter
file-directory-security-policy-task-add
file-directory-security-policy-task-get-iter
file-directory-security-policy-task-modify
file-directory-security-policy-task-remove
file-directory-security-remove-slag
file-directory-security-set


This set of ZAPIs allows to view or set file security settings. To view security of a file/folder, pass the file/folder path name as argument to show command. To set security on a file/folder, policy needs to be created. Policy has set of tasks and each task has a file/folder path name and the security descriptor identifier which will be applied on the file/folder.

## file-directory-effective-permissions-get

[top]

Gives information about the maximal access for the mentioned user on given path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-ip-address** | | ip-address optional | This optional parameter specifies the incoming CIFS or UNIX user client ip address. |
| **expand-mask** | | boolean optional | Specifies whether to expand the bit mask of ACE. |
| **path** | | string | Specifies UNIX style file or folder path for which the effective permission has to be found out. |
| **share-name** | | cifs-share-name optional | This optional parameter specifies that the given path name lookup starts from cifs share map path. |
| **unix-user-name** | | string optional | Specifies name of the UNIX user for which the effective permission has to be found out. |
| **win-user-name** | | string optional | Specifies name of the Windows user for which the effective permission has to be found out. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **permission** | | fsecurity-acl[] | Specifies the resultant NT style effective permission. |
| **share-path** | | string optional | The CIFS share path. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-get

[top]

Returns security information of a file/folder

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cifs-share-name** | | cifs-share-name optional | Specifies that the given path name lookup starts from cifs share map path. Mutually exclusive with volume-name field. |
| **expand-mask** | | boolean optional | Specifies whether to expand the bit mask of DOS attributes, security descriptor's control flags and every ACE. |
| **inode** | | integer optional | File Inode Number |
| **lookup-names** | | boolean optional | Specifies whether the SID needs to be converted to user/group name. |
| **path** | | string optional | Specifies the file or folder path whose security information needs to be read. If volume-name or cifs-share-name is not specified, path name lookup starts from the root path of the vserver |
| **sddl** | | boolean optional | Specifies whether to show the acls in windows sddl format. |
| **textual-mask** | | boolean optional | Specifies whether to show the mask in textual format. |
| **volume-name** | | volume-name optional | Specifies that the given path name lookup starts from volume junction path. Mutually exclusive with cifs-share-name field. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **acls** | | fsecurity-acl[] optional | NTFS or NFSV4 Security descriptor ACLs. |
| **dos-attributes** | | integer optional | DOS Attributes |
| **effective-style** | | security-style-enum | Effective security style of the file/folder. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to file/folder security. |
| **expanded-dos-attr** | | string optional | Bitwise expanded DOS Attributes of the specified file/folder path. This field returns value if expand mask is true. Example follows,<br>DOS Attributes:<br>...0 .... .... .... = Offline<br>.... ..0. .... .... = Sparse<br>.... .... 0... .... = Normal<br>.... .... ..0. .... = Archive<br>.... .... ...1 .... = Directory<br>.... .... .... .0.. = System<br>.... .... .... ..0. = Hidden<br>.... .... .... ...0 = Read Only |
| **inode** | | integer optional | File Inode Number |
| **path** | | string optional | Specifies the file or folder path whose security information needs to be read. If volume-name or cifs-share-name is not specified, path name lookup starts from the root path of the vserver |
| **security-style** | | security-style-enum | Security style of the file/folder. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to file/folder security. |
| **text-dos-attr** | | string optional | DOS Attributes in Text |
| **unix-group-id** | | integer optional | UNIX Group Id |
| **unix-mode-bits** | | integer optional | Unix mode permission bits in octal value. |
| **unix-user-id** | | integer optional | UNIX User Id |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-ntfs-create

[top]

Creates a new NTFS security descriptor

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Specifies the security descriptor control flags in hexa decimal. The following are the bit fields of control flags.<br>1... .... .... .... = Self Relative<br>.0.. .... .... .... = RM Control Valid<br>..0. .... .... .... = SACL Protected |

| | | | |
|---|---|---|---|
| **control-flags-raw** | **[0..2^32-1]** | integer optional | ...0 .... .... .... = DACL Protected<br>.... 0... .... .... = SACL Inherited<br>.... .0.. .... .... = DACL Inherited<br>.... ..0. .... .... = SACL Inherit Required<br>.... ...0 .... .... = DACL Inherit Required<br>.... .... ..0. .... = SACL Defaulted<br>.... .... ...0 .... = SACL Present<br>.... .... .... 0... = DACL Defaulted<br>.... .... .... .1.. = DACL Present<br>.... .... .... ..0. = Group Defaulted<br>.... .... .... ...0 = Owner Defaulted<br><br>At present only the following flags are honored. Others are ignored.<br>..0. .... .... .... = SACL Protected<br>...0 .... .... .... = DACL Protected<br>.... .... ..0. .... = SACL Defaulted<br>.... .... .... 0... = DACL Defaulted<br>.... .... .... ..0. = Group Defaulted<br>.... .... .... ...0 = Owner Defaulted |
| **group** | | name-or-sid optional | Specifies group's SID or domain account name of NTFS security descriptor. |
| **ntfs-sd** | | file-security-ntfs-sd | Specifies NTFS security descriptor identifier. |
| **owner** | | name-or-sid optional | Specifies owner's SID or domain account name of NTFS security descriptor. |
| **return-record** | | boolean optional | If set to true, returns the file-directory-security-ntfs on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | file-directory-security-ntfs optional | The file-directory-security-ntfs created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# file-directory-security-ntfs-dacl-add

[top]

Add a discretionary access control entry to NTFS security descriptor.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-type** | | access-type | Specifies DACL ACE's access type. Possible values:<br>• "deny" ,<br>• "allow" |
| **account** | | name-or-sid | Specifies DACL ACE's SID or domain account name of NTFS security descriptor. |
| | | | Specifies DACL ACE's Advanced access rights. Mutually exclusive with rights and rights-raw fields. Possible values:<br>• "read_data" ,<br>• "write_data" , |

| | | | |
|---|---|---|---|
| **advanced-rights** | | advanced-access-rights[] optional | • "append_data" ,<br>• "read_ea" ,<br>• "write_ea" ,<br>• "execute_file" ,<br>• "delete_child" ,<br>• "read_attr" ,<br>• "write_attr" ,<br>• "delete" ,<br>• "read_perm" ,<br>• "write_perm" ,<br>• "write_owner" ,<br>• "full_control" |
| **apply-to** | | inheritance-level[] optional | Specifies apply DACL entry. Possible values:<br>• "this_folder" ,<br>• "sub_folders" ,<br>• "files" |
| **ntfs-sd** | | file-security-ntfs-sd | Specifies NTFS security descriptor identifier. |
| **rights** | | access-rights optional | Specifies DACL ACE's access rights. Mutually exclusive with advanced-rights and rights-raw fields. Possible values:<br>• "no_access" ,<br>• "full_control" ,<br>• "modify" ,<br>• "read_and_execute" ,<br>• "read" ,<br>• "write" |
| **rights-raw** | **[0..2^32-1]** | integer optional | Specifies DACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-ntfs-dacl-get-iter

[top]

Returns information about one or more discretionary access control entries

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | file-directory-security-ntfs-dacl optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | file-directory- | A query that specifies which objects to return. A query could be |

| | | | |
|---|---|---|---|
| **query** | | security-ntfs-dacl optional | specified on any number of attributes in the file-directory-security-ntfs-dacl object. All file-directory-security-ntfs-dacl objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | file-directory-security-ntfs-dacl[] optional | The list of attributes of file-directory-security-ntfs-dacl objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more file-directory-security-ntfs-dacl objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# file-directory-security-ntfs-dacl-modify

[top]

Modify a discretionary access control entry of a file security descriptor

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-type** | | access-type | Specifies DACL ACE's access type. Possible values:<br>• "deny" ,<br>• "allow" |
| **account** | | name-or-sid | Specifies DACL ACE's SID or domain account name of NTFS security descriptor. |
| **advanced-rights** | | advanced-access-rights[] optional | Specifies DACL ACE's Advanced access rights. Mutually exclusive with rights and rights-raw fields. Possible values:<br>• "read_data" ,<br>• "write_data" ,<br>• "append_data" ,<br>• "read_ea" ,<br>• "write_ea" ,<br>• "execute_file" ,<br>• "delete_child" ,<br>• "read_attr" ,<br>• "write_attr" ,<br>• "delete" ,<br>• "read_perm" ,<br>• "write_perm" ,<br>• "write_owner" ,<br>• "full_control" |
| | | | Specifies this ACE has to be applied on. Possible values: |

| | | | |
|---|---|---|---|
| **apply-to** | | inheritance-level[] optional | • "this_folder" ,<br>• "sub_folders" ,<br>• "files" |
| **ntfs-sd** | | file-security-ntfs-sd | Specifies NTFS security descriptor identifier. |
| **rights** | | access-rights optional | Specifies DACL ACE's access rights. Mutually exclusive with advanced-rights and rights-raw fields. Possible values:<br>• "no_access" ,<br>• "full_control" ,<br>• "modify" ,<br>• "read_and_execute" ,<br>• "read" ,<br>• "write" |
| **rights-raw** | **[0..2^32-1]** | integer optional | Specifies DACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-ntfs-dacl-remove

[top]

Remove a discretionary access control entry from NTFS security descriptor.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-type** | | access-type | Specifies DACL ACE's access type. Possible values:<br>• "deny" ,<br>• "allow" |
| **account** | | name-or-sid | Specifies DACL ACE's SID or domain account name of NTFS security descriptor. |
| **ntfs-sd** | | file-security-ntfs-sd | Specifies NTFS security descriptor identifier. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-ntfs-delete

[top]

Deletes an NTFS security descriptor information

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ntfs-sd** | | file-security-ntfs-sd | Specifies NTFS security descriptor identifier. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-ntfs-get-iter

[top]

Returns information about one or more NTFS security descriptor

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | file-directory-security-ntfs optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | file-directory-security-ntfs optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the file-directory-security-ntfs object. All file-directory-security-ntfs objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | file-directory-security-ntfs[] optional | The list of attributes of file-directory-security-ntfs objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more file-directory-security-ntfs objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# file-directory-security-ntfs-modify

[top]

Modifies an NTFS security descriptor

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Specifies the security descriptor control flags in hexa decimal. The |

| | | | |
|---|---|---|---|
| **control-flags-raw** | **[0..2^32-1]** | integer optional | following are the bit fields of control flags.<br>1... .... .... .... = Self Relative<br>.0.. .... .... .... = RM Control Valid<br>..0. .... .... .... = SACL Protected<br>...0 .... .... .... = DACL Protected<br>.... 0... .... .... = SACL Inherited<br>.... .0.. .... .... = DACL Inherited<br>.... ..0. .... .... = SACL Inherit Required<br>.... ...0 .... .... = DACL Inherit Required<br>.... .... ..0. .... = SACL Defaulted<br>.... .... ...0 .... = SACL Present<br>.... .... .... 0... = DACL Defaulted<br>.... .... .... .1.. = DACL Present<br>.... .... .... ..0. = Group Defaulted<br>.... .... .... ...0 = Owner Defaulted<br><br>At present only the following flags are honored. Others are ignored.<br>..0. .... .... .... = SACL Protected<br>...0 .... .... .... = DACL Protected<br>.... .... ..0. .... = SACL Defaulted<br>.... .... .... 0... = DACL Defaulted<br>.... .... .... ..0. = Group Defaulted<br>.... .... .... ...0 = Owner Defaulted |
| **group** | | name-or-sid optional | Specifies group's SID or domain account name of NTFS security descriptor. |
| **ntfs-sd** | | file-security-ntfs-sd | Specifies NTFS security descriptor identifier. |
| **owner** | | name-or-sid optional | Specifies owner's SID or domain account name of NTFS security descriptor. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-ntfs-sacl-add

[top]

Add a system/audit access control entry to NTFS security descriptor.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **account** | | name-or-sid | Specifies SACL ACE's SID or domain account name of NTFS security descriptor. |
| **advanced-** | | advanced-access- | Specifies SACL ACE's access rights. Mutually exclusive with rights-raw field. Possible values:<br>• "read_data" ,<br>• "write_data" ,<br>• "append_data" ,<br>• "read_ea" ,<br>• "write_ea" ,<br>• "execute_file" , |

| | | | |
|---|---|---|---|
| **rights** | | rights[] optional | "delete_child" ,<br>• "read_attr" ,<br>• "write_attr" ,<br>• "delete" ,<br>• "read_perm" ,<br>• "write_perm" ,<br>• "write_owner" ,<br>• "full_control" |
| **apply-to** | | inheritance-level[] optional | Specifies how this ACE has to be applied on this folder and it's subfolders and files. This field is ignored if the security is mapped with a path which is not a folder. Possible values:<br>• "this_folder" ,<br>• "sub_folders" ,<br>• "files" |
| **audit-access-type** | | audit-access-type | Specifies SACL ACE's access type. Possible values:<br>• "failure" ,<br>• "success" |
| **ntfs-sd** | | file-security-ntfs-sd | Specifies NTFS security descriptor identifier. |
| **rights** | | access-rights optional | Specifies SACL ACE's access rights. Possible values:<br>• "no_access" ,<br>• "full_control" ,<br>• "modify" ,<br>• "read_and_execute" ,<br>• "read" ,<br>• "write" |
| **rights-raw** | **[0..2^32-1]** | integer optional | Specifies SACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-ntfs-sacl-get-iter

[top]

Returns information about one or more system/audit access control entries

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | file-directory-security-ntfs-sacl optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | file-directory-security-ntfs-sacl optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the file-directory-security-ntfs-sacl object. All file-directory-security-ntfs-sacl objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | file-directory-security-ntfs-sacl[] optional | The list of attributes of file-directory-security-ntfs-sacl objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more file-directory-security-ntfs-sacl objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# file-directory-security-ntfs-sacl-modify

[top]

Modify an system/audit access control entry of a file security descriptor

| Input Name | Range | Type | Description |
|---|---|---|---|
| **account** | | name-or-sid | Specifies SACL ACE's SID or domain account name of NTFS security descriptor. |
| **advanced-rights** | | advanced-access-rights[] optional | Specifies SACL ACE's access rights. Mutually exclusive with rights-raw field. Possible values:<br>• "read_data" ,<br>• "write_data" ,<br>• "append_data" ,<br>• "read_ea" ,<br>• "write_ea" ,<br>• "execute_file" ,<br>• "delete_child" ,<br>• "read_attr" ,<br>• "write_attr" ,<br>• "delete" ,<br>• "read_perm" ,<br>• "write_perm" ,<br>• "write_owner" ,<br>• "full_control" |
| **apply-to** | | inheritance-level[] | Specifies how this ACE has to be applied on this folder and it's subfolders and files. This field is ignored if the security is mapped with a path which is not a folder. Possible values:<br>• "this_folder" , |

| | | | |
|---|---|---|---|
| | | optional | • "sub_folders" ,<br>• "files" |
| **audit-access-type** | | audit-access-type | Specifies SACL ACE's access type. Possible values:<br>• "failure" ,<br>• "success" |
| **ntfs-sd** | | file-security-ntfs-sd | Specifies NTFS security descriptor identifier. |
| **rights** | | access-rights optional | Specifies SACL ACE's access rights. Possible values:<br>• "no_access" ,<br>• "full_control" ,<br>• "modify" ,<br>• "read_and_execute" ,<br>• "read" ,<br>• "write" |
| **rights-raw** | **[0..2^32-1]** | integer optional | Specifies SACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-ntfs-sacl-remove

[top]

Remove an system/audit access control entry from NTFS security descriptor.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **account** | | name-or-sid | Specifies SACL ACE's SID or domain account name of NTFS security descriptor. |
| **audit-access-type** | | audit-access-type | Specifies SACL ACE's access type. Possible values:<br>• "failure" ,<br>• "success" |
| **ntfs-sd** | | file-security-ntfs-sd | Specifies NTFS security descriptor identifier. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-policy-create

[top]

Creates a new file/folder security policy configuration. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | file-security-policy-name | Specifies the name of the policy. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path. |
| **return-record** | | boolean optional | If set to true, returns the file-directory-security-policy on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | file-directory-security-policy optional | The file-directory-security-policy created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# file-directory-security-policy-delete

[top]

Deletes a file/folder security policy. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | file-security-policy-name | Specifies the name of the policy. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-policy-get-iter

[top]

Returns information about one or more security policies. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | file-directory-security-policy optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | file-directory-security-policy optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the file-directory-security-policy object. All file-directory-security-policy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | file-directory-security-policy[] optional | The list of attributes of file-directory-security-policy objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more file-directory-security-policy objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# file-directory-security-policy-task-add

[top]

Add a file security policy task. A task maps security descriptor with a file or folder.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-control** | | access-control optional | Specifies the access control of task to be applied. Its value can be file-directory or slag respectively. The slag value is not supported on FlexGroups. Default value will be file-directory. Possible values:<br>• "file_directory" ,<br>• "slag" |
| | | ntfs- | Specifies NTFS propagation mode. Possible values: |

| | | | |
|---|---|---|---|
| **ntfs-mode** | | propagation-mode optional | "propagate" ,<br>• "ignore" ,<br>• "replace" |
| **ntfs-sd** | | file-security-ntfs-sd[] optional | Specifies NTFS security descriptor identifier. |
| **path** | | string | Specifies the file or folder path of the task. In case of SLAG this path specify the volume or qtree mounted path. |
| **policy-name** | | file-security-policy-name | Specifies the name of the policy to which the task needs to be added. |
| **security-type** | | security-type optional | Specifies the type of security. Possible values:<br>• "ntfs" ,<br>• "nfsv4" |
| **task-index-number** | **[1..10000]** | integer optional | Specifies the target index/position of this task in the policy. If a policy has already 5 tasks and this is the 6th task you are adding and you want to add this task as 2nd task, you can specifiy the index 2. By default the task gets added as last task. If the index number exceeds the number of positions, it will go at the end. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-policy-task-get-iter

[top]

Returns information about one or more policy tasks. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | file-directory-security-policy-task optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | file-directory-security-policy-task optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the file-directory-security-policy-task object. All file-directory-security-policy-task objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| | | | |
|---|---|---|---|

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | file-directory-security-policy-task[] optional | The list of attributes of file-directory-security-policy-task objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more file-directory-security-policy-task objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# file-directory-security-policy-task-modify

[top]

Modify a file security policy task

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ntfs-mode** | | ntfs-propagation-mode optional | NTFS Propagation Mode Possible values:<br>• "propagate" ,<br>• "ignore" ,<br>• "replace" |
| **ntfs-sd** | | file-security-ntfs-sd[] optional | NTFS Security Descriptor Name |
| **path** | | string | Path |
| **policy-name** | | file-security-policy-name | Policy Name |
| **security-type** | | security-type optional | Security Type Possible values:<br>• "ntfs" ,<br>• "nfsv4" |
| **task-index-number** | **[1..10000]** | integer optional | Position |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-policy-task-remove

[top]

Remove a task from the policy of a vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Specifies the file or folder path of the task. |
| **policy-** | | file-security-policy- | Specifies the name of the policy from which the task has |

| | | | |
|---|---|---|---|
| **name** | | name | been removed. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-remove-slag

[top]

Removes SLAG from the specified volume or qtree path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Specifies the path of the volume or qtree from which slag to be removed. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-set

[top]

Apply security descriptors on files and directories defined in a policy to a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ignore-broken-symlinks** | | boolean optional | Skip Broken Symlinks |
| **ismodify** | | boolean optional | Modify SD op through REST |
| **policy-name** | | file-security-policy-name | Specifies the name of the policy whose security settings have to be applied. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **access-control**

[top]

file-directory|slag Possible values:

- "file_directory" ,
- "slag"

[none]

# Element definition: **access-rights**

[top]

no-access|full-control|modify|read-and-execute|read|write Possible values:

- "no_access" ,
- "full_control" ,
- "modify" ,
- "read_and_execute" ,
- "read" ,
- "write"

[none]

# Element definition: **access-type**

[top]

deny|allow Possible values:

- "deny" ,
- "allow"

[none]

# Element definition: **advanced-access-rights**

[top]

Advanced access right Possible values:

- "read_data" ,
- "write_data" ,
- "append_data" ,
- "read_ea" ,
- "write_ea" ,
- "execute_file" ,
- "delete_child" ,
- "read_attr" ,
- "write_attr" ,
- "delete" ,
- "read_perm" ,
- "write_perm" ,
- "write_owner" ,
- "full_control"

[none]

# Element definition: **audit-access-type**

[top]

failure|success Possible values:

- "failure" ,
- "success"

[none]

## Element definition: **cifs-share-name** [top]

The name of the CIFS share. The CIFS share name is a Unicode string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:|<>+=;,?

[none]

## Element definition: **file-directory-security-ntfs** [top]

NTFS security descriptor management When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **control-flags-raw** | **[0..2^32-1]** | integer optional | Specifies the security descriptor control flags in hexa decimal. The following are the bit fields of control flags.<br>1... .... .... .... = Self Relative<br>.0.. .... .... .... = RM Control Valid<br>..0. .... .... .... = SACL Protected<br>...0 .... .... .... = DACL Protected<br>.... 0... .... .... = SACL Inherited<br>.... .0.. .... .... = DACL Inherited<br>.... ..0. .... .... = SACL Inherit Required<br>.... ...0 .... .... = DACL Inherit Required<br>.... .... ..0. .... = SACL Defaulted<br>.... .... ...0 .... = SACL Present<br>.... .... .... 0... = DACL Defaulted<br>.... .... .... .1.. = DACL Present<br>.... .... .... ..0. = Group Defaulted<br>.... .... .... ...0 = Owner Defaulted<br><br>At present only the following flags are honored. Others are ignored.<br>..0. .... .... .... = SACL Protected<br>...0 .... .... .... = DACL Protected<br>.... .... ..0. .... = SACL Defaulted<br>.... .... .... 0... = DACL Defaulted<br>.... .... .... ..0. = Group Defaulted<br>.... .... .... ...0 = Owner Defaulted Attributes: optional-for-create, |

| | | | |
|---|---|---|---|
| | | | modifiable |
| **group** | | name-or-sid optional | Specifies group's SID or domain account name of NTFS security descriptor. Attributes: optional-for-create, modifiable |
| **ntfs-sd** | | file-security-ntfs-sd optional | Specifies NTFS security descriptor identifier. Attributes: key, required-for-create, non-modifiable |
| **owner** | | name-or-sid optional | Specifies owner's SID or domain account name of NTFS security descriptor. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **file-directory-security-ntfs-dacl**

[top]

fsecurity SACL configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **access-type** | | access-type optional | Specifies DACL ACE's access type. Attributes: key, required-for-create, non-modifiable Possible values:<br>• "deny" ,<br>• "allow" |
| **account** | | name-or-sid optional | Specifies DACL ACE's SID or domain account name of NTFS security descriptor. Attributes: key, required-for-create, non-modifiable |
| **advanced-rights** | | advanced-access-rights[] optional | Specifies DACL ACE's Advanced access rights. Mutually exclusive with rights and rights-raw fields. Attributes: optional-for-create, modifiable Possible values:<br>• "read_data" ,<br>• "write_data" ,<br>• "append_data" ,<br>• "read_ea" ,<br>• "write_ea" ,<br>• "execute_file" ,<br>• "delete_child" ,<br>• "read_attr" ,<br>• "write_attr" ,<br>• "delete" ,<br>• "read_perm" ,<br>• "write_perm" ,<br>• "write_owner" ,<br>• "full_control" |

| | | | |
|---|---|---|---|
| **apply-to** | | inheritance-level[] optional | Specifies this ACE has to be applied on. Attributes: optional-for-create, modifiable Possible values:<br>• "this_folder" ,<br>• "sub_folders" ,<br>• "files" |
| **ntfs-sd** | | file-security-ntfs-sd optional | Specifies NTFS security descriptor identifier. Attributes: key, required-for-create, non-modifiable |
| **readable-access-rights** | | string optional | Specifies the current access rights. The access rights must be set to one among rights,advanced-rights,rights-raw. Attributes: non-creatable, non-modifiable |
| **rights** | | access-rights optional | Specifies DACL ACE's access rights. Mutually exclusive with advanced-rights and rights-raw fields. Attributes: optional-for-create, modifiable Possible values:<br>• "no_access" ,<br>• "full_control" ,<br>• "modify" ,<br>• "read_and_execute" ,<br>• "read" ,<br>• "write" |
| **rights-raw** | **[0..2^32-1]** | integer optional | Specifies DACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **file-directory-security-ntfs-sacl**

[top]

fsecurity SACL configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **account** | | name-or-sid optional | Specifies SACL ACE's SID or domain account name of NTFS security descriptor. Attributes: key, required-for-create, non-modifiable |
| | | | Specifies SACL ACE's access rights. Mutually exclusive with rights-raw field. Attributes: optional-for-create, modifiable Possible values:<br>• "read_data" ,<br>• "write_data" , |

| | | | |
|---|---|---|---|
| **advanced-rights** | | advanced-access-rights[] optional | • "append_data" ,<br>• "read_ea" ,<br>• "write_ea" ,<br>• "execute_file" ,<br>• "delete_child" ,<br>• "read_attr" ,<br>• "write_attr" ,<br>• "delete" ,<br>• "read_perm" ,<br>• "write_perm" ,<br>• "write_owner" ,<br>• "full_control" |
| **apply-to** | | inheritance-level[] optional | Specifies how this ACE has to be applied on this folder and it's subfolders and files. This field is ignored if the security is mapped with a path which is not a folder. Attributes: optional-for-create, modifiable Possible values:<br>• "this_folder" ,<br>• "sub_folders" ,<br>• "files" |
| **audit-access-type** | | audit-access-type optional | Specifies SACL ACE's access type. Attributes: key, required-for-create, non-modifiable Possible values:<br>• "failure" ,<br>• "success" |
| **ntfs-sd** | | file-security-ntfs-sd optional | Specifies NTFS security descriptor identifier. Attributes: key, required-for-create, non-modifiable |
| **readable-access-rights** | | string optional | Specifies the current access rights. Access rights can be specified by one of the following fields, rights, advanced-rights and rights-raw. These fields are mutually exclusive fields. If rights field is set and other two fields (advanced-rights, rights-raw) cant be set and so readable-access-rights field has the value of rights field. If rights-raw field is set and other two fields (advanced-rights, rights) are not set then readable-access-rights field has the value of rights-raw field. If advanced-rights field is set and other two fields (rights, rights-raw) are not set then readable-access-rights field has the value of advanced-rights field. Attributes: non-creatable, non-modifiable |
| **rights** | | access-rights optional | Specifies SACL ACE's access rights. Attributes: optional-for-create, modifiable Possible values:<br>• "no_access" ,<br>• "full_control" ,<br>• "modify" ,<br>• "read_and_execute" ,<br>• "read" ,<br>• "write" |
| **rights-raw** | **[0..2^32-1]** | integer optional | Specifies SACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields. Attributes: optional-for-create, modifiable |
| **vserver** | | vserver-name | Vserver Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| | | optional | |

# Element definition: **file-directory-security-policy**

[top]

File/folder security policy management When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | file-security-policy-name optional | Specifies the name of the policy. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **file-directory-security-policy-task**

[top]

File security policy task management When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **access-control** | | access-control optional | Access Control Level Attributes: non-creatable, non-modifiable Possible values:<br>• "file_directory" ,<br>• "slag" |
| **ntfs-mode** | | ntfs-propagation-mode optional | NTFS Propagation Mode Attributes: non-creatable, non-modifiable Possible values:<br>• "propagate" ,<br>• "ignore" ,<br>• "replace" |

| | | | |
|---|---|---|---|
| **ntfs-sd** | | file-security-ntfs-sd[] optional | NTFS Security Descriptor Name Attributes: non-creatable, non-modifiable |
| **path** | | string optional | Path Attributes: key, non-creatable, non-modifiable |
| **policy-name** | | file-security-policy-name optional | Policy Name Attributes: key, non-creatable, non-modifiable |
| **security-type** | | security-type optional | Security Type Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "ntfs" ,<br>• "nfsv4" |
| **task-index-number** | **[1..10000]** | integer optional | Position Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **file-security-ntfs-sd**

[top]

NTFS file security descriptor identifier. This can be any valid text input.

[none]

# Element definition: **file-security-policy-name**

[top]

The file/folder security policy identifier. This can be any valid text.

[none]

# Element definition: **fsecurity-acl**

[top]

Security access control list.

[none]

# Element definition: **inheritance-level**

[top]

this-folder|sub-folders|files Possible values:

- "this_folder" ,
- "sub_folders" ,
- "files"

[none]

## Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

## Element definition: **name-or-sid** [top]

An user or group name that is specified in the form of valid username/groupname with domain or valid SID string

[none]

## Element definition: **ntfs-propagation-mode** [top]

propagate|ignore|replace Possible values:

- "propagate" ,
- "ignore" ,
- "replace"

[none]

## Element definition: **security-style-enum** [top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

## Element definition: **security-type** [top]

ntfs|nfsv4 Possible values:

- "ntfs" ,
- "nfsv4"

[none]

## Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

## Element definition: **access-control**

[top]

file-directory|slag Possible values:

- "file_directory" ,
- "slag"

[none]

## Element definition: **access-rights**

[top]

no-access|full-control|modify|read-and-execute|read|write Possible values:

- "no_access" ,
- "full_control" ,
- "modify" ,
- "read_and_execute" ,
- "read" ,
- "write"

[none]

## Element definition: **access-type**

[top]

deny|allow Possible values:

- "deny" ,
- "allow"

[none]

## Element definition: **advanced-access-rights**

[top]

Advanced access right Possible values:

- "read_data" ,
- "write_data" ,
- "append_data" ,
- "read_ea" ,
- "write_ea" ,
- "execute_file" ,
- "delete_child" ,
- "read_attr" ,
- "write_attr" ,
- "delete" ,
- "read_perm" ,
- "write_perm" ,
- "write_owner" ,
- "full_control"

[none]

## Element definition: **audit-access-type**

[top]

failure|success Possible values:

- "failure" ,
- "success"

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **fileservice-audit**


fileservice-audit-config-create
fileservice-audit-config-get
fileservice-audit-config-get-iter
fileservice-audit-config-get-total-records
fileservice-audit-config-modify
fileservice-audit-disable
fileservice-audit-enable
fileservice-audit-remove
fileservice-audit-repair
fileservice-audit-rotate-log


This set of ZAPIs help manage the File Service Audit settings for auditing file access over CIFS and NFS, CIFS logon, logoff and management events.

## fileservice-audit-config-create

[top]

Create audit configuration for a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination** | | string | Audit log destination path. The path where consolidated audit logs are stored. If the path is not valid, the api returns error |
| **events** | | audit-events[] optional | The Categories of events that will be audited. Default: file_ops,cifs_logon_logoff,audit-policy-change Possible values:<br>• "file_ops" - File Operation Events,<br>• "cifs_logon_logoff" - CIFS Logon and Logoff Events,<br>• "cap_staging" - Central Access Policy Staging Events,<br>• "file_share" - File Share Category Events,<br>• "audit_policy_change" - Audit Policy Change Events,<br>• "user_account" - Local User Account Management Events,<br>• "authorization_policy_change" - Authorization Policy Change Events,<br>• "security_group" - Local Security Group Management Events,<br>• "async_delete" - Volume File Async Delete Events |
| **format** | | audit-format optional | The format in which the logs would be generated by consolidation process. Default: evtx Possible values:<br>• "xml" - Data ONTAP-Specific XML Log Format,<br>• "evtx" - Microsoft Windows EVTX Log Format |
| **retention-duration** | | elapsed-time-ext optional | Audit log files retention duration. A value of 0d0h0m0s indicates that all the files will be retained. This parameter is mutually exclusive with rotate-limit. Do not use this parameter along with rotate-limit parameter. Default: 0s |

| | | | |
|---|---|---|---|
| **return-record** | | boolean optional | If set to true, returns the fileservice-audit-config on successful creation. Default: false |
| **rotate-limit** | **[0..2^32-1]** | integer optional | Audit log files rotation Limit. A value of 0 indicates that all the files will be retained. This parameter is mutually exclusive with retention-duration. Do not use this parameter along with retention-duration parameter. Default: 0 |
| **rotate-schedule-day** | | cron-day-of-month[] optional | Audit log rotation schedule: Day. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| **rotate-schedule-dayofweek** | | cron-day-of-week[] optional | Audit log rotation schedule: Day of Week. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| **rotate-schedule-hour** | | cron-hour[] optional | Audit log rotation schedule: Hour. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| **rotate-schedule-minute** | | cron-minute[] optional | Audit Log rotation schedule: Minute. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| **rotate-schedule-month** | | cron-month[] optional | Audit log rotation schedule: Month. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| **rotate-size** | | audit-rotate-size-or-dash optional | Audit log file size limit. By default rotation is done based on size. This parameter is mutually exclusive with time related rotate parameters. If time based rotation is needed use the time based rotation parameters(rotate-schedule-month, rotate-schedule-dayofweek, rotate-schedule-day... etc). Default: 100MB |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | fileservice-audit-config optional | The fileservice-audit-config created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fileservice-audit-config-get

[top]

Show Audit configuration details for a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fileservice-audit-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | fileservice-audit-config | The attributes of the fileservice-audit-config. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# fileservice-audit-config-get-iter

[top]

Show Audit configuration details for all Vservers

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | fileservice-audit-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | fileservice-audit-config optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fileservice-audit-config object. All fileservice-audit-config objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | fileservice-audit-config[] optional | The list of attributes of fileservice-audit-config objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more fileservice-audit-config objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# fileservice-audit-config-get-total-records

[top]

Return the total number of records

| Output Name | Range | Type | Description |
|---|---|---|---|
| count | [0..2^64-1] | integer | The total number of fileservice-audit-config objects. |

# fileservice-audit-config-modify

[top]

Modify audit configuration for a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **audit-guarantee** | | boolean optional | Strict guarantee of auditing for a Vserver. If this is true, file access is denied if audit record can not be generated and if this is false, auditing is done on a best effort basis. Default: true |
| **destination** | | string optional | Audit log destination path. The path where consolidated audit logs are stored. If the path is not valid, the api returns error |
| **events** | | audit-events[] optional | The Categories of events that will be audited. Default: file_ops,cifs_logon_logoff,audit-policy-change Possible values:<br>• "file_ops" - File Operation Events,<br>• "cifs_logon_logoff" - CIFS Logon and Logoff Events,<br>• "cap_staging" - Central Access Policy Staging Events,<br>• "file_share" - File Share Category Events,<br>• "audit_policy_change" - Audit Policy Change Events,<br>• "user_account" - Local User Account Management Events,<br>• "authorization_policy_change" - Authorization Policy Change Events,<br>• "security_group" - Local Security Group Management Events,<br>• "async_delete" - Volume File Async Delete Events |
| **format** | | audit-format optional | The format in which the logs would be generated by consolidation process. Default: evtx Possible values:<br>• "xml" - Data ONTAP-Specific XML Log Format,<br>• "evtx" - Microsoft Windows EVTX Log Format |
| **retention-duration** | | elapsed-time-ext optional | Audit log files retention duration. A value of 0d0h0m0s indicates that all the files will be retained. This parameter is mutually exclusive with rotate-limit. Do not use this parameter along with rotate-limit parameter. Default: 0s |
| **rotate-limit** | **[0..2^32-1]** | integer optional | Audit log files rotation Limit. A value of 0 indicates that all the files will be retained. This parameter is mutually exclusive with retention-duration. Do not use this parameter along with retention-duration parameter. Default: 0 |
| **rotate-schedule-day** | | cron-day-of-month[] optional | Audit log rotation schedule: Day. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| **rotate-schedule-dayofweek** | | cron-day-of-week[] optional | Audit log rotation schedule: Day of Week. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| **rotate-schedule-hour** | | cron-hour[] optional | Audit log rotation schedule: Hour. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| **rotate-schedule-minute** | | cron-minute[] optional | Audit Log rotation schedule: Minute. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| **rotate-schedule-month** | | cron-month[] optional | Audit log rotation schedule: Month. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| | | audit-rotate- | Audit log file size limit. By default rotation is done based on size. This parameter is mutually exclusive with time related rotate parameters. |

| | | | |
|---|---|---|---|
| **rotate-size** | | size-or-dash optional | If time based rotation is needed use the time based rotation parameters(rotate-schedule-month, rotate-schedule-dayofweek, rotate-schedule-day... etc). Default: 100MB |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# fileservice-audit-disable

[top]

Disable Auditing for specified Vserver

| Errno | Description |
|---|---|
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# fileservice-audit-enable

[top]

Enable Auditing for specified Vserver.

Events on FlexGroup volumes will not be emitted to the audit log.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force Enable |

| Errno | Description |
|---|---|
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **ENOSTAGINGVOLUME** | |

# fileservice-audit-remove

[top]

Disable Audit Configuration for specified vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force Delete |

| Errno | Description |
|---|---|
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# fileservice-audit-repair

[top]

Repair the audit infrastructure

| Errno | Description |
|---|---|
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# fileservice-audit-rotate-log

[top]

Rotate audit log for specified vserver

| Errno | Description |
|---|---|
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **audit-events**

[top]

file-ops|cifs-logon-logoff|cap-staging|file-share|audit-policy-change|user-account|authorization-policy-change|security-group|async-delete Possible values:

- "file_ops" - File Operation Events,
- "cifs_logon_logoff" - CIFS Logon and Logoff Events,
- "cap_staging" - Central Access Policy Staging Events,
- "file_share" - File Share Category Events,
- "audit_policy_change" - Audit Policy Change Events,
- "user_account" - Local User Account Management Events,
- "authorization_policy_change" - Authorization Policy Change Events,
- "security_group" - Local Security Group Management Events,
- "async_delete" - Volume File Async Delete Events

[none]

# Element definition: **audit-format**

[top]

xml|evtx Possible values:

- "xml" - Data ONTAP-Specific XML Log Format,
- "evtx" - Microsoft Windows EVTX Log Format

[none]

## Element definition: **audit-rotate-size-or-dash** [top]

[none]

## Element definition: **cron-day-of-month** [top]

Job Manager cron scheduling day of month. -1 represents all days of a month from 1 to 31, and only supported for cron schedule create and modify. Range : [-1..31].

[none]

## Element definition: **cron-day-of-week** [top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

## Element definition: **cron-hour** [top]

Job Manager cron scheduling hour. -1 represents all hours and only supported for cron schedule create and modify. Range : [-1..23].

[none]

## Element definition: **cron-minute** [top]

Job Manager cron scheduling minute. -1 represents all minutes and only supported for cron schedule create and modify. Range : [-1..59].

[none]

## Element definition: **cron-month** [top]

Job Manager cron scheduling month. -1 represents all months and only supported for cron schedule create and modify. Range : [-1..11].

[none]

# Element definition: **elapsed-time-ext**

[top]

The difference between the two points in time.

[none]

# Element definition: **fileservice-audit-config**

[top]

Vserver Audit configuration and management on name When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **audit-guarantee** | | boolean optional | Strict guarantee of auditing for a Vserver. If this is true, file access is denied if audit record can not be generated and if this is false, auditing is done on a best effort basis. Default: true Attributes: non-creatable, modifiable |
| **destination** | | string optional | Audit log destination path. The path where consolidated audit logs are stored. If the path is not valid, the api returns error Attributes: required-for-create, modifiable |
| **events** | | audit-events[] optional | The Categories of events that will be audited. Default: file_ops,cifs_logon_logoff,audit-policy-change Attributes: optional-for-create, modifiable Possible values:<br>• "file_ops" - File Operation Events,<br>• "cifs_logon_logoff" - CIFS Logon and Logoff Events,<br>• "cap_staging" - Central Access Policy Staging Events,<br>• "file_share" - File Share Category Events,<br>• "audit_policy_change" - Audit Policy Change Events,<br>• "user_account" - Local User Account Management Events,<br>• "authorization_policy_change" - Authorization Policy Change Events,<br>• "security_group" - Local Security Group Management Events,<br>• "async_delete" - Volume File Async Delete Events |
| **format** | | audit-format optional | The format in which the logs would be generated by consolidation process. Default: evtx Attributes: optional-for-create, modifiable Possible values:<br>• "xml" - Data ONTAP-Specific XML Log Format,<br>• "evtx" - Microsoft Windows EVTX Log Format |

| | | | |
|---|---|---|---|
| **is-enabled** | | boolean optional | Auditing State. Default: false Attributes: non-creatable, non-modifiable |
| **retention-duration** | | elapsed-time-ext optional | Audit log files retention duration. A value of 0d0h0m0s indicates that all the files will be retained. This parameter is mutually exclusive with rotate-limit. Do not use this parameter along with rotate-limit parameter. Default: 0s Attributes: optional-for-create, modifiable |
| **rotate-limit** | **[0..2^32-1]** | integer optional | Audit log files rotation Limit. A value of 0 indicates that all the files will be retained. This parameter is mutually exclusive with retention-duration. Do not use this parameter along with retention-duration parameter. Default: 0 Attributes: optional-for-create, modifiable |
| **rotate-schedule-day** | | cron-day-of-month[] optional | Audit log rotation schedule: Day. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable |
| **rotate-schedule-dayofweek** | | cron-day-of-week[] optional | Audit log rotation schedule: Day of Week. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable |
| **rotate-schedule-hour** | | cron-hour[] optional | Audit log rotation schedule: Hour. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable |
| **rotate-schedule-minute** | | cron-minute[] optional | Audit Log rotation schedule: Minute. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable |
| **rotate-schedule-month** | | cron-month[] optional | Audit log rotation schedule: Month. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable |
| **rotate-size** | | audit-rotate-size-or-dash optional | Audit log file size limit. By default rotation is done based on size. This parameter is mutually exclusive with time related rotate parameters. If time based rotation is needed use the time based rotation parameters(rotate-schedule-month, rotate-schedule-dayofweek, rotate-schedule-day... etc). Default: 100MB Attributes: optional-for-create, modifiable |
| **rotation-schedule-description** | | string optional | Rotation schedules derived from rotation time related parameters Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **audit-events**

[top]

file-ops|cifs-logon-logoff|cap-staging|file-share|audit-policy-change|user-account|authorization-policy-change|security-group|async-delete Possible values:

- "file_ops" - File Operation Events,
- "cifs_logon_logoff" - CIFS Logon and Logoff Events,
- "cap_staging" - Central Access Policy Staging Events,
- "file_share" - File Share Category Events,
- "audit_policy_change" - Audit Policy Change Events,
- "user_account" - Local User Account Management Events,

"authorization_policy_change" - Authorization Policy Change Events,
- "security_group" - Local Security Group Management Events,
- "async_delete" - Volume File Async Delete Events

[none]

## Element definition: **audit-format** [top]

xml|evtx Possible values:

- "xml" - Data ONTAP-Specific XML Log Format,
- "evtx" - Microsoft Windows EVTX Log Format

[none]

## Element definition: **audit-rotate-size-or-dash** [top]

[none]

## Element definition: **cron-day-of-month** [top]

Job Manager cron scheduling day of month. -1 represents all days of a month from 1 to 31, and only supported for cron schedule create and modify. Range : [-1..31].

[none]

## Element definition: **cron-day-of-week** [top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

## Element definition: **cron-hour** [top]

Job Manager cron scheduling hour. -1 represents all hours and only supported for cron schedule create and modify. Range : [-1..23].

[none]

## Element definition: **cron-minute**

[top]

Job Manager cron scheduling minute. -1 represents all minutes and only supported for cron schedule create and modify. Range : [-1..59].

[none]

## Element definition: **cron-month**

[top]

Job Manager cron scheduling month. -1 represents all months and only supported for cron schedule create and modify. Range : [-1..11].

[none]

## Element definition: **elapsed-time-ext**

[top]

The difference between the two points in time.

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **flash**


flash-get-thresholds
flash-thresholds-get-iter


The Flash Management Module (FMM) is the management interface to access information about flash devices in the system.

## flash-get-thresholds

[top]

Get threshold profiles available in Flash Management Module.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | The name of the system to which the flash thresholds apply. |
| **profile** | | string optional | Name of the threshold profile. If not provided, all available profiles will be printed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **flash-threshold-profile** | | flash-threshold-profile[] optional | A collection of failure threshold entries. |

## flash-thresholds-get-iter

[top]

Iterate over a list of Flash Cache threshold profiles objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | flash-threshold-profile optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | flash-threshold-profile optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Flash Cache threshold profiles object. All Flash Cache threshold profiles objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | flash-threshold-profile[] optional | The list of attributes of Flash Cache threshold profiles objects. |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Flash Cache threshold profiles objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **flash-threshold-profile**

[top]

A definition for a threshold element

| Name | Range | Type | Description |
|---|---|---|---|
| **flash-threshold** | | flash-threshold[] | The list of threshold entries for this profile. |
| **node** | | string | The name of the system to which the flash thresholds apply. |
| **profile** | | string | The name of the profile in plain text. |

# Element definition: **flash-threshold**

[top]

A definition for a threshold element. Each threshold specifies what level of errors or failures the specified domain can sustain before the specified action is taken.

| Name | Range | Type | Description |
|---|---|---|---|
| **action** | | string | Action to be taken if this threshold is exceeded. Possible values: "log an EMS event", "log an EMS_event, and disable the 'domain'", "log an EMS event, and send an AutoSupport message", "log an EMS event, send an AutoSupport message, and disable the 'domain'" |
| **domain** | | string | The type of domain. Possible values: "card", "bank", "chip" (in Data ONTAP 7.3.x to 8.1) or "lun" (from Data ONTAP 8.2 onwards). |
| **threshold-units** | | string | The metric for threshold. Possible values: "count", or "percentage". |
| **threshold-value** | **[0..2^31-1]** | integer | Threshold value in 'threshold-units'. |
| **time-slice** | | string | The time slice. Available if the 'threshold-unit' is "count". If not, output will say 'none'. Possible values: "none", "seconds", "minutes", or "hours". |

# APIs in Category: **flash-device**


flash-device-get-iter
flash-device-list-info


Flash Cache is the caching device. This interface is used to access information about Flash Cache devices in the system.

## flash-device-get-iter

[top]

Iterate over a list of Flash Cache device info objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | flash-device-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | flash-device-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Flash Cache device info object. All Flash Cache device info objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | flash-device-info[] optional | The list of attributes of Flash Cache device info objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Flash Cache device info objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## flash-device-list-info

[top]

Get a collection of Flash Cache device info objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node |
| **slot-number** | | integer | Slot |

| | | | |
|---|---|---|---|
| | | optional | |
| **subslot-number** | | integer optional | Subslot |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **flash-device-info** | | flash-device-info[] optional | Information about Flash Cache devices |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **flash-device-info**

[top]

Information about Flash Cache devices When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **average-erase-cycle-count** | **[0..2^64-1]** | integer optional | Avg Erase Cycle Count Attributes: non-creatable, non-modifiable |
| **capacity** | **[0..2^32-1]** | integer optional | Capacity Attributes: non-creatable, non-modifiable |
| **device-id** | **[0..2^32-1]** | integer optional | Device ID Attributes: key, non-creatable, non-modifiable |
| **firmware-file** | | string optional | Firmware Filename Attributes: non-creatable, non-modifiable |
| **firmware-revision** | | string optional | Firmware Version Attributes: non-creatable, non-modifiable |
| **hardware-revision** | | string optional | Hardware Revision Attributes: non-creatable, non-modifiable |
| **last-change-time** | **[0..2^32-1]** | integer optional | Time Last State Change Attributes: non-creatable, non-modifiable |
| **model-name** | | string optional | Model Number Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **part-number** | | string optional | Part Number Attributes: non-creatable, non-modifiable |
| **percent-online** | **[0..2^32-1]** | integer optional | Percent Online Attributes: non-creatable, non-modifiable |
| **serial-number** | | string optional | Serial Number Attributes: non-creatable, non-modifiable |
| **service-time** | **[0..2^64-** | integer | Service Time Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| | **1]** | optional | |
| **slot-number** | **[0..2^32-1]** | integer optional | Slot Attributes: key, non-creatable, non-modifiable |
| **slot-string** | | string optional | Slot String Attributes: non-creatable, non-modifiable |
| **status** | | fc-dev-status optional | Device State Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "ok" ,<br>• "erasing" ,<br>• "erased" ,<br>• "failed" ,<br>• "removed" ,<br>• "online" ,<br>• "offline_failed" ,<br>• "degraded" ,<br>• "offline_threshold" |
| **subslot-number** | **[0..2^32-1]** | integer optional | Subslot Attributes: key, non-creatable, non-modifiable |
| **threshold-profile** | | string optional | Threshold Profile Attributes: non-creatable, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **fc-dev-status**

[top]

ok|erasing|erased|failed|removed|online|offline_failed|degraded|offline_threshold Possible values:

- "ok" ,
- "erasing" ,
- "erased" ,
- "failed" ,
- "removed" ,
- "online" ,
- "offline_failed" ,
- "degraded" ,
- "offline_threshold"

[none]

# APIs in Category: **flexcache**


flexcache-connected-cache-get-iter
flexcache-create-async
flexcache-default-size-get
flexcache-destroy-async
flexcache-get-iter
flexcache-origin-cleanup-cache-relationship
flexcache-origin-config-get-iter
flexcache-origin-config-modify
flexcache-usage-get


This set of APIs allow configuring and managing FlexCache on Data ONTAP Cluster-Mode environment.

## flexcache-connected-cache-get-iter

[top]

Retrieve connected cache information. This must be run at the origin cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | flexcache-origin-connected-cache-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | flexcache-origin-connected-cache-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the flexcache-origin object. All flexcache-origin objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | flexcache-origin-connected-cache-info[] optional | The list of attributes of flexcache-origin objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more flexcache-origin objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EVSERVERNOTFOUND | |
| EINTERNALERROR | |

# flexcache-create-async

[top]

Create a cache relationship. This must be run at the cache cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| aggr-list | | aggr-name[] optional | The array of aggregates which are used for FlexGroup constituents. Each aggregate in the array will host at least one FlexGroup constituent. |
| aggr-list-multiplier | | integer optional | Aggregate list repeat count |
| auto-provision-as | | autoprovisionvolumetype optional | Automatically provision as volume of type |
| is-disconnected-mode-off-for-locks | | boolean optional | Specifies if the origin will honor the cache side locks when doing the lock checks in the disconnected mode. The default value will be set to false to allow origin to skip such lock checks with the disconnected cache and go ahead with processing of the conflicting locks. If set to true the origin denies the lock operation (open or byte-range) if it conflicts with the authority granted to the disconnected cache. |
| is-global-file-locking-enabled | | boolean optional | Global file locking mode |
| is-writeback-enabled | | boolean optional | Writeback for FlexCache |
| junction-path | | junction-path optional | Junction path of the cache volume |
| origin-volume | | volume-name | The name of the origin volume for the cache volume. |
| origin-vserver | | xc-vs-name optional | The name of origin Vserver where the origin volume resides |
| per-inode-dirty-limit | | integer optional | Flexcache Per Inode Dirty Limit |
| size | | size optional | Size of cache volume |
| space-guarantee | | space-guarantee-enum optional | Flexcache volume space guarantee type |
| use-tiered-aggregate | | boolean optional | Flexcache volume uses fabricpool aggregate |
| volume | | volume-name | The name of the cache volume. |
| writeback-scrub-watermark | | integer optional | Flexcache Writeback Scrub Watermark |
| writeback-transfer-limit | | integer optional | Flexcache Writeback Transfer Limit |

| Output Name | Range | Type | Description |
|---|---|---|---|
| result-error-code | [0..2^32-1] | integer optional | Error code, if the operation caused an error. |
| result-error-message | | string optional | Error description, if the operation caused an error. |
| result-jobid | [0..2^64-1] | integer optional | The ID of the job that was spawned to create this flexcache. |
| result-status | | string optional | The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| ESERVICENOTLICENSED | |
| EVSERVERNOTFOUND | |
| EVOLUMENAMEINVALID | |
| EINVALIDINPUTERROR | |
| EVSERVER_OP_NOT_ALLOWED | |
| EOBJECTNOTFOUND | |
| EVOLALREADYMOUNTED | |
| EINSUFFICIENTAGGREGATES | |
| E_OLV_FLEXGROUP_PROVISIONING_AGGR_NOT_ENOUGH_FREE_SPACE | |
| E_OLV_CANT_CALCULATE_MAX_CONSTITUENT_SIZE | |
| E_OLV_CONSTITUENT_SIZE_TOO_BIG | |
| E_OLV_CONSTITUENT_SIZE_TOO_SMALL | |
| E_OLV_AGGR_OFFLINE | |
| EOP_DISALLOWED_ON_SNAPLOCK_AGGR | |
| EOP_DISALLOWED_ON_UNKNOWN_STATE_AGGR | |
| E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE | |
| E_OLV_FG_MCC_UNSUPPORTED | |
| E_OLV_FG_TOO_MANY_CONSTITUENTS | |
| E_OLV_OPERATIONS_CONFLICT | |
| E_OLV_FG_MAX_CONSTITUENT_SIZE_TOO_SMALL | |
| E_OLV_FLEXGROUP_CREATE_SIZE_UNDER_MINIMUM | |
| E_OLV_FLEXGROUP_CREATE_SIZE_OVER_MAXIMUM | |
| EVOLEXISTS | |

# flexcache-default-size-get

[top]

Get recommended FlexCache size

| Input Name | Range | Type | Description |
|---|---|---|---|
| origin-size | [0..2^64-1] | integer | Origin Size |

| Output Name | Range | Type | Description |
|---|---|---|---|
| flexcache-size | [0..2^64-1] | integer | FlexCache Size |

| | | optional | |
|---|---|---|---|

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# flexcache-destroy-async

[top]

Delete a cache relationship. This must be run at the cache cluster. A job will be spawned to operate on the flexcache and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| volume | | volume-name | The name of the cache volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| result-error-code | [0..2^32-1] | integer optional | Error code, if the operation caused an error. |
| result-error-message | | string optional | Error description, if the operation caused an error. |
| result-jobid | [0..2^64-1] | integer optional | Job Id, if this operation was performed via a job. |
| result-status | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# flexcache-get-iter

[top]

Get a set of cache relationships. This must be run at the cache cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | flexcache-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | flexcache-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the flexcache object. All flexcache objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | flexcache-info[] optional | The list of attributes of flexcache objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more flexcache objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# flexcache-origin-cleanup-cache-relationship

[top]

Cleanup cache relationship. This must be run at the origin cluster.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **FEATURE/COMMAND_NOT_SUPPORTED** | |

# flexcache-origin-config-get-iter

[top]

Get FlexCache origin configuration for all origin volume. This must be run at the origin cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | flexcache-origin-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | flexcache-origin-config optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the flexcache-origin-config object. All flexcache-origin-config objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | flexcache-origin-config[] optional | The list of attributes of flexcache-origin-config objects. |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more flexcache-origin-config objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# flexcache-origin-config-modify

[top]

Modify the FlexCache origin configuration. This must be run at the origin cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-bli-enabled** | | boolean optional | Is BLI Enabled. |
| **is-global-file-locking-enabled** | | boolean optional | Is Global File Locking Enabled. |
| **origin-volume** | | volume-name | Name of the origin volume. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# flexcache-usage-get

[top]

Get the capacity used by FlexCache

| Output Name | Range | Type | Description |
|---|---|---|---|
| **used-size** | **[0..2^64-1]** | integer optional | Total FlexCache Size |
| **used-size-pct** | **[0..2^64-1]** | integer optional | Percentage of Licensed Capacity Used |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **autoprovisionvolumetype** [top]

FlexGroup Possible values:

- "flexgroup"

[none]

# Element definition: **flexcache-info** [top]

Information about the cache relationship When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] optional | The array of aggregates which are used for FlexGroup constituents. Each aggregate in the array will host at least one FlexGroup constituent. Attributes: optional-for-create, non-modifiable |
| **create-time** | | date optional | FlexCache Volume Create Time Attributes: non-creatable, non-modifiable |
| **flexgroup-msid** | **[0..2^64-1]** | integer optional | Cache volume's FlexGroup MSID Attributes: non-creatable, non-modifiable |
| **junction-path** | | junction-path optional | Junction path of the cache volume Attributes: optional-for-create, non-modifiable |
| **origin-cluster** | | cluster-name optional | The name of the origin cluster, where the origin Vserver and origin volume reside Attributes: non-creatable, non-modifiable |
| **origin-volume** | | volume-name optional | The name of the origin volume for the cache volume. Attributes: required-for-create, non-modifiable |
| **origin-volume-msid** | **[0..2^64-1]** | integer optional | Origin volume's MSID Attributes: non-creatable, non-modifiable |
| **origin-vserver** | | xc-vs-name optional | The name of origin Vserver where the origin volume resides Attributes: optional-for-create, non-modifiable |
| **origin-vserver-uuid** | | uuid optional | Origin Vserver UUID Attributes: non-creatable, non-modifiable |
| **size** | | size optional | Size of cache volume Attributes: optional-for-create, non-modifiable |
| | | space- | Flexcache volume space guarantee type Attributes: optional-for-create, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **space-guarantee** | | guarantee-enum optional | • "none" ,<br>• "volume" |
| **volume** | | volume-name optional | The name of the cache volume. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | The name of the Vserver which owns the volume. Attributes: key, non-creatable, non-modifiable |

# Element definition: **flexcache-origin-config**

[top]

FlexCache Origin Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-bli-enabled** | | boolean optional | Is BLI Enabled. Attributes: non-creatable, modifiable |
| **is-global-file-locking-enabled** | | boolean optional | Is Global File Locking Enabled. Attributes: non-creatable, modifiable |
| **origin-volume** | | volume-name optional | Name of the origin volume. Attributes: key, non-creatable, non-modifiable |
| **origin-vserver** | | vserver-name optional | Name of the origin Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **flexcache-origin-connected-cache-info**

[top]

Information of caches connected to the origin When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cache-** | | cluster-name | Name of the cache cluster. Attributes: non-creatable, non- |

| | | | |
|---|---|---|---|
| **cluster** | | optional | modifiable |
| **cache-volume** | | volume-name optional | Name of the cache volume. Attributes: key, non-creatable, non-modifiable |
| **cache-vserver** | | xc-vs-name optional | Name of the cache Vserver. Attributes: key, non-creatable, non-modifiable |
| **origin-volume** | | volume-name optional | Name of the origin volume. Attributes: key, non-creatable, non-modifiable |
| **origin-vserver** | | vserver-name optional | Name of the origin Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **junction-path**

[top]

The Junction Path.

The fully-qualified pathname in the owning Vserver's namespace at which a volume is mounted. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'.

An example of a valid FlexVol or FlexGroup junction path is: '/user/my_volume'. An example of a valid Infinite Volume junction path is: '/repository'.

Only one volume can be mounted at any given junction path.

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **space-guarantee-enum**

[top]

none|volume Possible values:

- "none" ,
- "volume"

[none]

[top]

# Element definition: **volume-name**

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **xc-vs-name**

[top]

Cross Cluster Vserver Name

[none]

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

# Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **fpolicy**


fpolicy-create-policy
fpolicy-destroy-policy
fpolicy-disable
fpolicy-disable-policy
fpolicy-enable
fpolicy-enable-policy
fpolicy-extensions
fpolicy-extensions-list-info
fpolicy-get-policy-options
fpolicy-get-required-info
fpolicy-get-secondary-servers-info
fpolicy-list-info
fpolicy-operations-list-set
fpolicy-passthrough-read-connection-get-iter
fpolicy-policy-create
fpolicy-policy-delete
fpolicy-policy-event-create
fpolicy-policy-event-delete
fpolicy-policy-event-get-iter
fpolicy-policy-event-modify
fpolicy-policy-external-engine-create
fpolicy-policy-external-engine-delete
fpolicy-policy-external-engine-get-iter
fpolicy-policy-external-engine-modify
fpolicy-policy-get-iter
fpolicy-policy-modify
fpolicy-policy-scope-create
fpolicy-policy-scope-delete
fpolicy-policy-scope-get-iter
fpolicy-policy-scope-modify
fpolicy-policy-status-get-iter
fpolicy-server-connect
fpolicy-server-disconnect
fpolicy-server-list-info
fpolicy-server-status-get-


This set of APIs enables programmatic control of policy life cycle including: creation, enablement, configuration, monitoring, and deletion. Also, it includes commands for server monitoring and control, as well as notification filtering based on file extension. FPolicy APIs provided for Data ONTAP Clustered-Mode environment enables in creating/modifying/deleting/retrieving following FPolicy entities:

1. Event: This collectively specifies the protocols, fileops, for which notification is generated.

2. Scope: This specifies the scope on which FPolicy will be working on. A scope can be on a volume, share, or a export policy. Scope also contains the file extensions.

3. External-Engine: This specifies the attributes required for a notification to be sent to external FPolicy servers.

4. Policy: Once an event and external engine is created, it can be attached to a policy. A scope has to be defined for a policy before it is enabled to run.

iter
fpolicy-server-stop
fpolicy-set-policy-options
fpolicy-set-required
fpolicy-set-secondary-servers
fpolicy-status
fpolicy-volume-list-info
fpolicy-volume-list-set

# fpolicy-create-policy

[top]

Creates a new policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | Name of the policy. |
| **policy-type** | | string | Type of the policy. Possible values: "screen". |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-destroy-policy

[top]

Destroys existing policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | Name of the policy. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-disable

[top]

Sets options fpolicy enable to off.

| Errno | Description |
| --- | --- |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

# fpolicy-disable-policy

[top]

Disables a specific named policy.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| policy-name | | string | Name of the policy. |

| Errno | Description |
| --- | --- |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |
| EVSERVERNOTFOUND | |
| ELOWMEMORY | |
| EPOLICYNOTFOUND | |

| Vfiler-enabled |
| --- |
| Yes |

# fpolicy-enable

[top]

Sets options fpolicy enable to on. Events on FlexGroup volumes will not notify the FPolicy server

| Errno | Description |
| --- | --- |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

# fpolicy-enable-policy

[top]

Enables a specific named policy. The operation will fail if the policy doesn't exist.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| policy-name | | string | Name of the policy. |

| | | | |
|---|---|---|---|
| **sequence-number** | | integer | Policy Sequence Number |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ELOWMEMORY** | |
| **EPOLICYNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-extensions

[top]

Manipulates with list of extensions in exclude or include set. Exlude set defines extension patterns that won't trigger fpolicy processing.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **command** | | string | Command to be applied on the specified set. Supported values: "add", "remove", "set", "reset". |
| **extensions** | | extension-list-info[] optional | List of extensions. This element is required if the the command input value is "add", "set" or "remove". |
| **policy-name** | | string | Name of the policy. |
| **set-name** | | string | Defines to which set (exclude or include) a command (add, remove, etc) will be applied to. For instance, command = add, set-name = include will add specified list of extensions to the include set. Possible values: "exclude", "include". |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-extensions-list-info

[top]

Returns information on existing extension sets.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | Name of the policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **exclude-extensions** | | extension-list-info[] | List of file extensions that are excluded from the file policy. |
| **include-extensions** | | extension-list-info[] | List of file extensions that are included in the file policy. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-get-policy-options

[top]

Shows value of policy options.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | Name of the policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-ads-monitored** | | boolean optional | Indicator if the policy monitors the cifs operations on Alternate Data Streams. |
| **is-cifs-disconnect-check-enabled** | | boolean | 'true' if requests associated with disconnected CIFS sessions must not be screened, 'false' otherwise. |
| **is-cifs-setattr-enabled** | | boolean | Indicator whether cifs-setattr support is enabled on this policy or not. If set to true, cifs setattr operations will be screened. |
| **is-required** | | boolean | Indicator if the screening with this policy is required, i.e. will it fail if the server is not registered. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. |
| **reqcancel-timeout** | | integer | Timeout (in secs) for a screen request to be processed by an FPolicy server. Range : [0..4294967]. |
| **secondary-servers** | | secondary-server-info[] | List of server's IP addresses. Servers registered from these IP will be considered as secondary servers. |
| **serverprogress-timeout** | | integer | Timeout (in secs) in which a throttled FPolicy server must complete at least one screen request. Range : [0..4294967]. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-get-required-info

[top]

Shows current options for the policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | Name of the policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-required** | | boolean | Indicator if the policy is required, i.e. will it fail if the server is not responding. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-get-secondary-servers-info

[top]

Shows current options for the policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | Name of the policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **secondary-servers** | | secondary-server-info[] | List of servers' IP addresses. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-list-info

[top]

Returns a list of existing policies.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string optional | Name of the policy. If this parameter is set, policies will have information pertaining to the policy named. If there is no such a policy, policies will be empty. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **policies** | | policy-info[] | List of policies. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-operations-list-set

[top]

Manipulate a list of operations and network protocols for a policy. This determines which user requests cause the filer to notify fpolicy servers for this policy. The list provided will replace the list currently in place, if any. Note that this can be confusing to a server which has already connected to a policy and provided a list of operations. For example, it may have requested notifications when users open files, but start receiving notifications when users create symlinks. This API is provided in support of "native file blocking" in which there is no server connected to the filer for a policy. Note that it is possible to get the list of operations and protocols currently set for a policy with the fpolicy-list-info API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | If a server is connected to the filer and has already set the list of operations, should this API override the server's setting? If "force" is "true", the policy's set of operations will be dropped and replaced with the values provided by this API. Default value is false. |
| **monitored-operations** | | monitored-operation-info[] | List of operations related values. |
| **monitored-protocols** | | monitored-protocol-info[] | List of protocol related values. |
| **offline-only** | | boolean optional | Sets the state of offline filtering. If offline filtering is set, then only user requests for files which are marked "offline" cause notifications. Default value is false. |
| **policy-name** | | string | Name of the policy. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-passthrough-read-connection-get-iter

[top]

Returns passthrough-read connection status information.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **desired-attributes** | | fpolicy-passthrough-read-connection-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fpolicy-passthrough-read-connection-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-passthrough-read-connection object. All fpolicy-passthrough-read-connection objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fpolicy-passthrough-read-connection-info[] optional | The list of attributes of fpolicy-passthrough-read-connection objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more fpolicy-passthrough-read-connection objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ESERVERNOTFOUND** | |
| **ENODENOTFOUND** | |
| **EPOLICYNOTFOUND** | |

# fpolicy-policy-create

[top]

Create a policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allow-privileged-access** | | boolean optional | Indicator if privileged access should be given to FPolicy servers registered for the policy. Default Value is no. |
| **engine-name** | | engine-name | Name of the Engine. Default Engine is 'native'. |
| **events** | | event-name[] | Events for file access monitoring. |
| | | | Indicator if the screening with this policy is required, i.e. it will fail if no |

| | | | |
|---|---|---|---|
| **is-mandatory** | | boolean optional | servers are able process the notification registered as a part of external engine. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. Default value is true. |
| **is-passthrough-read-enabled** | | boolean optional | Indicator if passthrough-read should be allowed to FPolicy servers registered for the policy. Default value is false. |
| **policy-name** | | policy-name | Name of the policy. |
| **privileged-user-name** | | string optional | User name for privileged access. No default value is set for this attribute. |
| **return-record** | | boolean optional | If set to true, returns the fpolicy-policy on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | fpolicy-policy-info optional | The fpolicy-policy created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EPOLICYEXISTS** | |
| **EEVENTNOTFOUND** | |
| **EENGINENOTFOUND** | |
| **E_PASSTHRU_READ_ENABLE_IN_POLICY** | |
| **E_PASSTHRU_READ_CAPABILITY_NOT_ENABLED** | |

# fpolicy-policy-delete

[top]

Delete a policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | policy-name | Name of the policy. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EPOLICYNOTFOUND** | |

# fpolicy-policy-event-create

[top]

Create FPolicy Event.

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **event-name** | | event-name | Name of the Event. |
| **file-operations** | | fpolicy-operation[] optional | Name of file operations. By default no operations are monitored. Possible values:<br>• "close" - File close operation,<br>• "create" - File create operation,<br>• "create_dir" - File create directory operation,<br>• "delete" - File delete operation,<br>• "delete_dir" - Directory delete operation,<br>• "getattr" - Get attribute operation,<br>• "link" - Link operation,<br>• "lookup" - Lookup operation,<br>• "open" - File open operation,<br>• "read" - File read operation,<br>• "write" - File write operation,<br>• "rename" - File rename operation,<br>• "rename_dir" - Directory rename operation,<br>• "setattr" - Set attribute operation,<br>• "symlink" - Symbolic link operation |
| **filter-string** | | fpolicy-filter[] optional | Name of filters. It is notification filtering parameters. By default no filters are selected. Possible values:<br>• "monitor_ads" - Monitor alternate data stream,<br>• "close_with_modification" - Filter close with modification,<br>• "close_without_modification" - Filter close without modification,<br>• "first_read" - Filter first read,<br>• "first_write" - Filter first write,<br>• "offline_bit" - Filter offline bit set,<br>• "open_with_delete_intent" - Filter open with delete intent,<br>• "open_with_write_intent" - Filter open with write intent,<br>• "write_with_size_change" - Filter write with size change,<br>• "close_with_read" - Filter close with read,<br>• "setattr_with_owner_change" - Filter file owner change,<br>• "setattr_with_group_change" - Filter file group change,<br>• "setattr_with_sacl_change" - Filter file sacl change,<br>• "setattr_with_dacl_change" - Filter file dacl change,<br>• "setattr_with_modify_time_change" - Filter file modify time change,<br>• "setattr_with_access_time_change" - Filter file access time change,<br>• "setattr_with_creation_time_change" - Filter file creation time change,<br>• "setattr_with_mode_change" - Filter file mode change,<br>• "setattr_with_size_change" - Filter file size change,<br>• "setattr_with_allocation_size_change" - Filter allocation size change,<br>• "exclude_directory" - Filter to exclude directory operations |
| **protocol** | | fpolicy-proto optional | Name of protocol for which event is created. By default no protocol is selected. Possible values:<br>• "cifs" - CIFS protocol,<br>• "nfsv3" - NFSv3 protocol,<br>• "nfsv4" - NFSv4 protocol |

| | | | |
|---|---|---|---|
| **return-record** | | boolean optional | If set to true, returns the fpolicy-policy-event on successful creation. Default: false |
| **volume-operation** | | boolean optional | Indicator if the volume operation required for the event.Default Value is false. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | fpolicy-event-options-config optional | The fpolicy-policy-event created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EEVENTEXISTS** | |

# fpolicy-policy-event-delete

[top]

Delete FPolicy event.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **event-name** | | event-name | Name of the Event. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EEVENTNOTFOUND** | |

# fpolicy-policy-event-get-iter

[top]

Get a list of rows for FPolicy event options. FPolicy event is consist of protocol, file operations, vo lume operation and filters.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fpolicy-event-options-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fpolicy-event-options-config optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy-event object. All fpolicy-policy-event objects matching this query up to 'max-records' will be returned. |

| | | | |
|---|---|---|---|
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fpolicy-event-options-config[] optional | The list of attributes of fpolicy-policy-event objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more fpolicy-policy-event objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EEVENTNOTFOUND** | |

# fpolicy-policy-event-modify

[top]

Set FPolicy event options. FPolicy event is consist of protocol, file operation, volume operation and f ilters.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **event-name** | | event-name | Name of the Event. |
| **file-operations** | | fpolicy-operation[] optional | Name of file operations. By default no operations are monitored. Possible values:<br>• "close" - File close operation,<br>• "create" - File create operation,<br>• "create_dir" - File create directory operation,<br>• "delete" - File delete operation,<br>• "delete_dir" - Directory delete operation,<br>• "getattr" - Get attribute operation,<br>• "link" - Link operation,<br>• "lookup" - Lookup operation,<br>• "open" - File open operation,<br>• "read" - File read operation,<br>• "write" - File write operation,<br>• "rename" - File rename operation,<br>• "rename_dir" - Directory rename operation,<br>• "setattr" - Set attribute operation,<br>• "symlink" - Symbolic link operation |
| | | | Name of filters. It is notification filtering parameters. By default no filters are selected. Possible values:<br>• "monitor_ads" - Monitor alternate data stream,<br>• "close_with_modification" - Filter close with modification,<br>• "close_without_modification" - Filter close without |

| | | | |
|---|---|---|---|
| **filter-string** | | fpolicy-filter[] optional | modification,<br>• "first_read" - Filter first read,<br>• "first_write" - Filter first write,<br>• "offline_bit" - Filter offline bit set,<br>• "open_with_delete_intent" - Filter open with delete intent,<br>• "open_with_write_intent" - Filter open with write intent,<br>• "write_with_size_change" - Filter write with size change,<br>• "close_with_read" - Filter close with read,<br>• "setattr_with_owner_change" - Filter file owner change,<br>• "setattr_with_group_change" - Filter file group change,<br>• "setattr_with_sacl_change" - Filter file sacl change,<br>• "setattr_with_dacl_change" - Filter file dacl change,<br>• "setattr_with_modify_time_change" - Filter file modify time change,<br>• "setattr_with_access_time_change" - Filter file access time change,<br>• "setattr_with_creation_time_change" - Filter file creation time change,<br>• "setattr_with_mode_change" - Filter file mode change,<br>• "setattr_with_size_change" - Filter file size change,<br>• "setattr_with_allocation_size_change" - Filter allocation size change,<br>• "exclude_directory" - Filter to exclude directory operations |
| **protocol** | | fpolicy-proto optional | Name of protocol for which event is created. By default no protocol is selected. Possible values:<br>• "cifs" - CIFS protocol,<br>• "nfsv3" - NFSv3 protocol,<br>• "nfsv4" - NFSv4 protocol |
| **volume-operation** | | boolean optional | Indicator if the volume operation required for the event.Default Value is false. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EEVENTNOTFOUND** | |

# fpolicy-policy-external-engine-create

[top]

Create an external engine.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **certificate-ca** | | string optional | Certificate authority name. No default value is set for this field. |
| **certificate-common-name** | | common-name optional | FQDN or custom common name of certificate. No default value is set for this field. |
| **certificate-serial** | | string optional | Serial number of certificate. No default value is set for this field. |
| **engine-name** | | engine-name | Name of the external engine. |

| | | | |
|---|---|---|---|
| **extern-engine-format** | | external-engine-format optional | External engine format. This decides the format for the Fpolicy notification messages and can be one of 'xml' or 'protobuf', which is a binary format. Default value set for this field is 'xml'. Possible values:<br>• "xml" - XML Format,<br>• "protobuf" - Protobuf Format |
| **extern-engine-type** | | external-engine-type optional | External engine type. If the engine is asynchronous, no reply is sent from FPolicy servers. Default value set for this field is synchronous. Possible values:<br>• "synchronous" - Synchronous External Engine,<br>• "asynchronous" - Asynchronous External Engine |
| **is-resiliency-enabled** | | boolean optional | Indicates if the resiliency with this engine is required. If set to true, the notifications will be stored in a path as resiliency-directory-path for the duration specified in max-retention-duration if all the servers are disconnected. If it is false, the notifications will not be stored. Default value is false. |
| **keep-alive-interval** | **[0..2^32-1]** | integer optional | Interval time in seconds for storage appliance to send keep-alive message to FPolicy server. Default value set for this field is 10 seconds. |
| **max-connection-retries** | **[0..2^32-1]** | integer optional | Number of times storage appliance will attempt to establish a broken connection to FPolicy server. Default value set for this field is 5. |
| **max-server-requests** | **[0..2^32-1]** | integer optional | Maximum number of outstanding screen requests that will be queued for an FPolicy Server. Default value set for this field is 50. |
| **port-number** | **[1..65535]** | integer | Port number of the FPolicy server application. |
| **primary-servers** | | ip-address[] | Primary FPolicy servers. |
| **recv-buffer-size** | **[0..2^32-1]** | integer optional | Receive buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb). |
| **request-abort-timeout** | **[0..2^32-1]** | integer optional | Timeout in seconds for a screen request to be aborted by storage appliance. Default value set for this field is 40 seconds. |
| **request-cancel-timeout** | **[0..2^32-1]** | integer optional | Timeout in seconds for a screen request to be processed by an FPolicy server. Default value set for this field is 20 seconds. |
| **resiliency-directory-path** | | string optional | Directory path under Vserver for storing file access notifications. File access notifications will be stored in a generated file during the outage time. The path is the full, user visible path relative to the Vserver root, and it might be crossing junction mount points. Example: '/path1' where '/' is the root of the Vserver and 'path1' is the directory where to store notifications. |
| **resiliency-max-retention-duration** | | time-interval optional | Maximum retention duration for which the notifications will be stored. After this time window further notifications will not be stored. Default value set for this field is 180 seconds. Maximum retention duration can be 600 seconds. |
| **return-record** | | boolean optional | If set to true, returns the fpolicy-policy-external-engine on successful creation. Default: false |
| **secondary-servers** | | ip-address[] optional | Secondary FPolicy servers. No default value is set for this field. |
| **send-buffer-size** | **[0..2^32-1]** | integer optional | Send buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb). |
| **server-** | | | Timeout in seconds in which a throttled FPolicy server must |

| | | | |
|---|---|---|---|
| **progress-timeout** | **[0..2^32-1]** | integer optional | complete at least one screen request. If no request is processed within the timeout, connection to FPolicy server is terminated. Default value set for this field is 60 seconds. |
| **session-timeout** | | time-interval optional | Session Id purge timeout during FPolicy server reconnection. Default value set for this field is 10 seconds. |
| **ssl-option** | | fpolicy-ssl-opts | SSL option for external communication. No default value is set for this field. Possible values:<br>• "no_auth" - Communication over TCP,<br>• "server_auth" - Authentication of FPolicy server only,<br>• "mutual_auth" - Mutual authentication of storage system and FPolicy server |
| **status-request-interval** | **[0..2^32-1]** | integer optional | Interval time in seconds for storage appliance to query status request from FPolicy server. Default value set for this field is 10 seconds. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | fpolicy-external-engine-info optional | The fpolicy-policy-external-engine created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EENGINEEXISTS** | |
| **ESERVEREXISTS** | |

# fpolicy-policy-external-engine-delete

[top]

Delete an external engine.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **engine-name** | | engine-name | Name of the external engine. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EENGINENOTFOUND** | |
| **EPOLICYNOTFOUND** | |
| **ERESOURCEINUSE** | |

# fpolicy-policy-external-engine-get-iter

[top]

Returns information on external engines.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fpolicy-external-engine-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fpolicy-external-engine-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy-external-engine object. All fpolicy-policy-external-engine objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fpolicy-external-engine-info[] optional | The list of attributes of fpolicy-policy-external-engine objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more fpolicy-policy-external-engine objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EENGINENOTFOUND** | |

# fpolicy-policy-external-engine-modify

[top]

Modify an external engine. External engine can be modified only when none of the enabled policies are using it.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **certificate-ca** | | string optional | Certificate authority name. No default value is set for this field. |
| **certificate-common-name** | | common-name optional | FQDN or custom common name of certificate. No default value is set for this field. |
| **certificate-serial** | | string optional | Serial number of certificate. No default value is set for this field. |
| **engine-** | | engine- | Name of the external engine. |

| | | | |
|---|---|---|---|
| **name** | | name | |
| **extern-engine-format** | | external-engine-format optional | External engine format. This decides the format for the Fpolicy notification messages and can be one of 'xml' or 'protobuf', which is a binary format. Default value set for this field is 'xml'. Possible values:<br>• "xml" - XML Format,<br>• "protobuf" - Protobuf Format |
| **extern-engine-type** | | external-engine-type optional | External engine type. If the engine is asynchronous, no reply is sent from FPolicy servers. Default value set for this field is synchronous. Possible values:<br>• "synchronous" - Synchronous External Engine,<br>• "asynchronous" - Asynchronous External Engine |
| **is-resiliency-enabled** | | boolean optional | Indicates if the resiliency with this engine is required. If set to true, the notifications will be stored in a path as resiliency-directory-path for the duration specified in max-retention-duration if all the servers are disconnected. If it is false, the notifications will not be stored. Default value is false. |
| **keep-alive-interval** | **[0..2^32-1]** | integer optional | Interval time in seconds for storage appliance to send keep-alive message to FPolicy server. Default value set for this field is 10 seconds. |
| **max-connection-retries** | **[0..2^32-1]** | integer optional | Number of times storage appliance will attempt to establish a broken connection to FPolicy server. Default value set for this field is 5. |
| **max-server-requests** | **[0..2^32-1]** | integer optional | Maximum number of outstanding screen requests that will be queued for an FPolicy Server. Default value set for this field is 50. |
| **port-number** | **[1..65535]** | integer optional | Port number of the FPolicy server application. |
| **primary-servers** | | ip-address[] optional | Primary FPolicy servers. |
| **recv-buffer-size** | **[0..2^32-1]** | integer optional | Receive buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb). |
| **request-abort-timeout** | **[0..2^32-1]** | integer optional | Timeout in seconds for a screen request to be aborted by storage appliance. Default value set for this field is 40 seconds. |
| **request-cancel-timeout** | **[0..2^32-1]** | integer optional | Timeout in seconds for a screen request to be processed by an FPolicy server. Default value set for this field is 20 seconds. |
| **resiliency-directory-path** | | string optional | Directory path under Vserver for storing file access notifications. File access notifications will be stored in a generated file during the outage time. The path is the full, user visible path relative to the Vserver root, and it might be crossing junction mount points. Example: '/path1' where '/' is the root of the Vserver and 'path1' is the directory where to store notifications. |
| **resiliency-max-retention-duration** | | time-interval optional | Maximum retention duration for which the notifications will be stored. After this time window further notifications will not be stored. Default value set for this field is 180 seconds. Maximum retention duration can be 600 seconds. |
| **secondary-servers** | | ip-address[] optional | Secondary FPolicy servers. No default value is set for this field. |
| **send-** | **[0..2^32-** | integer | Send buffer size of connected socket for FPolicy Server. Default |

| | | | |
|---|---|---|---|
| **buffer-size** | **1]** | optional | value set for this field is 256 kilobytes (256Kb). |
| **server-progress-timeout** | **[0..2^32-1]** | integer optional | Timeout in seconds in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to FPolicy server is terminated. Default value set for this field is 60 seconds. |
| **session-timeout** | | time-interval optional | Session Id purge timeout during FPolicy server reconnection. Default value set for this field is 10 seconds. |
| **ssl-option** | | fpolicy-ssl-opts optional | SSL option for external communication. No default value is set for this field. Possible values:<br>• "no_auth" - Communication over TCP,<br>• "server_auth" - Authentication of FPolicy server only,<br>• "mutual_auth" - Mutual authentication of storage system and FPolicy server |
| **status-request-interval** | **[0..2^32-1]** | integer optional | Interval time in seconds for storage appliance to query status request from FPolicy server. Default value set for this field is 10 seconds. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EENGINENOTFOUND** | |
| **E_FPOLICY_EXT_ENG_MODIFY_FAILED_ENABLED_POLICY** | |
| **E_PASSTHRU_READ_MODIFY_EXT_ENGINE** | |
| **ESERVEREXISTS** | |

# fpolicy-policy-get-iter

[top]

Returns information about policies.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fpolicy-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fpolicy-policy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy object. All fpolicy-policy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fpolicy-policy-info[] | The list of attributes of fpolicy-policy objects. |

| | | | |
|---|---|---|---|
| | | optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more fpolicy-policy objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EPOLICYNOTFOUND** | |

# fpolicy-policy-modify

[top]

Modify a policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allow-privileged-access** | | boolean optional | Indicator if privileged access should be given to FPolicy servers registered for the policy. Default Value is no. |
| **engine-name** | | engine-name optional | Name of the Engine. Default Engine is 'native'. |
| **events** | | event-name[] optional | Events for file access monitoring. |
| **is-mandatory** | | boolean optional | Indicator if the screening with this policy is required, i.e. it will fail if no servers are able process the notification registered as a part of external engine. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. Default value is true. |
| **is-passthrough-read-enabled** | | boolean optional | Indicator if passthrough-read should be allowed to FPolicy servers registered for the policy. Default value is false. |
| **policy-name** | | policy-name | Name of the policy. |
| **privileged-user-name** | | string optional | User name for privileged access. No default value is set for this attribute. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EPOLICYNOTFOUND** | |
| **E_PASSTHRU_READ_ENABLE_IN_POLICY** | |
| **E_PASSTHRU_READ_CAPABILITY_NOT_ENABLED** | |

# fpolicy-policy-scope-create

[top]

Set FPolicy scope options. FPolicy Scope is consist of share, volume, export policy, volume, file extention.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **check-extensions-on-directories** | | boolean optional | Indicates whether directory names are also subjected to extensions check, similar to file names. By default, the value is true if policy is configured with Native engine, false otherwise. |
| **export-policies-to-exclude** | | string[] optional | Export Policies to exclude for file access monitoring. By default no export policy is selected. |
| **export-policies-to-include** | | string[] optional | Export policies to include for file access monitoring. By default no export policy is selected. |
| **file-extensions-to-exclude** | | string[] optional | File extensions excluded for screening. By default no file extension is selected. |
| **file-extensions-to-include** | | string[] optional | File extensions included for screening. By default no file extension is selected. |
| **is-monitoring-of-objects-with-no-extension-enabled** | | boolean optional | Indicates whether monitoring of Objects with no extension is required. By default, the value is false. |
| **policy-name** | | policy-name | Name of the policy. |
| **return-record** | | boolean optional | If set to true, returns the fpolicy-policy-scope on successful creation. Default: false |
| **shares-to-exclude** | | string[] optional | Shares to exclude for file access monitoring. By default no share is selected. |
| **shares-to-include** | | string[] optional | Shares to include for file access monitoring. By default no share is selected. |
| **volumes-to-exclude** | | string[] optional | Volumes that are inactive for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer when processing user requests. By default no volume is selected. |
| **volumes-to-include** | | string[] optional | Volumes that are active for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. By default no volume is selected. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | fpolicy-scope-config optional | The fpolicy-policy-scope created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ESCOPEEXISTS** | |

# fpolicy-policy-scope-delete

[top]

Delete a scope.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | policy-name | Name of the policy. |

| Errno | Description |
|---|---|
| **ESCOPENOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# fpolicy-policy-scope-get-iter

[top]

Get a list of rows for FPolicy scope options. FPolicy Scope consists of share, volume, export policy, volume, file extention.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fpolicy-scope-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fpolicy-scope-config optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy-scope object. All fpolicy-policy-scope objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fpolicy-scope-config[] optional | The list of attributes of fpolicy-policy-scope objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more fpolicy-policy-scope objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **ESCOPENOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| | |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |

# fpolicy-policy-scope-modify

[top]

Set FPolicy scope options. FPolicy Scope is consist of share, volume, export policy, volume, file extention.

| Input Name | Range | Type | Description |
|---|---|---|---|
| check-extensions-on-directories | | boolean optional | Indicates whether directory names are also subjected to extensions check, similar to file names. By default, the value is true if policy is configured with Native engine, false otherwise. |
| export-policies-to-exclude | | string[] optional | Export Policies to exclude for file access monitoring. By default no export policy is selected. |
| export-policies-to-include | | string[] optional | Export policies to include for file access monitoring. By default no export policy is selected. |
| file-extensions-to-exclude | | string[] optional | File extensions excluded for screening. By default no file extension is selected. |
| file-extensions-to-include | | string[] optional | File extensions included for screening. By default no file extension is selected. |
| is-monitoring-of-objects-with-no-extension-enabled | | boolean optional | Indicates whether monitoring of Objects with no extension is required. By default, the value is false. |
| policy-name | | policy-name | Name of the policy. |
| shares-to-exclude | | string[] optional | Shares to exclude for file access monitoring. By default no share is selected. |
| shares-to-include | | string[] optional | Shares to include for file access monitoring. By default no share is selected. |
| volumes-to-exclude | | string[] optional | Volumes that are inactive for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer when processing user requests. By default no volume is selected. |
| volumes-to-include | | string[] optional | Volumes that are active for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. By default no volume is selected. |

| Errno | Description |
|---|---|
| ESCOPENOTFOUND | |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |
| EVSERVERNOTFOUND | |

# fpolicy-policy-status-get-iter

[top]

Returns FPolicy policy status information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fpolicy-policy-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fpolicy-policy-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy-status object. All fpolicy-policy-status objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fpolicy-policy-status-info[] optional | The list of attributes of fpolicy-policy-status objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more fpolicy-policy-status objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EPOLICYNOTFOUND** | |

# fpolicy-server-connect

[top]

Make a connection to FPolicy server

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Cluster node name. |
| **policy-name** | | policy-name | Name of the policy. |
| **server** | | ip-address | FPolicy server. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EVSERVERNOTFOUND | |
| EPOLICYNOTFOUND | |
| ESERVERNOTFOUND | |
| E_POLICY_DISABLED | |

# fpolicy-server-disconnect

[top]

Terminate connection to FPolicy server

| Input Name | Range | Type | Description |
|---|---|---|---|
| node | | string | Cluster node name. |
| policy-name | | policy-name | Name of the policy. |
| server | | ip-address | FPolicy server. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |
| EVSERVERNOTFOUND | |
| EPOLICYNOTFOUND | |
| ESERVERNOTFOUND | |
| E_POLICY_DISABLED | |

# fpolicy-server-list-info

[top]

Shows a list of primary servers serving the policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| policy-name | | string | Name of the policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| servers | | server-info[] | List of the servers' IP addresses. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |

| Vfiler-enabled |
|---|
| Yes |

# fpolicy-server-status-get-iter

[top]

Returns FPolicy server status information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fpolicy-server-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fpolicy-server-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-server-status object. All fpolicy-server-status objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fpolicy-server-status-info[] optional | The list of attributes of fpolicy-server-status objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more fpolicy-server-status objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ESERVERNOTFOUND** | |
| **ENODENOTFOUND** | |
| **EPOLICYNOTFOUND** | |

# fpolicy-server-stop

[top]

Stops specific primary server serving the policy. Effectively, this will unregister the fpolicy server.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | Name of the policy. |
| **server-ip** | | ip-address | The ip address, in dotted-decimal format, of the server. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
| --- |
| Yes |

# fpolicy-set-policy-options

[top]

Sets policy's options to on/off.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **is-ads-monitored** | | boolean optional | Indicates if the policy monitors the cifs operations on Alternate Data Streams. Default is false. |
| **is-cifs-disconnect-check-enabled** | | boolean optional | 'true' if requests associated with disconnected CIFS sessions must not be screened, 'false' otherwise. |
| **is-cifs-setattr-enabled** | | boolean optional | Indicator whether cifs-setattr support is enabled on this policy or not. If set to true, cifs setattr operations will be screened. Default is false. |
| **is-required** | | boolean optional | Indicator if the screening with this policy is required, i.e. will it fail if the server is not registered. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. Default is false. |
| **policy-name** | | string | Name of the policy. |
| **reqcancel-timeout** | | integer optional | Timeout (in secs) for a screen request to be processed by an FPolicy server. Range : [0..4294967]. |
| **secondary-servers** | | secondary-server-info[] optional | List of server's IP addresses. Servers registered from these IP will be considered as secondary servers. |
| **serverprogress-timeout** | | integer optional | Timeout (in secs) in which a throttled FPolicy server must complete at least one screen request. Range : [0..4294967]. |

| Errno | Description |
| --- | --- |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
| --- |
| Yes |

# fpolicy-set-required

[top]

Sets policy's "required" option to on/off.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **policy-name** | | string | Name of the policy. |
| **required** | | boolean | Indicator if the policy is required. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. |

| | |
| --- | --- |

| Errno | Description |
| --- | --- |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

# fpolicy-set-secondary-servers

[top]

Sets secondary servers information in a form of a list of ip addresses. These servers will be used if all primary servers are not available, thus increasing system availabilty.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| policy-name | | string | Name of the policy. |
| secondary-servers | | secondary-server-info[] | List of servers' IP addresses. |

| Errno | Description |
| --- | --- |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

# fpolicy-status

[top]

Returns status of options fpolicy enable.

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| is-enabled | | boolean | Shows if the fpolicy mechanism is enabled or not. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

# fpolicy-volume-list-info

[top]

Returns a volume-regular-expression list for an exclude or include set. The list describes limits to the set of volumes for which client requests trigger (include) or suppress (exclude) fpolicy processing for the provided policy.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |

| | | | |
|---|---|---|---|
| **policy-name** | | string | Name of the policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **exclude-volumes** | | fpolicy-volumes-list-info[] | List of volumes that are inactive for the file policy. The list can include items which are regular expressions, such as "vol*" or "user?". Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer when processing user requests. |
| **include-volumes** | | fpolicy-volumes-list-info[] | List of volumes that are active for the file policy. The list can include items which are regular expressions, such as "vol*" or "user?". |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-volume-list-set

[top]

Manipulate a list of volumes in an exclude or include set. This limits the set of volumes for which client requests trigger (include) or suppress (exclude) fpolicy processing for the provided policy. The list provided will replace the list currently in place, if any. Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **list-type** | | string | Defines to which set (exclude or include) a list will be applied. Possible values: "exclude", "include". |
| **policy-name** | | string | Name of the policy. |
| **volumes** | | fpolicy-volumes-list-info[] | List of volume specifications. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# Element definition: **common-name**

[top]

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

# Element definition: **engine-name**

[top]

Engine name

[none]

# Element definition: **event-name**

[top]

Event name

[none]

# Element definition: **extension-list-info**

[top]

Structure containing extension information.

| Name | Range | Type | Description |
|---|---|---|---|
| **name-spec** | | string | Extension specification (including wild cards). Allowed are only DOS like, three character long extensions. The extensions are case insensitive. Supported wild card values: "???" to match any extension and "?" to match any character. Examples of allowed extension specifications: EXE ??? ?XT P?? |

# Element definition: **external-engine-format**

[top]

xml|protobuf Possible values:

- "xml" - XML Format,
- "protobuf" - Protobuf Format

[none]

# Element definition: **external-engine-type**

[top]

External Engine Type Possible values:

- "synchronous" - Synchronous External Engine,
- "asynchronous" - Asynchronous External Engine

[none]

# Element definition: **fpolicy-event-options-config**

[top]

Vserver FPolicy Event configuration and management on name When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **event-name** | | event-name optional | Name of the Event. Attributes: key, required-for-create, non-modifiable |
| **file-operations** | | fpolicy-operation[] optional | Name of file operations. By default no operations are monitored. Attributes: optional-for-create, modifiable Possible values:<br>• "close" - File close operation,<br>• "create" - File create operation,<br>• "create_dir" - File create directory operation,<br>• "delete" - File delete operation,<br>• "delete_dir" - Directory delete operation,<br>• "getattr" - Get attribute operation,<br>• "link" - Link operation,<br>• "lookup" - Lookup operation,<br>• "open" - File open operation,<br>• "read" - File read operation,<br>• "write" - File write operation,<br>• "rename" - File rename operation,<br>• "rename_dir" - Directory rename operation,<br>• "setattr" - Set attribute operation,<br>• "symlink" - Symbolic link operation |
| **filter-string** | | fpolicy-filter[] optional | Name of filters. It is notification filtering parameters. By default no filters are selected. Attributes: optional-for-create, modifiable Possible values:<br>• "monitor_ads" - Monitor alternate data stream,<br>• "close_with_modification" - Filter close with modification,<br>• "close_without_modification" - Filter close without modification,<br>• "first_read" - Filter first read,<br>• "first_write" - Filter first write,<br>• "offline_bit" - Filter offline bit set,<br>• "open_with_delete_intent" - Filter open with delete intent,<br>• "open_with_write_intent" - Filter open with write intent,<br>• "write_with_size_change" - Filter write with size change,<br>• "close_with_read" - Filter close with read,<br>• "setattr_with_owner_change" - Filter file owner change,<br>• "setattr_with_group_change" - Filter file group change,<br>• "setattr_with_sacl_change" - Filter file sacl change,<br>• "setattr_with_dacl_change" - Filter file dacl change,<br>• "setattr_with_modify_time_change" - Filter file modify time change, |

| | | | |
|---|---|---|---|
| | | | • "setattr_with_access_time_change" - Filter file access time change,<br>• "setattr_with_creation_time_change" - Filter file creation time change,<br>• "setattr_with_mode_change" - Filter file mode change,<br>• "setattr_with_size_change" - Filter file size change,<br>• "setattr_with_allocation_size_change" - Filter allocation size change,<br>• "exclude_directory" - Filter to exclude directory operations |
| **protocol** | | fpolicy-proto optional | Name of protocol for which event is created. By default no protocol is selected. Attributes: optional-for-create, modifiable Possible values:<br>• "cifs" - CIFS protocol,<br>• "nfsv3" - NFSv3 protocol,<br>• "nfsv4" - NFSv4 protocol |
| **volume-operation** | | boolean optional | Indicator if the volume operation required for the event.Default Value is false. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **fpolicy-external-engine-info**

[top]

External engine configuration and management. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **certificate-ca** | | string optional | Certificate authority name. No default value is set for this field. Attributes: optional-for-create, modifiable |
| **certificate-common-name** | | common-name optional | FQDN or custom common name of certificate. No default value is set for this field. Attributes: optional-for-create, modifiable |
| **certificate-serial** | | string optional | Serial number of certificate. No default value is set for this field. Attributes: optional-for-create, modifiable |
| **engine-name** | | engine-name optional | Name of the external engine. Attributes: key, required-for-create, non-modifiable |
| **extern-engine-format** | | external-engine-format optional | External engine format. This decides the format for the Fpolicy notification messages and can be one of 'xml' or 'protobuf', which is a binary format. Default value set for this field is 'xml'. Attributes: optional-for-create, modifiable Possible values:<br>• "xml" - XML Format,<br>• "protobuf" - Protobuf Format |
| | | | External engine type. If the engine is asynchronous, no reply is |

| | | | |
|---|---|---|---|
| **extern-engine-type** | | external-engine-type optional | sent from FPolicy servers. Default value set for this field is synchronous. Attributes: optional-for-create, modifiable Possible values:<br>• "synchronous" - Synchronous External Engine,<br>• "asynchronous" - Asynchronous External Engine |
| **is-resiliency-enabled** | | boolean optional | Indicates if the resiliency with this engine is required. If set to true, the notifications will be stored in a path as resiliency-directory-path for the duration specified in max-retention-duration if all the servers are disconnected. If it is false, the notifications will not be stored. Default value is false. Attributes: optional-for-create, modifiable |
| **keep-alive-interval** | **[0..2^32-1]** | integer optional | Interval time in seconds for storage appliance to send keep-alive message to FPolicy server. Default value set for this field is 10 seconds. Attributes: optional-for-create, modifiable |
| **max-connection-retries** | **[0..2^32-1]** | integer optional | Number of times storage appliance will attempt to establish a broken connection to FPolicy server. Default value set for this field is 5. Attributes: optional-for-create, modifiable |
| **max-server-requests** | **[0..2^32-1]** | integer optional | Maximum number of outstanding screen requests that will be queued for an FPolicy Server. Default value set for this field is 50. Attributes: optional-for-create, modifiable |
| **port-number** | **[1..65535]** | integer optional | Port number of the FPolicy server application. Attributes: required-for-create, modifiable |
| **primary-servers** | | ip-address[] optional | Primary FPolicy servers. Attributes: required-for-create, modifiable |
| **recv-buffer-size** | **[0..2^32-1]** | integer optional | Receive buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb). Attributes: optional-for-create, modifiable |
| **request-abort-timeout** | **[0..2^32-1]** | integer optional | Timeout in seconds for a screen request to be aborted by storage appliance. Default value set for this field is 40 seconds. Attributes: optional-for-create, modifiable |
| **request-cancel-timeout** | **[0..2^32-1]** | integer optional | Timeout in seconds for a screen request to be processed by an FPolicy server. Default value set for this field is 20 seconds. Attributes: optional-for-create, modifiable |
| **resiliency-directory-path** | | string optional | Directory path under Vserver for storing file access notifications. File access notifications will be stored in a generated file during the outage time. The path is the full, user visible path relative to the Vserver root, and it might be crossing junction mount points. Example: '/path1' where '/' is the root of the Vserver and 'path1' is the directory where to store notifications. Attributes: optional-for-create, modifiable |
| **resiliency-max-retention-duration** | | time-interval optional | Maximum retention duration for which the notifications will be stored. After this time window further notifications will not be stored. Default value set for this field is 180 seconds. Maximum retention duration can be 600 seconds. Attributes: optional-for-create, modifiable |
| **secondary-servers** | | ip-address[] optional | Secondary FPolicy servers. No default value is set for this field. Attributes: optional-for-create, modifiable |
| **send-buffer-size** | **[0..2^32-1]** | integer optional | Send buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb). Attributes: optional-for-create, modifiable |
| **server-progress-** | **[0..2^32-1]** | integer optional | Timeout in seconds in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to FPolicy server is terminated. |

| | | | |
|---|---|---|---|
| **timeout** | | | Default value set for this field is 60 seconds. Attributes: optional-for-create, modifiable |
| **session-timeout** | | time-interval optional | Session Id purge timeout during FPolicy server reconnection. Default value set for this field is 10 seconds. Attributes: optional-for-create, modifiable |
| **ssl-option** | | fpolicy-ssl-opts optional | SSL option for external communication. No default value is set for this field. Attributes: required-for-create, modifiable Possible values:<br>• "no_auth" - Communication over TCP,<br>• "server_auth" - Authentication of FPolicy server only,<br>• "mutual_auth" - Mutual authentication of storage system and FPolicy server |
| **status-request-interval** | **[0..2^32-1]** | integer optional | Interval time in seconds for storage appliance to query status request from FPolicy server. Default value set for this field is 10 seconds. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **fpolicy-filter**

[top]

Filter Possible values:

- "monitor_ads" - Monitor alternate data stream,
- "close_with_modification" - Filter close with modification,
- "close_without_modification" - Filter close without modification,
- "first_read" - Filter first read,
- "first_write" - Filter first write,
- "offline_bit" - Filter offline bit set,
- "open_with_delete_intent" - Filter open with delete intent,
- "open_with_write_intent" - Filter open with write intent,
- "write_with_size_change" - Filter write with size change,
- "close_with_read" - Filter close with read,
- "setattr_with_owner_change" - Filter file owner change,
- "setattr_with_group_change" - Filter file group change,
- "setattr_with_sacl_change" - Filter file sacl change,
- "setattr_with_dacl_change" - Filter file dacl change,
- "setattr_with_modify_time_change" - Filter file modify time change,
- "setattr_with_access_time_change" - Filter file access time change,
- "setattr_with_creation_time_change" - Filter file creation time change,
- "setattr_with_mode_change" - Filter file mode change,
- "setattr_with_size_change" - Filter file size change,
- "setattr_with_allocation_size_change" - Filter allocation size change,
- "exclude_directory" - Filter to exclude directory operations

[none]

# Element definition: **fpolicy-operation**

[top]

File Operation Possible values:

- "close" - File close operation,
- "create" - File create operation,
- "create_dir" - File create directory operation,
- "delete" - File delete operation,
- "delete_dir" - Directory delete operation,
- "getattr" - Get attribute operation,
- "link" - Link operation,
- "lookup" - Lookup operation,
- "open" - File open operation,
- "read" - File read operation,
- "write" - File write operation,
- "rename" - File rename operation,
- "rename_dir" - Directory rename operation,
- "setattr" - Set attribute operation,
- "symlink" - Symbolic link operation

[none]

# Element definition: **fpolicy-passthrough-read-connection-info**

[top]

FPolicy passthrough-read connection status. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **connected-since** | | datetime optional | Date and time since passthrough-read channel is connected. This will be returned only if the server-status is connected. Attributes: non-creatable, non-modifiable |
| **control-session-id** | | string optional | Session ID of the control channel established with FPolicy server. Attributes: key, non-creatable, non-modifiable |
| **disconnect-reason** | | fpolicy-passthru-disconnect-reason optional | Reason for passthrough-read channel disconnection. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" - Not applicable,<br>• "control_conn_closed" - Control connection to the FPOlicy server is closed,<br>• "pipe_client_close" - Connection closed by pipe client (FPolicy server),<br>• "pipe_server_close" - Connection closed by pipe server (ONTAP) due to idle session, interface down etc.,<br>• "no_control_packet" - No control packet seen on this connection,<br>• "control_conn_vserver_ip_changed" - Control connection is established using different vserver ip,<br>• "fpolicy_process_restart" - FPolicy process has restarted |
| **disconnected-** | | datetime | Date and time since passthrough-read channel is disconnected. This will be returned only if the server-status is disconnected. |

| | | | |
|---|---|---|---|
| **since** | | optional | Attributes: non-creatable, non-modifiable |
| **fpolicy-server** | | ip-address optional | IP Address of the FPolicy server. Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Cluster node to which this connection is applicable. Attributes: key, non-creatable, non-modifiable |
| **policy-name** | | policy-name optional | Policy name of the policy for which passthrough-read connection is opened. Attributes: key, non-creatable, non-modifiable |
| **server-status** | | fpolicy-passthru-conn-status optional | Status of the passthrough-read connection. Attributes: non-creatable, non-modifiable Possible values:<br>• "connected" - Passthrough read channel connected,<br>• "disconnected" - Passtthrough read channel disconnected |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **fpolicy-policy-info**

[top]

FPolicy policy information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **allow-privileged-access** | | boolean optional | Indicator if privileged access should be given to FPolicy servers registered for the policy. Default Value is no. Attributes: optional-for-create, modifiable |
| **engine-name** | | engine-name optional | Name of the Engine. Default Engine is 'native'. Attributes: required-for-create, modifiable |
| **events** | | event-name[] optional | Events for file access monitoring. Attributes: required-for-create, modifiable |
| **is-mandatory** | | boolean optional | Indicator if the screening with this policy is required, i.e. it will fail if no servers are able process the notification registered as a part of external engine. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. Default value is true. Attributes: optional-for-create, modifiable |
| **is-passthrough-read-enabled** | | boolean optional | Indicator if passthrough-read should be allowed to FPolicy servers registered for the policy. Default value is false. Attributes: optional-for-create, modifiable |
| **policy-name** | | policy-name optional | Name of the policy. Attributes: key, required-for-create, non-modifiable |
| **privileged-user-name** | | string optional | User name for privileged access. No default value is set for this attribute. Attributes: optional-for-create, modifiable |
| | | string | |

| | | | |
|---|---|---|---|
| **vserver** | | optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **fpolicy-policy-status-info**

[top]

FPolicy Policy status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | policy-name optional | Name of the policy. Attributes: key, non-creatable, non-modifiable |
| **sequence-number** | **[1..10]** | integer optional | Sequence number(or priority) of the policy. 1 being highest and 10 being smallest. Default value is 1. Attributes: non-creatable, non-modifiable |
| **status** | | boolean optional | Status of the policy. When on, policy is active. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **fpolicy-proto**

[top]

Protocol Possible values:

- "cifs" - CIFS protocol,
- "nfsv3" - NFSv3 protocol,
- "nfsv4" - NFSv4 protocol

[none]

# Element definition: **fpolicy-scope-config**

[top]

Vserver FPolicy Scope configuration and management on name When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **check-extensions-on-directories** | | boolean optional | Indicates whether directory names are also subjected to extensions check, similar to file names. By default, the value is true if policy is configured with Native engine, false otherwise. Attributes: optional-for-create, modifiable |
| **export-policies-to-exclude** | | string[] optional | Export Policies to exclude for file access monitoring. By default no export policy is selected. Attributes: optional-for-create, modifiable |
| **export-policies-to-include** | | string[] optional | Export policies to include for file access monitoring. By default no export policy is selected. Attributes: optional-for-create, modifiable |
| **file-extensions-to-exclude** | | string[] optional | File extensions excluded for screening. By default no file extension is selected. Attributes: optional-for-create, modifiable |
| **file-extensions-to-include** | | string[] optional | File extensions included for screening. By default no file extension is selected. Attributes: optional-for-create, modifiable |
| **is-monitoring-of-objects-with-no-extension-enabled** | | boolean optional | Indicates whether monitoring of Objects with no extension is required. By default, the value is false. Attributes: optional-for-create, modifiable |
| **policy-name** | | policy-name optional | Name of the policy. Attributes: key, required-for-create, non-modifiable |
| **shares-to-exclude** | | string[] optional | Shares to exclude for file access monitoring. By default no share is selected. Attributes: optional-for-create, modifiable |
| **shares-to-include** | | string[] optional | Shares to include for file access monitoring. By default no share is selected. Attributes: optional-for-create, modifiable |
| **volumes-to-exclude** | | string[] optional | Volumes that are inactive for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer when processing user requests. By default no volume is selected. Attributes: optional-for-create, modifiable |
| **volumes-to-include** | | string[] optional | Volumes that are active for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. By default no volume is selected. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **fpolicy-server-status-info**

[top]

External engine configuration and management. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **connected-since** | | datetime optional | Date and time since FPolicy server is connected. Attributes: non-creatable, non-modifiable |
| **disconnect-reason** | | string optional | Reason for FPolicy server disconnection. Attributes: non-creatable, non-modifiable |
| **disconnected-since** | | datetime optional | Date and time since FPolicy server is disconnected. Attributes: non-creatable, non-modifiable |
| **fpolicy-server** | | ip-address optional | FPolicy server. Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Cluster node name. Attributes: key, non-creatable, non-modifiable |
| **policy-name** | | policy-name optional | Name of the policy. Attributes: key, non-creatable, non-modifiable |
| **server-status** | | fpolicy-server-status optional | Status of the connection. Attributes: non-creatable, non-modifiable Possible values:<br>• "connected" - Server Connected,<br>• "disconnected" - Server Disconnected,<br>• "connecting" - Connecting Server,<br>• "disconnecting" - Disconnecting Server |
| **server-type** | | fpolicy-server-type optional | FPolicy server type. FPolicy server can be registered as primary or secondary server. Attributes: non-creatable, non-modifiable Possible values:<br>• "primary" - Primary Server,<br>• "secondary" - Secondary Server |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **fpolicy-ssl-opts**

[top]

no-auth|server-auth|mutual-auth Possible values:

- "no_auth" - Communication over TCP,
- "server_auth" - Authentication of FPolicy server only,
- "mutual_auth" - Mutual authentication of storage system and FPolicy server

[none]

# Element definition: **fpolicy-volumes-list-info**

[top]

Structure containing volumes information.

| Name | Range | Type | Description |
|---|---|---|---|
| **volume-spec** | | string | Volume specification (including wild cards). The volumes are case insensitive. If no volume-spec is provided, then the list will be reset to an empty list. Supported wild card values: "?" to match any character and "*" to match any number of characters. Example specifications: vol0 vol? users* |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **monitored-operation-info**

[top]

Structure containing information pertaining to monitored operations.

| Name | Range | Type | Description |
|---|---|---|---|
| **operation** | | string | Supported values: "file-create", "file- delete", "file-open", "file-close", "file-rename", "directory-create", "directory-delete", "directory-rename", "getattr", "setattr", "lookup", "read", "write", "link", "symlink" |

# Element definition: **monitored-protocol-info**

[top]

Structure containing information pertaining to monitored operations' protocols.

| Name | Range | Type | Description |
|---|---|---|---|
| **protocol** | | string | Supported values: "nfs", "cifs". |

# Element definition: **policy-info**

[top]

Structure containing information pertaining to policy.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-ads-monitored** | | boolean | True if the policy monitors the cifs operations on Alternate Data Streams. |
| **is-enabled** | | boolean | True if the policy is enabled. No matter whether the policy is enabled or disabled, values returned in other elements for the policy are always valid. |
| **is-i2p-enabled** | | boolean | True if inode to pathname translation for NFS requests is supported and enabled.If enabled fpolicy requests to fpolicy server will carry full file path for NFS requests. The fields which will carry full file path are AccessPath and RenamePath for FP_ScreenRequest RPC call and |

| | | | |
|---|---|---|---|
| | | | sr_accesspath for FP_ScreenRequest2 RPC call. |
| **is-offline-files-only** | | boolean optional | True if the file policy monitors only offlines files. Default is false. |
| **monitored-operations** | | monitored-operation-info[] | List of monitored operations. |
| **monitored-protocols** | | monitored-protocol-info[] | List of monitored protocols. |
| **name** | | string | Policy name. |
| **number-of-requests-blocked-locally** | | integer | Number of locally blocked(denied) screen requests. This value is reset each time the filer is rebooted or the policy is disabled. Range : [0..2^32-1]. |
| **number-of-screen-failures** | | integer | Number of failed (denied) screen requests. This value is reset each time the filer is rebooted or the policy is disabled. Range : [0..2^32-1]. |
| **number-of-screened-files** | | integer | Number of screened files since policy has been enabled. This value is reset each time the filer is rebooted or the policy is disabled. Range : [0..2^32-1]. |

# Element definition: **policy-name**

[top]

Policy name

[none]

# Element definition: **secondary-server-info**

[top]

Structure containing information pertaining to secondary servers.

| Name | Range | Type | Description |
|---|---|---|---|
| **server-ip** | | ip-address | The ip address, in dotted-decimal format, of the server. |

# Element definition: **server-info**

[top]

Structure containing information pertaining to servers.

| Name | Range | Type | Description |
|---|---|---|---|
| **idl-version** | | integer | Version of the Interface Definition Language(IDL) used by the Fpolicy server. Range : [0..2^32-1]. |
| **is-asynchronous** | | boolean optional | Shows if the server is registered as asynchronous, i.e. doesn't send reply to the filer. |
| | | | |

| | | | |
|---|---|---|---|
| **is-size-and-owner-required** | | boolean optional | True if the server is registered to receive file size and file owner information with every Fpolicy request. |
| **is-snapid-required** | | boolean optional | True if the server is registered to receive file snapshot ID with every Fpolicy request. |
| **is-version2** | | boolean optional | True if the server is registered with version2 support enabled. version2 refers to the version of the FP_ScreenRequest(). When version2 is true the FPolicy server is enabled to receive FP_ScreenRequest2() RPC. |
| **number-of-screen-failures** | | integer | Number of failed (denied) screens since server registrations. Range : [0..2^32-1]. |
| **number-of-screened-files** | | integer | Number of screened files since server registration. Range : [0..2^32-1]. |
| **offline-filter-bit** | | string optional | Shows the setting of offline filter. Supported values: "none", "on-set". |
| **server-id** | | integer | The unique server ID assigned to the Fpolicy server at the time of Fpolicy server registration. Range : [0..2^32-1]. |
| **server-ip** | | ip-address | The ip address, in dotted-decimal format, of the server. |
| **smb-req-pipe-name** | | string | The name of the FPolicy request pipe name on which FPolicy server is recieving the screen requests from the storage system. This name is sent by the FPolicy server at the time of the FPolicy server registration. |

## Element definition: **time-interval** [top]

Time interval in seconds Range : [0..2^32-1].

[none]

## Element definition: **common-name** [top]

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

## Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

## Element definition: **engine-name** [top]

Engine name

[none]

## Element definition: **event-name**

[top]

Event name

[none]

## Element definition: **external-engine-format**

[top]

xml|protobuf Possible values:

- "xml" - XML Format,
- "protobuf" - Protobuf Format

[none]

## Element definition: **external-engine-type**

[top]

External Engine Type Possible values:

- "synchronous" - Synchronous External Engine,
- "asynchronous" - Asynchronous External Engine

[none]

## Element definition: **fpolicy-passthru-conn-status**

[top]

Status of fpolicy passthrough-read connection Possible values:

- "connected" - Passthrough read channel connected,
- "disconnected" - Passtthrough read channel disconnected

[none]

## Element definition: **fpolicy-passthru-disconnect-reason**

[top]

Reason for fpolicy passthrough-read disconnection Possible values:

- "none" - Not applicable,
- "control_conn_closed" - Control connection to the FPOlicy server is closed,
- "pipe_client_close" - Connection closed by pipe client (FPolicy server),
- "pipe_server_close" - Connection closed by pipe server (ONTAP) due to idle session, interface down etc.,
- "no_control_packet" - No control packet seen on this connection,
- "control_conn_vserver_ip_changed" - Control connection is established using different vserver ip,
- "fpolicy_process_restart" - FPolicy process has restarted

[none]

# Element definition: **fpolicy-server-status**

[top]

Status Possible values:

- "connected" - Server Connected,
- "disconnected" - Server Disconnected,
- "connecting" - Connecting Server,
- "disconnecting" - Disconnecting Server

[none]

# Element definition: **fpolicy-server-type**

[top]

Server Type Possible values:

- "primary" - Primary Server,
- "secondary" - Secondary Server

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **monitored-operation-info**

[top]

Structure containing information pertaining to monitored operations.

| Name | Range | Type | Description |
|---|---|---|---|
| **operation** | | string | Supported values: "file-create", "file- delete", "file-open", "file-close", "file-rename", "directory-create", "directory-delete", "directory-rename", "getattr", "setattr", "lookup", "read", "write", "link", "symlink" |

# Element definition: **monitored-protocol-info**

[top]

Structure containing information pertaining to monitored operations' protocols.

| Name | Range | Type | Description |
|---|---|---|---|
| **protocol** | | string | Supported values: "nfs", "cifs". |

# Element definition: **node-name**

[top]

The node's name

[none]

# APIs in Category: **gpo**


gpo-applied-info-get-iter
gpo-get-iter
gpo-gpresult-info-get-iter
gpo-modify
gpo-restricted-group-applied-info-get-iter
gpo-restricted-group-defined-info-get-iter
gpo-update


Group Policy Object (GPO) configuration APIs. Group Policy is a central component of Microsoft's change and configuration strategy for Win2K. With Group Policy, you can define users' environments and system configurations from one location. It is implemented by associating a Group Policy Object (GPO) with an Active Directory container. A GPO is a collection of attribute settings that govern a user or a computer's configuration. These APIs enable user to obtain the values associated with the following GPO entities:

1. Vserver GPO gpresult Information: The resultant GPO information. This api displays RSoP(Resultant Set of Policy) that is defined on Active Directory for a CIFS-enabled VServer.

2. Vserver Applied GPO Information: The applied GPO Information. This api displays the set of GPO policy that has been applied on a CIFS-enabled Vserver.

## gpo-applied-info-get-iter

[top]

Get the list of entries of the applied GPO rules, organized on a per-Vserver basis.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | gpo-applied-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | gpo-applied-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | gpo-applied-info[] optional | The list of attributes of gpo objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more gpo objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|

| EINTERNALERROR | |
|---|---|

# gpo-get-iter

[top]

Retrieve the Vserver's group policy configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | gpo-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | gpo-config optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | gpo-config[] optional | The list of attributes of gpo objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more gpo objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# gpo-gpresult-info-get-iter

[top]

Get a list of entries of the GPO RSoP(Resultant Set of Policy) data, organized on a per-Vserver basis.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | gpo-gpresult-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | gpo-gpresult-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned. |

| | | | |
|---|---|---|---|
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | gpo-gpresult-info[] optional | The list of attributes of gpo objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more gpo objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# gpo-modify

[top]

Change the Vserver's group policy configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-gpo-enabled** | | true-false | Group Policy Zapi Status. |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# gpo-restricted-group-applied-info-get-iter

[top]

Applied Restricted Group Settings

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | gpo-restricted-group-applied-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | gpo-restricted-group-applied-info | A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned. |

| | | | |
|---|---|---|---|
| | | optional | |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | gpo-restricted-group-applied-info[] optional | The list of attributes of gpo objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more gpo objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# gpo-restricted-group-defined-info-get-iter

[top]

Defined Restricted Group Settings in DC

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | gpo-restricted-group-defined-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | gpo-restricted-group-defined-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | gpo-restricted-group-defined-info[] optional | The list of attributes of gpo objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more gpo objects to return. |

| | | | |
|---|---|---|---|
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# gpo-update

[top]

Download and apply the latest version of the group policy defined in Active Directory.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force-reapply-all-settings** | | boolean optional | Ignores all processing optimizations and re-applies all settings. |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# Element definition: **gpo-applied-info**

[top]

GPO information that is currently applied on a CIFS-enabled Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **adv-audit-cap-staging** | | string optional | This policy setting allows you to audit access requests where the permission granted or denied by a proposed policy differs from the current central access policy on an object. If you configure this policy setting, an audit event is generated each time a user accesses an object and the permission granted by the current central access policy on the object differs from that granted by the proposed policy. The resulting audit event will be generated as follows: 1) Success audits, when configured, records access attempts when the current central access policy grants access but the proposed policy denies access. 2) Failure audits when configured records access attempts when: a) The current central access policy does not grant access but the proposed policy grants access. b) A principal requests the maximum access rights they are allowed and the access rights granted by the current central access policy are different than the access rights granted by the proposed policy. Volume: Potentially high on a file server when the proposed policy differs significantly from the current central access policy. Default: No Auditing Attributes: non- |

| | | | |
|---|---|---|---|
| | | | creatable, non-modifiable |
| **cap-list** | | string[] optional | List of Central Access Policies. Attributes: non-creatable, non-modifiable |
| **dspath** | | string optional | LDAP DN path. Attributes: non-creatable, non-modifiable |
| **extension** | | string[] optional | List of the GPO extensions. Attributes: non-creatable, non-modifiable |
| **filesyspath** | | string optional | File System Path of a GPO policy file. Attributes: non-creatable, non-modifiable |
| **gpo-index** | **[0..2^32-1]** | integer optional | The index of the GPO in the GPO list of a Vserver. Attributes: key, non-creatable, non-modifiable |
| **gpo-name** | | string optional | GPO name in text format. Attributes: non-creatable, non-modifiable |
| **gpo-status** | | string optional | GPO status for each listed GPO: enabled or disabled. Attributes: non-creatable, non-modifiable |
| **gpo-uuid** | | string optional | GPO name in UUID format. Attributes: non-creatable, non-modifiable |
| **link** | | string optional | Type of the GPO. Attributes: non-creatable, non-modifiable |
| **registry-hash-publication-mode** | | string optional | Hash Publication Mode for BranchCache. Attributes: non-creatable, non-modifiable |
| **registry-hash-version** | | string optional | Hash Version Support for BranchCache. Attributes: non-creatable, non-modifiable |
| **registry-refresh-interval** | **[0..2^32-1]** | integer optional | Registry refreshint time interval. Attributes: non-creatable, non-modifiable |
| **registry-refresh-random-offset** | **[0..2^32-1]** | integer optional | Registry refreshing time random offset. Attributes: non-creatable, non-modifiable |
| **security-audit-log-ret-method** | | string optional | Security log retention method. Attributes: non-creatable, non-modifiable |
| **security-audit-logon-events** | | string optional | Log-on events to be audited. Attributes: non-creatable, non-modifiable |
| **security-audit-max-log-size** | **[0..2^32-1]** | integer optional | Maximum size of security log. Attributes: non-creatable, non-modifiable |
| **security-audit-object-access** | | string optional | Object access to be audited. Attributes: non-creatable, non-modifiable |
| **security-file-security** | | gpo-file-security-path[] optional | List of files or directories for which file security is applied. Attributes: non-creatable, non-modifiable |
| **security-kerberos-clock-skew** | **[0..2^32-1]** | integer optional | Kerberos maximum clock skew; Maximum tolerance for computer clock synchronization. Attributes: non-creatable, non-modifiable |
| **security-kerberos-** | **[0..2^32-** | integer | Kerberos maximum lifetime for user ticket renewal. Attributes: |

| | | | |
|---|---|---|---|
| **renewal-age** | **1]** | optional | non-creatable, non-modifiable |
| **security-kerberos-ticket-age** | **[0..2^32-1]** | integer optional | Kerberos maximum lifetime for user ticket. Attributes: non-creatable, non-modifiable |
| **security-privilege-rights-change-notify** | | gpo-user-group[] optional | List of users and/or groups which can traverse directory trees even though the users and/or groups may not have permissions on the traversed directory. Attributes: non-creatable, non-modifiable |
| **security-privilege-rights-security** | | gpo-user-group[] optional | List of users and/or groups that can specify object access auditing options for individual resources, such as files, Active Directory objects. Attributes: non-creatable, non-modifiable |
| **security-privilege-rights-take-ownership** | | gpo-user-group[] optional | List of users and/or groups that have the right to take ownership of any securable object in the system. Attributes: non-creatable, non-modifiable |
| **security-registry-signing-required** | | boolean optional | SMB Signing Required Attributes: non-creatable, non-modifiable |
| **security-restrict-anon-combined-restriction-for-anonymous-user** | | anonymous-restriction-level optional | Combined restriction for Anonymous User. This setting is derived from security-restrict-anon-noenum-for-sam, security-restrict-anon-noenum-for-samshare and security-restrict-anon-no-access. If no-access is set then this setting is set to no-access. If no-enumeration is set and no-access is not set then this setting is set to no-enumeration. If both no-enumeration and no-access are not set then this setting is set to no-restriction. Attributes: non-creatable, non-modifiable Possible values:<br>• "no_restriction" - No Access Restriction for Anonymous User.,<br>• "no_enumeration" - Only Enumeration Is Restricted.,<br>• "no_access" - Access Restricted for Anonymous User. |
| **security-restrict-anon-no-access** | | boolean optional | Restrict anonymous access to named pipes and shares. This setting is mapped to no-access value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable |
| **security-restrict-anon-noenum-sam** | | boolean optional | Do not allow anonymous enumeration of SAM accounts. This setting is mapped to no-enumeration value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable |
| **security-restrict-anon-noenum-sam-share** | | boolean optional | Do not allow anonymous enumeration of SAM accounts and shares. This setting is mapped to no-enumeration value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable |
| **security-restricted-groups** | | gpo-user-group[] optional | List of Restricted groups. Attributes: non-creatable, non-modifiable |
| **version** | **[0..2^32-1]** | integer optional | The individual GPO's update version. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver display name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **gpo-config**

[top]

Group Policy configuration for Vservers. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-gpo-enabled** | | true-false optional | Group Policy Zapi Status. Attributes: optional-for-create, modifiable |
| **vserver** | | vserver-name optional | The name of the Vserver associated with this group-policy. Attributes: key, non-creatable, non-modifiable |

# Element definition: **gpo-gpresult-info**

[top]

GPO RSoP(Resultant Set of Policy) that is currently defined on the Active Directory for a CIFS-enabled Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **adv-audit-cap-staging** | | string optional | This policy setting allows you to audit access requests where the permission granted or denied by a proposed policy differs from the current central access policy on an object. If you configure this policy setting, an audit event is generated each time a user accesses an object and the permission granted by the current central access policy on the object differs from that granted by the proposed policy. The resulting audit event will be generated as follows: 1) Success audits, when configured, records access attempts when the current central access policy grants access but the proposed policy denies access. 2) Failure audits when configured records access attempts when: a) The current central access policy does not grant access but the proposed policy grants access. b) A principal requests the maximum access rights they are allowed and the access rights granted by the current central access policy are different than the access rights granted by the proposed policy. Volume: Potentially high on a file server when the proposed policy differs significantly from the current |

| | | | |
|---|---|---|---|
| | | | central access policy. Default: No Auditing Attributes: non-creatable, non-modifiable |
| **cap-list** | | string[] optional | List of Central Access Policies. Attributes: non-creatable, non-modifiable |
| **dspath** | | string optional | LDAP DN path. Attributes: non-creatable, non-modifiable |
| **extension** | | string[] optional | List of the GPO extensions. Attributes: non-creatable, non-modifiable |
| **filesyspath** | | string optional | File System Path of a GPO policy file. Attributes: non-creatable, non-modifiable |
| **gpo-index** | **[0..2^32-1]** | integer optional | The index of the GPO in the GPO list of a Vserver. Attributes: key, non-creatable, non-modifiable |
| **gpo-name** | | string optional | GPO name in text format. Attributes: non-creatable, non-modifiable |
| **gpo-status** | | string optional | GPO status for each listed GPO: enabled or disabled. Attributes: non-creatable, non-modifiable |
| **gpo-uuid** | | string optional | GPO name in UUID format. Attributes: non-creatable, non-modifiable |
| **link** | | string optional | Type of the GPO. Attributes: non-creatable, non-modifiable |
| **registry-hash-publication-mode** | | string optional | Hash Publication Mode for BranchCache. Attributes: non-creatable, non-modifiable |
| **registry-hash-version** | | string optional | Hash Version Support for BranchCache. Attributes: non-creatable, non-modifiable |
| **registry-refresh-interval** | **[0..2^32-1]** | integer optional | Registry refreshint time interval. Attributes: non-creatable, non-modifiable |
| **registry-refresh-random-offset** | **[0..2^32-1]** | integer optional | Registry refreshing time random offset. Attributes: non-creatable, non-modifiable |
| **security-audit-log-ret-method** | | string optional | Security log retention method. Attributes: non-creatable, non-modifiable |
| **security-audit-logon-events** | | string optional | Log-on events to be audited. Attributes: non-creatable, non-modifiable |
| **security-audit-max-log-size** | **[0..2^32-1]** | integer optional | Maximum size of security log in kbytes. Attributes: non-creatable, non-modifiable |
| **security-audit-object-access** | | string optional | Object access to be audited. Attributes: non-creatable, non-modifiable |
| **security-file-security** | | gpo-file-security-path[] optional | List of files or directories for which file security is to be applied. Attributes: non-creatable, non-modifiable |
| **security-kerberos-clock-skew** | **[0..2^32-1]** | integer optional | Kerberos maximum clock skew; Maximum tolerance for computer clock synchronization. Attributes: non-creatable, non-modifiable |
| **security-** | | | |

| | | | |
|---|---|---|---|
| **kerberos-renewal-age** | **[0..2^32-1]** | integer optional | Kerberos maximum lifetime for user ticket renewal. Attributes: non-creatable, non-modifiable |
| **security-kerberos-ticket-age** | **[0..2^32-1]** | integer optional | Kerberos maximum lifetime for user ticket. Attributes: non-creatable, non-modifiable |
| **security-privilege-rights-change-notify** | | gpo-user-group[] optional | List of users and/or groups which can traverse directory trees even though the users and/or groups may not have permissions on the traversed directory. Attributes: non-creatable, non-modifiable |
| **security-privilege-rights-security** | | gpo-user-group[] optional | List of users and/or groups that can specify object access auditing options for individual resources, such as files, Active Directory objects. Attributes: non-creatable, non-modifiable |
| **security-privilege-rights-take-ownership** | | gpo-user-group[] optional | List of users and/or groups that have the right to take ownership of any securable object in the system. Attributes: non-creatable, non-modifiable |
| **security-registry-signing-required** | | boolean optional | SMB Signing Required Attributes: non-creatable, non-modifiable |
| **security-restrict-anon-combined-restriction-for-anonymous-user** | | anonymous-restriction-level optional | Combined restriction for Anonymous User. This setting is derived from security-restrict-anon-noenum-for-sam, security-restrict-anon-noenum-for-samshare and security-restrict-anon-no-access. If no-access is set then this setting is set to no-access. If no-enumeration is set and no-access is not set then this setting is set to no-enumeration. If both no-enumeration and no-access are not set then this setting is set to no-restriction. Attributes: non-creatable, non-modifiable Possible values:<br>• "no_restriction" - No Access Restriction for Anonymous User.,<br>• "no_enumeration" - Only Enumeration Is Restricted.,<br>• "no_access" - Access Restricted for Anonymous User. |
| **security-restrict-anon-no-access** | | boolean optional | Restrict anonymous access to named pipes and shares. This setting is mapped to no-access value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable |
| **security-restrict-anon-noenum-sam** | | boolean optional | Do not allow anonymous enumeration of SAM accounts. This setting is mapped to no-enumeration value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable |
| **security-restrict-anon-noenum-sam-share** | | boolean optional | Do not allow anonymous enumeration of SAM accounts and shares. This setting is mapped to no-enumeration value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable |
| **security-restricted-groups** | | gpo-user-group[] optional | List of Restricted groups. Attributes: non-creatable, non-modifiable |
| **version** | **[0..2^32-1]** | integer optional | The individual GPO's update version. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver display name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **gpo-restricted-group-applied-info**

[top]

Applied Restricted Group Settings When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | string optional | Group name associated with GPO group-policy-name. Attributes: key, non-creatable, non-modifiable |
| **group-policy-name** | | string optional | GPO name in text format. Attributes: non-creatable, non-modifiable |
| **link-type** | | string optional | GPO link type. Attributes: non-creatable, non-modifiable |
| **member-of** | | gpo-user-group[] optional | Groups in which group-name is a member of. Attributes: non-creatable, non-modifiable |
| **members** | | gpo-user-group[] optional | Members of the group group-name. Members can be users and/or groups. Attributes: non-creatable, non-modifiable |
| **version** | **[0..2^32-1]** | integer optional | GPO version. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Name of the vserver to which group-name is associated with. Attributes: key, non-creatable, non-modifiable |

# Element definition: **gpo-restricted-group-defined-info**

[top]

Defined Restricted Group Settings in DC When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | string optional | Group name associated with GPO group-policy-name. Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **group-policy-name** | | string optional | GPO name in text format. Attributes: non-creatable, non-modifiable |
| **link-type** | | string optional | GPO link type. Attributes: non-creatable, non-modifiable |
| **member-of** | | gpo-user-group[] optional | Groups in which group-name is a member of. Attributes: non-creatable, non-modifiable |
| **members** | | gpo-user-group[] optional | Members of the group group-name. Members can be users and/or groups. Attributes: non-creatable, non-modifiable |
| **version** | **[0..2^32-1]** | integer optional | GPO version. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Name of the vserver to which group-name is associated with. Attributes: key, non-creatable, non-modifiable |

# Element definition: **true-false**

[top]

True/False

[none]

# Element definition: **anonymous-restriction-level**

[top]

Classification of the CIFS null user restriction. Possible values:

- "no_restriction" - No Access Restriction for Anonymous User.,
- "no_enumeration" - Only Enumeration Is Restricted.,
- "no_access" - Access Restricted for Anonymous User.

[none]

# Element definition: **gpo-file-security-path**

[top]

A group policy file security path string.

[none]

# Element definition: **gpo-user-group**

[top]

A group name or a user name.

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **group-mapping**


group-mapping-create
group-mapping-delete
group-mapping-get-iter
group-mapping-insert
group-mapping-modify
group-mapping-swap


## group-mapping-create

[top]

This API is no longer supported as of ONTAP 9.5.0.

Create a new group mapping for a Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | name-mapping-direction | Direction in which the group mapping is applied. Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **pattern** | | string | Pattern to use to match the group while searching for a group that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. |
| **position** | **[1..1024]** | integer | Position of an existing group mapping in the list of group mappings for this Vserver. |
| **replacement** | | string | The group that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. |
| **return-record** | | boolean<br>optional | If set to true, returns the group-mapping on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | group-mapping-info<br>optional | The group-mapping created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# group-mapping-delete

[top]

This API is no longer supported as of ONTAP 9.5.0.

Delete an existing group mapping entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | name-mapping-direction | Direction in which the group mapping is applied. Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **position** | **[1..1024]** | integer | Position of an existing group mapping in the list of group mappings for this Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# group-mapping-get-iter

[top]

This API is no longer supported as of ONTAP 9.5.0.

Retrieve the list of group mappings in the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | group-mapping-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | group-mapping-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the group-mapping object. All group-mapping objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | group-mapping-info[] optional | The list of attributes of group-mapping objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more group-mapping objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# group-mapping-insert

[top]

This API is no longer supported as of ONTAP 9.5.0.

Insert a group mapping into the table at a specified position.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | name-mapping-direction | Direction in which the group mapping is applied. Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **pattern** | | string | Pattern to use to match the group while searching for a group that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. |
| **position** | **[1..1024]** | integer | Position within the set of group mappings that this new mapping will take. If a mapping already exists at this position, it will be moved to the next position in the list. |
| **replacement** | | string | The group that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# group-mapping-modify

[top]

This API is no longer supported as of ONTAP 9.5.0.

Modify an existing group mapping entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | name-mapping-direction | Direction in which the group mapping is applied. Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **pattern** | | string optional | Pattern to use to match the group while searching for a group that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. |
| **position** | **[1..1024]** | integer | Position of an existing group mapping in the list of group mappings for this Vserver. |
| **replacement** | | string optional | The group that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# group-mapping-swap

[top]

This API is no longer supported as of ONTAP 9.5.0.

Swap the position of one group mapping with another. The position is the place in the sequence of group mappings in which the mappings are applied.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | string | Direction in which the group mapping is applied. |
| **position** | **[1..1024]** | integer | Position of an existing group mapping in the list of group mappings for this Vserver. |
| **with-position** | **[0..2^32-1]** | integer | Position of an existing group mapping entry in the list of group mappings for this Vserver. This entry will be swapped with the entry at 'position'. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **group-mapping-info**

[top]

This type is no longer supported as of ONTAP 9.5.0.

group mapping configuration for Vservers. The possible sources of group mapping information and the order in which they are searched is determined by the Vserver's 'name-mapping-switch' option. If the 'name-mapping-switch' is set to 'file', the rules in this table are used to determine the mapping. Windows user groups, UNIX user groups and Kerberos principal groups can be three disjoint sets of groups. A mechanism is needed to map groups from one set to another when presenting ACLs across multiprotocol clients. Each group mapping entry represents one such map in a given direction. group mappings are done using standard UNIX style regular expressions for pattern replacement. For example if a configuration is required to convert any Windows user in the Windows domain name 'EXAMPLE' into a UNIX user with the same name in NIS, the direction entry should be set to 'win-unix', the pattern string should be set to '418 :+)' and the replacement string should be set to '\1'. The double backslash (\\) in the pattern matches a single backslash in the source name. The parentheses denote a subexpression but do not match any characters themselves. The 'period' matches any single character. The 'plus' matches one or more characters of the previous expression. The pattern 'EXAMPLE\\(.+)' matches 'EXAMPLE\' followed by one or more of any character. In the replacement, '\1' refers to the string that the first subexpression matched. Assuming the Windows user 'EXAMPLE\user1', the replacement evaluates to 'user1'. If a mapping is required from Windows to UNIX and none of the name mapping entries match, the domain name is stripped from the the username and it is directly mapped to the UNIX user of the same name. Similarly if a mapping is required from a UNIX user to a Windows user and none of the name mapping entries match, the domain name is prefixed to the username and it is directly mapped to a Windows user of the When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | name-mapping-direction optional | Direction in which the group mapping is applied. Attributes: key, required-for-create, non-modifiable Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **pattern** | | string optional | Pattern to use to match the group while searching for a group that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. Attributes: required-for-create, modifiable |
| **position** | **[1..1024]** | integer optional | Position of an existing group mapping in the list of group mappings for this Vserver. Attributes: key, required-for-create, non-modifiable |
| | | string | The group that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string |

| | | | |
|---|---|---|---|
| **replacement** | | optional | containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. Attributes: required-for-create, modifiable |
| **vserver** | | string<br>optional | Specifies the Vserver for the group mapping. Attributes: key, non-creatable, non-modifiable |

# Element definition: **name-mapping-direction**

[top]

Direction of the name mapping. Possible values:

- "krb_unix" - Kerberos principal name to UNIX user name mapping,
- "win_unix" - Windows user name to UNIX user name mapping,
- "unix_win" - UNIX user name to Windows user name mapping,
- "s3_unix" - S3 user name to UNIX user name mapping,
- "s3_win" - S3 user name to Windows user name mapping

[none]

# APIs in Category: **ha-interconnect**

This set of ZAPIs allows management of high-availability interconnect device and its links.


ha-interconnect-clear-port-counters
ha-interconnect-clear-port-symbol-errors
ha-interconnect-config-details-get-iter
ha-interconnect-connection-status-get-iter
ha-interconnect-flint-flash-details-get-iter
ha-interconnect-flint-image-details-get-iter
ha-interconnect-flint-verify-flash
ha-interconnect-flint-verify-image
ha-interconnect-flush-details-get-iter
ha-interconnect-get-config-details
ha-interconnect-get-connection-status
ha-interconnect-get-flint-flash-details
ha-interconnect-get-flint-image-details
ha-interconnect-get-flush-details
ha-interconnect-get-nvram-configuration
ha-interconnect-get-ood-status
ha-interconnect-get-performance-statistics
ha-interconnect-get-port-details
ha-interconnect-get-scatter-gather-list-statistics
ha-interconnect-get-timeout-values
ha-interconnect-link-off
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ha-interconnect-nic-reset
ha-interconnect-nvram-configuration-get-iter
ha-interconnect-ood-clear-error-statistics
ha-interconnect-ood-clear-performance-

statistics
ha-interconnect-ood-disable-statistics
ha-interconnect-ood-enable-statistics
ha-interconnect-ood-optimization-off
ha-interconnect-ood-optimization-on
ha-interconnect-ood-send-diagnostic-buffer
ha-interconnect-ood-status-get-iter
ha-interconnect-performance-statistics-get-iter
ha-interconnect-port-details-get-iter
ha-interconnect-scatter-gather-list-statistics-get-iter
ha-interconnect-timeout-values-get-iter

# ha-interconnect-clear-port-counters

[top]

Clear high-availability interconnect port counters of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-clear-port-symbol-errors

[top]

Clear high-availability interconnect port symbol errors of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-config-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device configuration information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-config-details optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ha-interconnect-config-details optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-config-details object. All ha-interconnect-config-details objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ha-interconnect-config-details[] optional | The list of attributes of ha-interconnect-config-details objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-config-details objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-connection-status-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect connection status

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | ha-interconnect-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-status-info object. All ha-interconnect-status-info objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ha-interconnect-status-info[] optional | The list of attributes of ha-interconnect-status-info objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-status-info objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EHAIC_INSUFFICIENT_DATA** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-flint-flash-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect binary firmware image information residing in the flash card attached to adapter

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-flint-flash-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ha-interconnect-flint-flash-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-flint-flash-info object. All ha-interconnect-flint-flash-info objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ha-interconnect-flint-flash-info[] optional | The list of attributes of ha-interconnect-flint-flash-info objects. |
| | | | |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-flint-flash-info objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-flint-image-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect binary firmware image information residing in the system

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-flint-image-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ha-interconnect-flint-image-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-flint-image-info object. All ha-interconnect-flint-image-info objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ha-interconnect-flint-image-info[] optional | The list of attributes of ha-interconnect-flint-image-info objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-flint-image-info objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-flint-verify-flash

[top]

Verify high-availability interconnect binary firmware image residing in flash card attached to adapter on the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |
| **EHAIC_FLINT_FAIL** | |

# ha-interconnect-flint-verify-image

[top]

Verify high-availability interconnect binary firmware image residing in system on the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |
| **EHAIC_FLINT_FAIL** | |

# ha-interconnect-flush-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device flush information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-flush-details optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ha-interconnect-flush-details optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-flush-details object. All ha-interconnect-flush-details objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | ha-interconnect- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | flush-details[] optional | The list of attributes of ha-interconnect-flush-details objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-flush-details objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |
| **EHAIC_FLUSHING_INACTIVE** | |

# ha-interconnect-get-config-details

[top]

Get high-availability interconnect device configuration information of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-config-details optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which this configuration information belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-config-details | The attributes of the ha-interconnect-config-details. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-get-connection-status

[top]

Get high-availability interconnect connection status of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which this connection status belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-status-info | The attributes of the ha-interconnect-status-info. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_INSUFFICIENT_DATA** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-get-flint-flash-details

[top]

Get high-availability interconnect binary firmware image information residing in the flash card attached to adapter of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-flint-flash-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which this device firmware image information belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-flint-flash-info | The attributes of the ha-interconnect-flint-flash-info. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-get-flint-image-details

[top]

Get high-availability interconnect binary firmware image information residing in the system of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-flint-image-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which this device firmware image information belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-flint-image-info | The attributes of the ha-interconnect-flint-image-info. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-get-flush-details

[top]

Get high-availability interconnect device flush information of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | ha-ic-nv-channel | High-availability interconnect device NVRAM channel name. Possible values:<br>• "wafl" - HA Interconnect WAFL NV Channel,<br>• "raid" - HA Interconnect RAID NV Channel,<br>• "misc" - HA Interconnect MISC NV Channel |
| **desired-attributes** | | ha-interconnect-flush-details optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which this flush information belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-flush-details | The attributes of the ha-interconnect-flush-details. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |
| **EHAIC_FLUSHING_INACTIVE** | |

# ha-interconnect-get-nvram-configuration

[top]

Get basic nvram configuration information of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-** | | ha-interconnect- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | nvram-info optional | present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-nvram-info | The attributes of the ha-interconnect-nvram-info. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_NO_NVRAM** | |

# ha-interconnect-get-ood-status

[top]

Get high-availability interconnect device out-of-order delivery information of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-ood-status optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which this out-of-order delivery capability information belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-ood-status | The attributes of the ha-interconnect-ood-status. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-get-performance-statistics

[top]

Get high-availability interconnect performance statistics of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-performance-statistics optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which this performance statistics belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-performance-statistics | The attributes of the ha-interconnect-performance-statistics. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ha-interconnect-get-port-details

[top]

Get high-availability interconnect device port information of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-port-details optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which this high-availability interconnect device port information belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-port-details | The attributes of the ha-interconnect-port-details. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-get-scatter-gather-list-statistics

[top]

Get high-availability interconnect device scatter-gather list entry statistics of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-scatter-gather-list-statistics optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which this scatter-gather list entry statistics belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **attributes** | | ha-interconnect-scatter-gather-list-statistics | The attributes of the ha-interconnect-scatter-gather-list-statistics. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ha-interconnect-get-timeout-values

[top]

Get high-availability interconnect software timeout values of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-timeout optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which these timeout values belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-timeout | The attributes of the ha-interconnect-timeout. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ha-interconnect-link-off

[top]

Turn off selected interconnect link on the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **link-number** | | ha-ic-device-port | Interconnect link number (0-based) to turn off. |
| **node-name** | | filer-id | The node on which the link command executes. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_LINK_OPERATION_STATUS** | |

# ha-interconnect-link-on

[top]

Turn on selected interconnect link on the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **link-number** | | ha-ic-device-port | Interconnect link number (0-based) to turn on. |
| **node-name** | | filer-id | The node on which the link command executes. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_LINK_OPERATION_STATUS** | |

# ha-interconnect-modify-timeout-values

[top]

Change high-availability interconnect software timeout values of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ic-mvia-timeout** | | integer optional | Interconnect Read/write Timeout For Virtual Platforms(msecs) |
| **ic-timeout** | | integer optional | Interconnect Read/write Timeout (msecs) |
| **node-name** | | node-name | The node to which these timeout values belongs. |
| **ofw-mvia-timeout** | | integer optional | Firmware Read Timeout For Virtual Platforms(msecs) |
| **ofw-timeout** | | integer optional | Firmware Read Timeout (msecs) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ha-interconnect-nic-reset

[top]

Reset high-availability interconnect device of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

[top]

# ha-interconnect-nvram-configuration-get-iter

Iterate over list of nodes in the cluster to get their basic nvram configuration information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-nvram-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ha-interconnect-nvram-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-nvram-info object. All ha-interconnect-nvram-info objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ha-interconnect-nvram-info[] optional | The list of attributes of ha-interconnect-nvram-info objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-nvram-info objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EHAIC_NO_NVRAM** | |

# ha-interconnect-ood-clear-error-statistics

[top]

Clear high-availability interconnect device out-of-order delivery error statistics of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-ood-clear-performance-statistics

[top]

Clear high-availability interconnect device out-of-order delivery performance statistics of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-ood-disable-statistics

[top]

Disable high-availability interconnect device out-of-order delivery statistics collection for the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-ood-enable-statistics

[top]

Enable high-availability interconnect device out-of-order delivery statistics collection for the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-ood-optimization-off

[top]

Disable coalescing work requests on high-availability interconnect device of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EHAIC_COMMAND_UNSUPPORTED | |

# ha-interconnect-ood-optimization-on

[top]

Enable coalescing work requests on high-availability interconnect device of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| node-name | | filer-id | Node |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EHAIC_COMMAND_UNSUPPORTED | |

# ha-interconnect-ood-send-diagnostic-buffer

[top]

Send diagnostic buffer to the HA partner of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| node-name | | filer-id | Node |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EHAIC_COMMAND_UNSUPPORTED | |
| EHAIC_SEND_DIAG_FAIL | |

# ha-interconnect-ood-status-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device out-of-order delivery information

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | ha-interconnect-ood-status optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | ha- | A query that specifies which objects to return. A query could be |

| | | | |
|---|---|---|---|
| **query** | | interconnect-ood-status optional | specified on any number of attributes in the ha-interconnect-ood-status object. All ha-interconnect-ood-status objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ha-interconnect-ood-status[] optional | The list of attributes of ha-interconnect-ood-status objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-ood-status objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-performance-statistics-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect performance statistics

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-performance-statistics optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ha-interconnect-performance-statistics optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-performance-statistics object. All ha-interconnect-performance-statistics objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ha-interconnect-performance-statistics[] optional | The list of attributes of ha-interconnect-performance-statistics objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-performance-statistics objects to return. |
| **num-records** | **[0..2^32-** | integer | The number of records returned in this call. |

| | | | |
|---|---|---|---|
| | 1] | | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# ha-interconnect-port-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device port information

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | ha-interconnect-port-details optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | ha-interconnect-port-details optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-port-details object. All ha-interconnect-port-details objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | ha-interconnect-port-details[] optional | The list of attributes of ha-interconnect-port-details objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-port-details objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# ha-interconnect-scatter-gather-list-statistics-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device scatter-gather list entry statistics

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | ha-interconnect-scatter-gather-list- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is |

| | | | |
|---|---|---|---|
| | | statistics optional | available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ha-interconnect-scatter-gather-list-statistics optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-scatter-gather-list-statistics object. All ha-interconnect-scatter-gather-list-statistics objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ha-interconnect-scatter-gather-list-statistics[] optional | The list of attributes of ha-interconnect-scatter-gather-list-statistics objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-scatter-gather-list-statistics objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ha-interconnect-timeout-values-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect software timeout values

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-timeout optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ha-interconnect-timeout optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-timeout object. All ha-interconnect-timeout objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ha-interconnect-timeout[] | The list of attributes of ha-interconnect-timeout objects. |

| | | | |
|---|---|---|---|
| | | optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-timeout objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **filer-id**

[top]

Filer UUID

[none]

# Element definition: **ha-ic-device-port**

[top]

0|1 Possible values:

- "0" - HA Interconnect Device Port 0,
- "1" - HA Interconnect Device Port 1

[none]

# Element definition: **ha-ic-nv-channel**

[top]

wafl|raid|misc Possible values:

- "wafl" - HA Interconnect WAFL NV Channel,
- "raid" - HA Interconnect RAID NV Channel,
- "misc" - HA Interconnect MISC NV Channel

[none]

# Element definition: **ha-interconnect-config-details**

[top]

High-availability interconnect configuration information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **connection-request-initiator** | | ha-ic-initiator optional | The initiator of the connection request. Attributes: non-creatable, non-modifiable Possible values:<br>• "local" - HA Interconnect connections are initiated by the local node,<br>• "partner" - HA Interconnect connections are initiated by the partner |
| **interconnect-port-details** | | interconnect-port-info[] optional | Interconnect device ports information |
| **interface-type** | | ha-ic-interface-type optional | High-availability interconnect links connection interface. Attributes: non-creatable, non-modifiable Possible values:<br>• "backplane" - HA Interconnect is using backplane (internal) links,<br>• "external" - HA Interconnect is using external links |
| **local-node-sysid** | **[0..2^32-1]** | integer optional | Local system identifier. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The node to which this configuration information belongs. Attributes: key, non-creatable, non-modifiable |
| **partner-node-sysid** | **[0..2^32-1]** | integer optional | HA partner system identifier. Attributes: non-creatable, non-modifiable |
| **transport-type** | | string optional | High-availability interconnect type. Attributes: non-creatable, non-modifiable |

# Element definition: **ha-interconnect-flint-flash-info**

[top]

High-availability interconnect binary firmware image information residing in flash card attached to adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **board-id** | | string optional | Interconnect device board identifier. Attributes: non-creatable, non-modifiable |
| **chip-revision** | | string optional | Chip Revision Attributes: non-creatable, non-modifiable |
| **device-id** | **[0..2^32-1]** | integer optional | Device ID Attributes: non-creatable, non-modifiable |
| **fw-version** | | string optional | Firmware Version Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **hw-access-key** | | string optional | Hardware Access Key Attributes: non-creatable, non-modifiable |
| **image-type** | | ha-ic-flint-image-type optional | Image Type Attributes: non-creatable, non-modifiable Possible values:<br>• "connectx" - ConnectX device family,<br>• "fs2" - Flexible storage solutions device family,<br>• "failsafe" - Failsafe enabled device family,<br>• "short" - Non-Failsafe device family |
| **invariant-sector-version** | **[0..2^32-1]** | integer optional | Invariant Sector Version Attributes: non-creatable, non-modifiable |
| **node-guid** | | string optional | Node global unique identifier. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The node to which this device firmware image information belongs. Attributes: key, non-creatable, non-modifiable |
| **parameter-set-id** | | string optional | Parameter set identifier. Attributes: non-creatable, non-modifiable |
| **port1-guid** | | string optional | Port 1 global unique identifier. Attributes: non-creatable, non-modifiable |
| **port1-mac** | | string optional | Port 1 MAC address. Attributes: non-creatable, non-modifiable |
| **port2-guid** | | string optional | Port 2 GUID Attributes: non-creatable, non-modifiable |
| **port2-mac** | | string optional | Port 2 MAC address. Attributes: non-creatable, non-modifiable |
| **product-version** | | string optional | Product Version Attributes: non-creatable, non-modifiable |
| **sys-image-guid** | | string optional | System image global unique identifier. Attributes: non-creatable, non-modifiable |
| **vendor-specific-data** | | string optional | Vendor specific data. Attributes: non-creatable, non-modifiable |

# Element definition: **ha-interconnect-flint-image-info**

[top]

High-availability interconnect binary firmware image information residing in system When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **board-id** | | string optional | Interconnect device board identifier. Attributes: non-creatable, non-modifiable |
| **chip-revision** | | string optional | Chip Revision Attributes: non-creatable, non-modifiable |
| | **[0..2^32-** | integer | |

| | | | |
|---|---|---|---|
| **device-id** | **1]** | optional | Device ID Attributes: non-creatable, non-modifiable |
| **fw-version** | | string optional | Firmware Version Attributes: non-creatable, non-modifiable |
| **hw-access-key** | | string optional | Hardware Access Key Attributes: non-creatable, non-modifiable |
| **image-type** | | ha-ic-flint-image-type optional | Image Type Attributes: non-creatable, non-modifiable Possible values:<br>• "connectx" - ConnectX device family,<br>• "fs2" - Flexible storage solutions device family,<br>• "failsafe" - Failsafe enabled device family,<br>• "short" - Non-Failsafe device family |
| **invariant-sector-version** | **[0..2^32-1]** | integer optional | Invariant Sector Version Attributes: non-creatable, non-modifiable |
| **node-guid** | | string optional | Node global unique identifier. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The node to which this device firmware image information belongs. Attributes: key, non-creatable, non-modifiable |
| **parameter-set-id** | | string optional | Parameter set identifier. Attributes: non-creatable, non-modifiable |
| **port1-guid** | | string optional | Port 1 global unique identifier. Attributes: non-creatable, non-modifiable |
| **port1-mac** | | string optional | Port 1 MAC address. Attributes: non-creatable, non-modifiable |
| **port2-guid** | | string optional | Port 2 GUID Attributes: non-creatable, non-modifiable |
| **port2-mac** | | string optional | Port 2 MAC address. Attributes: non-creatable, non-modifiable |
| **product-version** | | string optional | Product Version Attributes: non-creatable, non-modifiable |
| **sys-image-guid** | | string optional | System image global unique identifier. Attributes: non-creatable, non-modifiable |
| **vendor-specific-data** | | string optional | Vendor specific data. Attributes: non-creatable, non-modifiable |

# Element definition: **ha-interconnect-flush-details**

[top]

High-availability interconnect flush information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | High-availability interconnect device NVRAM channel name. |

| | | | |
|---|---|---|---|
| **channel-name** | | ha-ic-nv-channel optional | Attributes: key, non-creatable, non-modifiable Possible values:<br>• "wafl" - HA Interconnect WAFL NV Channel,<br>• "raid" - HA Interconnect RAID NV Channel,<br>• "misc" - HA Interconnect MISC NV Channel |
| **node-name** | | node-name optional | The node to which this flush information belongs. Attributes: key, non-creatable, non-modifiable |
| **recv-flush-request-id** | **[0..2^64-1]** | integer optional | Flush receive request identifier. Attributes: non-creatable, non-modifiable |
| **recv-notify-complete-id** | **[0..2^64-1]** | integer optional | Flush receive request completion identifier. Attributes: non-creatable, non-modifiable |
| **sent-flush-request-id** | **[0..2^64-1]** | integer optional | Flush sent request identifier. Attributes: non-creatable, non-modifiable |
| **sent-notify-complete-id** | **[0..2^64-1]** | integer optional | Flush sent request completion identifier. Attributes: non-creatable, non-modifiable |

# Element definition: **ha-interconnect-nvram-info**

[top]

Basic nvram configuration information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **local-size** | | size optional | Amount of NVRAM used by Local Node Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **partition** | | string optional | NVRAM Partition Attributes: non-creatable, non-modifiable |
| **total-size** | | size optional | Total NVRAM Size Attributes: non-creatable, non-modifiable |

# Element definition: **ha-interconnect-ood-status**

[top]

High-availability interconnect device out-of-order delivery information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-coalescing-enabled** | | boolean optional | Is Coalescing Enabled Attributes: non-creatable, non-modifiable |
| **is-ood-enabled** | | boolean optional | Is OOD Enabled Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The node to which this out-of-order delivery capability information belongs. Attributes: key, non-creatable, non-modifiable |

# Element definition: **ha-interconnect-performance-statistics**

[top]

Display high-availability interconnect performance statistics When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **average-bytes-per-transfer** | **[0..2^64-1]** | integer optional | Average amount of bytes sent per transfer. Attributes: non-creatable, non-modifiable |
| **average-megabytes-per-second** | | string optional | Average megabytes (MB) transferred per second. Attributes: non-creatable, non-modifiable |
| **average-receive-queue-wait-time** | **[0..2^64-1]** | integer optional | Average amount of time (in usecs) the interconnect device waited to post an empty buffer into the receive queue. Attributes: non-creatable, non-modifiable |
| **average-remote-nv-msgs-time** | **[0..2^64-1]** | integer optional | Average time (in usecs) between two remote NV messages. Attributes: non-creatable, non-modifiable |
| **average-remote-nv-transfer-size** | **[0..2^64-1]** | integer optional | Average transfer size of a remote NV message. Attributes: non-creatable, non-modifiable |
| **average-remote-nv-transfer-time** | **[0..2^64-1]** | integer optional | Average transfer time taken (in usecs) by remote NV messages. Attributes: non-creatable, non-modifiable |
| **avg-misc-queue-length** | **[0..2^64-1]** | integer optional | Average MISC interconnect channel queue depth. Attributes: non-creatable, non-modifiable |
| **avg-nvlog-sync-time** | **[0..2^64-1]** | integer optional | Average time taken (in msecs) to sync NVLOG between HA partner nodes. Attributes: non-creatable, non-modifiable |
| **avg-raid-queue-length** | **[0..2^64-1]** | integer optional | Average RAID interconnect channel queue depth. Attributes: non-creatable, non-modifiable |
| **avg-wafl-queue-length** | **[0..2^64-1]** | integer optional | Average WAFL interconnect channel queue depth. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **elapsed-time** | **[0..2^32-1]** | integer optional | Elapsed time (in seconds) between statistics collection start time and end time. Attributes: non-creatable, non-modifiable |
| **ic-16k-writes** | **[0..2^64-1]** | integer optional | Total number of 16K or more size writes performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **ic-4k-writes** | **[0..2^64-1]** | integer optional | Total number of 4K size writes performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **ic-8k-writes** | **[0..2^64-1]** | integer optional | Total number of 8K size writes performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **ic-data-aligned** | **[0..2^64-1]** | integer optional | Total number of aligned data writes performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **ic-data-misaligned** | **[0..2^64-1]** | integer optional | Total number of misaligned data writes performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **ic-discontiguous-writes** | **[0..2^64-1]** | integer optional | Total number of times the interconnect device performs discontiguous writes spanned across memory pages. Attributes: non-creatable, non-modifiable |
| **ic-isdone** | **[0..2^64-1]** | integer optional | Total number of times the interconnect client checked for the completion of a given tranfer ID. Attributes: non-creatable, non-modifiable |
| **ic-isdone-fail** | **[0..2^64-1]** | integer optional | Total number of times the check for the completion of a given trasfer ID is not yet successful. Attributes: non-creatable, non-modifiable |
| **ic-isdone-pass** | **[0..2^64-1]** | integer optional | Total number of times the check for the completion of a given transfer ID is successful. Attributes: non-creatable, non-modifiable |
| **ic-metadata-aligned** | **[0..2^64-1]** | integer optional | Total number of aligned metadata writes performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **ic-metadata-misaligned** | **[0..2^64-1]** | integer optional | Total number of misaligned metadata writes performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **ic-small-writes** | **[0..2^64-1]** | integer optional | Total number of less than 4K size writes performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **ic-waitdone-time** | **[0..2^64-1]** | integer optional | Average time (in usecs) the interconnect device spent waiting for the IDs to be transferred successfully. Attributes: non-creatable, non-modifiable |
| **ic-waits** | **[0..2^64-1]** | integer optional | Total number of times the interconnect device waits until the transfer of a given ID is successful. Attributes: non-creatable, non-modifiable |
| **ic-xorder-reads** | **[0..2^64-1]** | integer optional | Total number of out-of-order reads performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **ic-xorder-writes** | **[0..2^64-1]** | integer optional | Total number of out-of-order writes performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **max-nvlog-sync-time** | **[0..2^64-1]** | integer optional | Maximum time taken (in msecs) to sync NVLOG between HA partner nodes. Attributes: non-creatable, non-modifiable |
| **max-sgl-length** | **[0..2^32-1]** | integer optional | Maximum length of scatter-gather list supported by the interconnect device. Attributes: non-creatable, non-modifiable |
| **misc-data-io** | **[0..2^64-1]** | integer optional | Total number of MISC data IOs made through the interconnect device. Attributes: non-creatable, non-modifiable |
| **misc-flush-io** | **[0..2^64-1]** | integer optional | Total number of MISC flush IOs made through the interconnect device. Attributes: non-creatable, non-modifiable |
| **misc-metadata-io** | **[0..2^64-1]** | integer optional | Total number of MISC metadata IOs made through the interconnect device. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The node to which this performance statistics belongs. Attributes: key, non-creatable, non-modifiable |
| **nonpreempt-** | **[0..2^64-** | integer | Total number of times polling on the given transfer ID stopped due to interconnect device read/write timeout. Attributes: non- |

| | | | |
|---|---|---|---|
| **timeout** | **1]** | optional | creatable, non-modifiable |
| **notify-timeout** | **[0..2^64-1]** | integer optional | Total number of times data transfer on the HA interconnect timed out. Attributes: non-creatable, non-modifiable |
| **nv-conn-failover-time** | **[0..2^64-1]** | integer optional | NV connection failover time (in msecs). Attributes: non-creatable, non-modifiable |
| **preempt-timeout** | **[0..2^64-1]** | integer optional | Total number of times polling on the given transfer ID is preempted. Attributes: non-creatable, non-modifiable |
| **queue-max-timeout** | **[0..2^64-1]** | integer optional | Total number of times the interconnect device timed out waiting to post requests on the send queue. Attributes: non-creatable, non-modifiable |
| **queue-max-wait-count** | **[0..2^64-1]** | integer optional | Total number of times the interconnect device waited to post requests on the send queue. Attributes: non-creatable, non-modifiable |
| **queue-max-wait-time** | **[0..2^64-1]** | integer optional | Average amount of time (in usecs) the interconnect device waited to post requests on the send queue. Attributes: non-creatable, non-modifiable |
| **raid-data-io** | **[0..2^64-1]** | integer optional | Total number of RAID data IOs made through the interconnect device. Attributes: non-creatable, non-modifiable |
| **raid-flush-io** | **[0..2^64-1]** | integer optional | Total number of RAID flush IOs made through the interconnect device. Attributes: non-creatable, non-modifiable |
| **raid-metadata-io** | **[0..2^64-1]** | integer optional | Total number of RAID metadata IOs made through the interconnect device. Attributes: non-creatable, non-modifiable |
| **rdma-read** | **[0..2^64-1]** | integer optional | Total number of RDMA reads performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **rdma-read-waitdone-time** | **[0..2^64-1]** | integer optional | Average time (in usecs) the interconnect device spent polling for transfer IDs on the RDMA-read channel. Attributes: non-creatable, non-modifiable |
| **remote-nv-transfers** | **[0..2^64-1]** | integer optional | Total number of remote NV transfers attempted. Attributes: non-creatable, non-modifiable |
| **total-receive-queue-waits** | **[0..2^64-1]** | integer optional | Total number of times the interconnect device waited to post an empty buffer into the receive queue. Attributes: non-creatable, non-modifiable |
| **total-transfers** | **[0..2^64-1]** | integer optional | Total number of transfers made through the interconnect device. Attributes: non-creatable, non-modifiable |
| **wafl-data-io** | **[0..2^64-1]** | integer optional | Total number of WAFL data IOs made through the interconnect device. Attributes: non-creatable, non-modifiable |
| **wafl-flush-io** | **[0..2^64-1]** | integer optional | Total number of WAFL flush IOs made through the interconnect device. Attributes: non-creatable, non-modifiable |
| **wafl-metadata-io** | **[0..2^64-1]** | integer optional | Total number of WAFL metadata IOs made through the interconnect device. Attributes: non-creatable, non-modifiable |

# Element definition: **ha-interconnect-port-details**

[top]

High-availability interconnect device port information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **device-port-details** | | device-port-info[] optional | Interconnect device port link state information |
| **link-monitor** | | boolean optional | Link monitor detection capability. On means link monitor detection is enabled on this device. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The node to which this high-availability interconnect device port information belongs. Attributes: key, non-creatable, non-modifiable |

# Element definition: **ha-interconnect-scatter-gather-list-statistics**

[top]

High-availability interconnect device scatter-gather list entry statistics When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | node-name optional | The node to which this scatter-gather list entry statistics belongs. Attributes: key, non-creatable, non-modifiable |
| **sgl-details** | | sgl-info[] optional | Interconnect device scatter-gather list statistics |

# Element definition: **ha-interconnect-status-info**

[top]

High-availability interconnect connection status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **command-revision** | **[0..2^32-1]** | integer optional | High-availability interconnect device command revision. Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **debug-firmware** | | boolean optional | High-availability interconnect device firmware debug capability status. Attributes: non-creatable, non-modifiable |
| **device-type** | | string optional | Device Type Attributes: non-creatable, non-modifiable |
| **driver-name** | | string optional | High-availability interconnect device driver name. Attributes: non-creatable, non-modifiable |
| **firmware** | | string optional | High-availability interconnect device firmware version. Attributes: non-creatable, non-modifiable |
| **hardware-revision** | **[0..2^32-1]** | integer optional | High-availability interconnect device hardware revision. Attributes: non-creatable, non-modifiable |
| **ic-connection** | | ha-ic-state optional | The status of failover monitor channel over the interconnect. up means channel is active. Attributes: non-creatable, non-modifiable Possible values:<br>• "up" - Indicate up status of a HA Interconnect entity,<br>• "down" - Indicate down status of a HA Interconnect entity,<br>• "error" - Indicate error status of a HA Interconnect entity |
| **is-link0-active** | | boolean optional | Link 0 active status. True means there are active channels over this interconnect link. Attributes: non-creatable, non-modifiable |
| **is-link1-active** | | boolean optional | Link 1 active status. True means there are active channels over this interconnect link. Attributes: non-creatable, non-modifiable |
| **link-status** | | ha-ic-state optional | High-availability interconnect link status. up means the link is online. Attributes: non-creatable, non-modifiable Possible values:<br>• "up" - Indicate up status of a HA Interconnect entity,<br>• "down" - Indicate down status of a HA Interconnect entity,<br>• "error" - Indicate error status of a HA Interconnect entity |
| **link0-status** | | ha-ic-state optional | High-availability interconnect link 0 status. up means the link is online. Attributes: non-creatable, non-modifiable Possible values:<br>• "up" - Indicate up status of a HA Interconnect entity,<br>• "down" - Indicate down status of a HA Interconnect entity,<br>• "error" - Indicate error status of a HA Interconnect entity |
| **link1-status** | | ha-ic-state optional | High-availability interconnect link 1 status. up means the link is online. Attributes: non-creatable, non-modifiable Possible values:<br>• "up" - Indicate up status of a HA Interconnect entity,<br>• "down" - Indicate down status of a HA Interconnect entity,<br>• "error" - Indicate error status of a HA Interconnect entity |
| **node-name** | | node-name optional | The node to which this connection status belongs. Attributes: key, non-creatable, non-modifiable |
| **nvlog-rdma** | | ha-ic-state optional | The status of NVRAM channels over the interconnect. up means channels are active. Attributes: non-creatable, non-modifiable Possible values:<br>• "up" - Indicate up status of a HA Interconnect entity,<br>• "down" - Indicate down status of a HA Interconnect entity,<br>• "error" - Indicate error status of a HA Interconnect entity |
| **port-number-1** | **[0..2^32-1]** | integer optional | High-availability interconnect device port 1. Attributes: non-creatable, non-modifiable |
| **port-number-2** | **[0..2^32-1]** | integer optional | High-availability interconnect device port 2. Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **port1-base-lid** | | string optional | High-availability interconnect device port 1 local identifier. Attributes: non-creatable, non-modifiable |
| **port1-data-rate** | | string optional | High-availability interconnect device port 1 supported data rate. Attributes: non-creatable, non-modifiable |
| **port1-gid** | | string optional | High-availability interconnect device port 1 global identifier. Attributes: non-creatable, non-modifiable |
| **port1-link-info** | | string optional | High-availability interconnect device port 1 link information. Attributes: non-creatable, non-modifiable |
| **port1-mtu** | **[0..2^32-1]** | integer optional | High-availability interconnect device port 1 maximum transmission unit size. Attributes: non-creatable, non-modifiable |
| **port1-port-name** | | string optional | High availability interconnect device port 1 port name. Attributes: non-creatable, non-modifiable |
| **port1-qsfp-part-number** | | string optional | High-availability interconnect device port 1 QSFP (Quad Small Form-factor Pluggable) part number. Attributes: non-creatable, non-modifiable |
| **port1-qsfp-serial-number** | | string optional | High-availability interconnect device port 1 QSFP (Quad Small Form-factor Pluggable) serial number. Attributes: non-creatable, non-modifiable |
| **port1-qsfp-type** | | string optional | High-availability interconnect device port 1 QSFP (Quad Small Form-factor Pluggable) cable type. Attributes: non-creatable, non-modifiable |
| **port1-qsfp-vendor** | | string optional | High-availability interconnect device port 1 QSFP (Quad Small Form-factor Pluggable) vendor name. Attributes: non-creatable, non-modifiable |
| **port1-remote-lid** | | string optional | High-availability interconnect device port 2 remote local identifier. Attributes: non-creatable, non-modifiable |
| **port2-base-lid** | | string optional | High-availability interconnect device port 2 local identifier. Attributes: non-creatable, non-modifiable |
| **port2-data-rate** | | string optional | High-availability interconnect device port 2 supported data rate. Attributes: non-creatable, non-modifiable |
| **port2-gid** | | string optional | High-availability interconnect device port 2 global identifier. Attributes: non-creatable, non-modifiable |
| **port2-link-info** | | string optional | High-availability interconnect device port 2 link information. Attributes: non-creatable, non-modifiable |
| **port2-mtu** | **[0..2^32-1]** | integer optional | High-availability interconnect device port 2 maximum transmission unit size. Attributes: non-creatable, non-modifiable |
| **port2-port-name** | | string optional | High availability interconnect device port 2 port name. Attributes: non-creatable, non-modifiable |
| **port2-qsfp-part-number** | | string optional | High-availability interconnect device port 2 QSFP (Quad Small Form-factor Pluggable) part number. Attributes: non-creatable, non-modifiable |
| **port2-qsfp-serial-number** | | string optional | High-availability interconnect device port 2 QSFP (Quad Small Form-factor Pluggable) serial number. Attributes: non-creatable, non-modifiable |
| **port2-qsfp-type** | | string optional | High-availability interconnect device port 2 QSFP (Quad Small Form-factor Pluggable) cable type. Attributes: non-creatable, non-modifiable |
| **port2-qsfp-vendor** | | string optional | High-availability interconnect device port 2 QSFP (Quad Small Form-factor Pluggable) vendor name. Attributes: non-creatable, non-modifiable |
| **serial-number** | | string optional | High-availability interconnect device serial number. Attributes: non-creatable, non-modifiable |
| **slot** | **[0..2^32-1]** | integer optional | High-availability interconnect device PCI slot number. Attributes: non-creatable, non-modifiable |
| | | string | High-availability interconnect device version number. Attributes: |

| | | | |
|---|---|---|---|
| **version** | | optional | non-creatable, non-modifiable |

# Element definition: **ha-interconnect-timeout**

[top]

High-availability interconnect software timeout values When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ic-mvia-timeout** | **[1000..34000]** | integer optional | Interconnect Read/write Timeout For Virtual Platforms(msecs) Attributes: non-creatable, modifiable |
| **ic-timeout** | **[1000..4000]** | integer optional | Interconnect Read/write Timeout (msecs) Attributes: non-creatable, modifiable |
| **node-name** | | node-name optional | The node to which these timeout values belongs. Attributes: key, non-creatable, non-modifiable |
| **ofw-mvia-timeout** | **[1000..34000]** | integer optional | Firmware Read Timeout For Virtual Platforms(msecs) Attributes: non-creatable, modifiable |
| **ofw-timeout** | **[1000..4000]** | integer optional | Firmware Read Timeout (msecs) Attributes: non-creatable, modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **device-port-info**

[top]

Interconnect device port link state information

| Name | Range | Type | Description |
|---|---|---|---|
| **is-active-link** | | boolean optional | Link active status. True means link on this given port is now active and used for the operations. Attributes: non-creatable, non-modifiable |
| | | ha-ic-cx- | High-availability interconnect link link layer state on a given port. Attributes: non-creatable, non-modifiable Possible values:<br>• "invalid" , |

| | | | |
|---|---|---|---|
| **link-layer-state** | | link-state optional | "down" ,<br>• "initialize" ,<br>• "armed" ,<br>• "active" ,<br>• "reserved" |
| **phy-layer-state** | | ha-ic-cx-phy-state optional | High-availability interconnect link physical layer state on a given port. Attributes: non-creatable, non-modifiable Possible values:<br>• "invalid" ,<br>• "sleep" ,<br>• "polling" ,<br>• "disabled" ,<br>• "port_configuration_testing" ,<br>• "linkup" ,<br>• "link_error_recovery" ,<br>• "phytest" ,<br>• "reserved" |
| **phy-link-down-count** | **[0..2^32-1]** | integer optional | Total number of times the link on a given port is transitioned down. Attributes: non-creatable, non-modifiable |
| **phy-link-up-count** | **[0..2^32-1]** | integer optional | Total number of times the link on a given port is transitioned up. Attributes: non-creatable, non-modifiable |
| **port** | **[0..2^32-1]** | integer optional | High-availability interconnect device port number. Attributes: non-creatable, non-modifiable |

# Element definition: **ha-ic-flint-image-type**

[top]

connectx|fs2|failsafe|short Possible values:

- "connectx" - ConnectX device family,
- "fs2" - Flexible storage solutions device family,
- "failsafe" - Failsafe enabled device family,
- "short" - Non-Failsafe device family

[none]

# Element definition: **ha-ic-initiator**

[top]

local|partner Possible values:

- "local" - HA Interconnect connections are initiated by the local node,
- "partner" - HA Interconnect connections are initiated by the partner

[none]

# Element definition: **ha-ic-interface-type**

[top]

backplane|external Possible values:

- "backplane" - HA Interconnect is using backplane (internal) links,
- "external" - HA Interconnect is using external links

[none]

# Element definition: **ha-ic-nv-channel**

[top]

wafl|raid|misc Possible values:

- "wafl" - HA Interconnect WAFL NV Channel,
- "raid" - HA Interconnect RAID NV Channel,
- "misc" - HA Interconnect MISC NV Channel

[none]

# Element definition: **ha-ic-state**

[top]

up|down Possible values:

- "up" - Indicate up status of a HA Interconnect entity,
- "down" - Indicate down status of a HA Interconnect entity,
- "error" - Indicate error status of a HA Interconnect entity

[none]

# Element definition: **interconnect-port-info**

[top]

Interconnect device ports information

| Name | Range | Type | Description |
|---|---|---|---|
| **interface-flags** | | string optional | High-availability interconnect device port interface flags. Attributes: non-creatable, non-modifiable |
| **ipaddress** | | string optional | High-availability interconnect device port IP address. Attributes: non-creatable, non-modifiable |
| **port-name** | | string optional | High-availability interconnect device port name. Attributes: non-creatable, non-modifiable |

# Element definition: **sgl-info**

[top]

Interconnect device scatter-gather list statistics

| Name | Range | Type | Description |
|---|---|---|---|
| **scatter-gather-entry** | **[0..2^32-1]** | integer optional | The index value of the scatter-gather entry in the list. Attributes: non-creatable, non-modifiable |
| **total-count** | **[0..2^64-1]** | integer optional | Total number of times a particular scatter-gather list element is used. Attributes: non-creatable, non-modifiable |
| **total-size** | **[0..2^64-1]** | integer optional | Total number of bytes written by the high-availability interconnect device using a particular scatter-gather list element. Attributes: non-creatable, non-modifiable |

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **ha-ic-cx-link-state**

[top]

invalid|down|initialize|armed|active|reserved Possible values:

- "invalid" ,
- "down" ,
- "initialize" ,
- "armed" ,
- "active" ,
- "reserved"

[none]

# Element definition: **ha-ic-cx-phy-state**

[top]

invalid|sleep|polling|disabled|port-configuration-testing|linkup|link-error-recovery|phytest|reserved Possible values:

- "invalid" ,
- "sleep" ,
- "polling" ,
- "disabled" ,
- "port_configuration_testing" ,
- "linkup" ,
- "link_error_recovery" ,
- "phytest" ,
- "reserved"

[none]

# APIs in Category: **igroup**


igroup-add
igroup-bind-portset
igroup-create
igroup-destroy
igroup-get-iter
igroup-list-info
igroup-lookup-lun
igroup-os-type-list
igroup-remove
igroup-rename
igroup-set-attribute
igroup-unbind-portset


## igroup-add

[top]

Adds initiator to an existing initiator group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Forcibly add the initiator, disabling mapping and type conflict checks with the high-availability partner. If not specified all conflict checks are performed. In Data ONTAP Cluster-Mode, this field is accepted for backwards compatibility and is ignored. |
| **initiator** | | string | WWPN, WWPN Alias, or iSCSI name of Initiator to add. |
| **initiator-group-name** | | string | Name of initiator group. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |
| **EVDISK_ERROR_NOT_VALID_FC_WWN** | |
| **EVDISK_ERROR_NOT_VALID_ISCSI_NAME** | |
| **EVDISK_ERROR_INITGROUP_HAS_NODE** | |
| **EVDISK_ERROR_LUN_MAPPING_CONFLICT** | |
| **EVDISK_ERROR_INITGROUP_TOO_MANY_NODENAMES** | |
| **EVDISK_ERROR_PARTNER_HAS_LUN** | |
| **EVDISK_ERROR_PARTNER_NOT_REACHABLE** | |
| **EVDISK_ERROR_PARTNER_HAS_DIFFERENT_OS_TYPE** | |
| **EVDISK_ERROR_VIRTUAL_LUN_MAPPING_CONFLICT** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# igroup-bind-portset

[top]

Bind an existing igroup to a given portset.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of initiator group to bind the portset to. |
| **portset-name** | | string | Name of portset. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_PORTSET_NO_SUCH_SET** | |
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |
| **EVDISK_ERROR_INITGROUP_ALREADY_BOUND** | |
| **EVDISK_ERROR_PORTSET_THROTTLE_EXCEEDED** | |
| **EVDISK_ERROR_INITGROUP_BIND_WRONG_TYPE** | |
| **EVDISK_ERROR_INITGROUP_EMPTY_PSET_BIND** | |
| **E_SAN_NOT_READY** | |

# igroup-create

[top]

Creates a new initiator group. In Data ONTAP 7.3 and upto ONTAP 8.0, the ALUA (Asymmetric Logical Unit Access) attribute will be enabled by default if initiator-group-type is "fcp" and os-type is "aix", "hpux", or "linux. In Data ONTAP 7-mode 8.1 and later, the ALUA attribute is enabled by default for all os-type if initiator-group-type is "fcp". In Data ONTAP Cluster-Mode 8.1 and later, the ALUA attribute is enabled by default on all initiator groups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **bind-portset** | | string optional | Name of a current portset to bind to the newly created igroup. |
| **initiator-group-name** | | string | Name of initiator group. |
| **initiator-group-type** | | string | Type of the initiator group. Possible values: "fcp", "iscsi", "mixed". "mixed" is available in Data ONTAP Cluster-Mode 8.1 or later only. |
| **os-type** | | initiator-group-os-type optional | OS type of the initiators within the group. The default value if not specified is "default". The os type applies to all initiators within the group and governs the finer details of SCSI protocol interaction with these initiators. It is strongly recommended for the caller of this API to specify an OS type that is not "default". Some host OSes require this type field be set correctly in order to function properly. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVDISK_ERROR_INITGROUP_INVALID_ATTR_OS_TYPE_VALUE** | |
| **EVDISK_ERROR_INITGROUP_EXISTS** | |
| **EVDISK_ERROR_INITGROUP_MISSING_ARGS** | |
| **EVDISK_ERROR_INITGROUP_INVALID_ATTR_TYPE** | |
| **EVDISK_ERROR_PORTSET_NO_SUCH_SET** | |
| **EVDISK_ERROR_INITGROUP_EMPTY_PSET_BIND** | |

| | |
|---|---|
| **EVDISK_ERROR_INITGROUP_BIND_WRONG_TYPE** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| Yes |

# igroup-destroy

[top]

Destroys an existing initiator group. By default a group cannot be destroyed if there are existing lun maps defined for that group. This behaviour can be overridden with the use of force option set to "true" which will destroy the initiator group and any associated lun maps.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Forcibly destroy the initiator group, even if there are existing lun maps. Best practice is to attempt to unmap all the luns associated with a group before destroying it. |
| **initiator-group-name** | | string | Name of initiator group. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |
| **EVDISK_ERROR_INITGROUP_MAPS_EXIST** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| Yes |

# igroup-get-iter

[top]

Iterate over a list of igroup objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | initiator-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | initiator-group-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the igroup object. All igroup objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| | | | |
|---|---|---|---|

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | initiator-group-info[] optional | The list of attributes of igroup objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more igroup objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# igroup-list-info

[top]

Get information for initiator group(s).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string optional | Name of initiator group. If specified, only information for that group is returned. If not specified, information for all of the initiator groups is returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **initiator-groups** | | initiator-group-info[] | List of initiator groups. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |

| Vfiler-enabled |
|---|
| **Yes** |

# igroup-lookup-lun

[top]

Find the path to the lun mapped at a given lun-id for a given initiator group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of initiator group to search. |
| **lun-id** | **[0..4095]** | integer | Lun-id (Logical Unit Number) to search for. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path to the lun. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |

| Errno | Description |
|---|---|
| EVDISK_ERROR_NO_SUCH_LUNMAP | |

| Vfiler-enabled |
|---|
| Yes |

# igroup-os-type-list

[top]

Displays the supported values and descriptions for initiator-group-os-type.

| Output Name | Range | Type | Description |
|---|---|---|---|
| ostypes | | system-api-enum-value-info[] | Enumeration type name/value pair |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# igroup-remove

[top]

Removes node(s) from an initiator group. The operation is prohibited if there are existing lun maps defined for that group. The force option set to "true" can be used to forcibly remove the node regardless of mappings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| force | | boolean optional | Forcibly remove the initiator even if there are existing LUNs mapped to this initiator group. |
| initiator | | string | WWPN, WWPN Alias, or iSCSI name of Initiator to remove. |
| initiator-group-name | | string | Name of initiator group. |

| Errno | Description |
|---|---|
| EVDISK_ERROR_NO_SUCH_INITGROUP | |
| EVDISK_ERROR_INITGROUP_MAPS_EXIST | |
| EVDISK_ERROR_NOT_VALID_FC_WWN | |
| EVDISK_ERROR_NOT_VALID_ISCSI_NAME | |
| EVDISK_ERROR_NODE_NOT_IN_INITGROUP | |
| E_SAN_NOT_READY | |

| Vfiler-enabled |
|---|
| Yes |

# igroup-rename

[top]

Rename an existing initiator group. The rename operation is non-disruptive.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of initiator group to be renamed. |
| **initiator-group-new-name** | | string | New name to be given to initiator group. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |
| **EVDISK_ERROR_INITGROUP_EXISTS** | |
| **EVDISK_ERROR_CANT_CREATE_INITGROUP_FILE** | |
| **EVDISK_ERROR_CANT_WRITE_INITGROUP_FILE** | |
| **EVDISK_ERROR_CANT_RENAME_INITGROUP_FILE** | |
| **EINVALIDINPUTERROR** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# igroup-set-attribute

[top]

Sets an attribute for an initiator group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attribute** | | string | Name of the attribute to change. Possible values: "alua", "os-type", "throttle_borrow", "throttle_reserve", "report_scsi_name". "alua" is available in Data ONTAP 7.2 or later. "report_scsi_name" is available in Data ONTAP 8.1.0 or later. "alua", "throttle_reserve","throttle_borrow" and "report_scsi_name" are not available in Data ONTAP Cluster-Mode. |
| **initiator-group-name** | | string | Name of initiator group. |
| **value** | | string | Value for the attribute. The valid values for "os-type" are the supported os-types listed in the igroup-create API. In Data ONTAP 7-Mode, setting the "os-type" attribute will perform checks with the high-availability partner if this filer is running in the 'single_image' fcp cfmode and this igroup is an FCP igroup. It is also strongly recommended the "default" os-type not be used. Using "default" may cause problems with LUN access. API to always require the proper OS type information The valid values for "throttle_reserve" are 0-99 The valid values for "throttle_borrow" are true or false The valid values for "alua" are true or false The valid values for "report_scsi_name" are true or false |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |
| **EVDISK_ERROR_INITGROUP_MISSING_ARGS** | |
| **EVDISK_ERROR_INITGROUP_INVALID_ATTR_TYPE** | |
| **EVDISK_ERROR_IGROUP_NOT_THROTTLED** | |
| **EVDISK_ERROR_IGROUP_ALREADY_THROTTLED** | |
| **EVDISK_ERROR_THROTTLE_TOO_MUCH** | |
| **EVDISK_ERROR_THROTTLE_BEING_DELETED** | |
| **EVDISK_ERROR_NO_ISCSI_THROTTLES** | |
| **EVDISK_ERROR_INITGROUP_INVALID_ATTR_MODE_VALUE** | |

| | |
|---|---|
| **EVDISK_ERROR_INITGROUP_INVALID_ATTR_MODE_CONFIG** | |
| **EVDISK_ERROR_PARTNER_HAS_DIFFERENT_OS_TYPE** | |
| **EVDISK_ERROR_PARTNER_NOT_REACHABLE** | |
| **EVDISK_ERROR_ALUA_NOT_SUPPORTED** | |
| **EVDISK_ERROR_INITGROUP_WRONG_TYPE** | |
| **EVDISK_ERROR_ALUA_ISCSI_TRANSPORT_TYPE_CONFLICT** | |
| **EVDISK_ERROR_ALUA_FCP_TRANSPORT_TYPE_CONFLICT** | |
| **E_SAN_NOT_READY** | |

# igroup-unbind-portset

[top]

Unbind an existing igroup from a portset.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of initiator group to unbind from the portset. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |
| **EVDISK_ERROR_INITGROUP_NOT_BOUND** | |
| **EVDISK_ERROR_PORTSET_THROTTLE_EXCEEDED** | |
| **E_SAN_NOT_READY** | |

# Element definition: **initiator-group-info**

[top]

Information about an initiator group.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-alua-enabled** | | boolean | Boolean value to indicate if this initiator group has ALUA (Asymmetric Logical Unit Access) features enabled for luns mapped to this initiator group. |
| **initiator-group-delete-on-unmap** | | boolean optional | Boolean value to indicate if this initiator group will be automatically deleted when unmapped from a LUN if it is no longer part of any other LUN maps. This field is available in Data ONTAP 9.2 and later. |
| **initiator-group-name** | | string | Name of this initiator group. |
| **initiator-group-os-type** | | initiator-group-os-type | OS type of the initiator group |
| **initiator-group-portset-name** | | string optional | Name of the portset that is bound to the initiator group, if any. |
| **initiator-** | | | |

| | | | |
|---|---|---|---|
| **group-report-scsi-name-enabled** | | boolean optional | Boolean value to indicate whether to report or hide SCSI Name String (8h) Descriptor to initiator's INQUIRY VPD 0x83 page command. This field is available in Data ONTAP 8.1.0 and later. |
| **initiator-group-throttle-borrow** | | boolean | Boolean value to indicate that the igroups throttle reserve may be exceeded if the igroup attempts to use more than it has reserved. |
| **initiator-group-throttle-reserve** | | integer | Percentage of filer SCSI command blocks reserved for this initiator group's exclusive usage. |
| **initiator-group-type** | | string | Type of the initiators in this group. Possible values: "iscsi", "fcp", "mixed". |
| **initiator-group-use-partner** | | boolean optional | Boolean value to indicate if this initiator group is configured for its luns to require the use of host multi-pathing software for correct high-availability failover operation. In Data ONTAP 7-Mode, this value is optional and is only returned for FCP initiator groups on an storage system in an HA pair. In Data ONTAP Cluster-Mode, this field will always be 'true'. |
| **initiator-group-uuid** | | string optional | This value is Universally-unique identifier (UUID) of this initiator group.<br><br>The UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hexadecimal characters, the second through fourth groupings have four hexadecimal characters each, and the fifth and final grouping has 12 hexadecimal characters. Note that a leading '0x' is not used.<br><br>This field is available in Data ONTAP 7-mode 7.3.6, 8.0.2, 8.1.0 and later for the igroup-list-info API. This field is available in Data ONTAP Cluster-Mode 8.1.0 and later for the igroup-get-iter and lun-map-list-info APIs.<br><br>Here is an example of an actual UUID:<br><br>35d6ca90-c759-11df-8b6d-00a098132c6c |
| **initiator-group-vsa-enabled** | | boolean | Boolean value to indicate if this initiator group has Volume Set Addressing (VSA) enabled or disabled. |
| **initiators** | | initiator-info[] optional | List of initiators belonging to this group. |
| **lun-id** | **[0..4095]** | integer optional | LUN identifier to which the LUN is mapped at the host. This value is optional and is only returned for the lun-map-list-info api. |
| **vserver** | | string optional | Name of the vserver hosting this initiator group |

# Element definition: **initiator-group-os-type**

[top]

The operating system of the initiator group. This value modifies the finer details of SCSI protocol

interaction for initiators in the group. Possible values:

- "aix" The initiators belong to an AIX host,
- "default" The initiators belong to an unknown host type,
- "hpux" The initiators belong to an HP-UX host,
- "hyper_v" The initiators belong to a Hyper-V parent host,
- "linux" The initiators belong to a Linux host,
- "netware" The initiators belong to a NetWare host,
- "openvms" The initiators belong to an OpenVMS host,
- "solaris" The initiators belong to a Solaris host,
- "vmware" The initiators belong to a VMware ESX host,
- "windows" The initiators belong to a Windows host,
- "xen" The initiators belong to a Xen hypervisor host.

[none]

# Element definition: **system-api-enum-value-info**

[top]

Enumeration type name/value pair When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | Description of the enumeration value Attributes: non-creatable, non-modifiable |
| **value** | | string optional | Name of the enumeration value Attributes: key, non-creatable, non-modifiable |

# Element definition: **initiator-info**

[top]

Information about one initiator.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-name** | | string | Name of the initiator. |

# APIs in Category: **iscsi**


iscsi-adapter-config-down
iscsi-adapter-config-up
iscsi-adapter-initiators-list-info
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iscsi-auth-add-initiator-address-ranges
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iscsi-service-create
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iscsi-service-get-iter

iscsi-service-modify
iscsi-service-start
iscsi-service-status
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iscsi-session-get-iter
iscsi-session-list-info
iscsi-stats-get-iter
iscsi-stats-list-info
iscsi-target-alias-clear-alias
iscsi-target-alias-get-alias
iscsi-target-alias-set-alias
iscsi-tpgroup-alua-set
iscsi-tpgroup-create
iscsi-tpgroup-destroy
iscsi-tpgroup-get-iter
iscsi-tpgroup-interface-add
iscsi-tpgroup-interface-delete
iscsi-tpgroup-list-info

# iscsi-adapter-config-down

[top]

Configures the specified adapter down. This API is obsolete beginning with ONTAP 7.1 and will always return the error EOPNOTSUPPORTED. There is no equivalent API to replace it.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-adapter** | | string | iscsi adapter. |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |

| License |
|---|
| **iscsi** |

# iscsi-adapter-config-up

[top]

Configures the specified adapter up. This API is obsolete beginning with ONTAP 7.1 and will always return the error EOPNOTSUPPORTED. There is no equivalent API to replace it.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-adapter** | | string | iscsi adapter. |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |

| License |
|---|
| **iscsi** |

# iscsi-adapter-initiators-list-info

[top]

Get the list of initiators currently connected to any of the portal groups associated with specified adapter. Information returned for each initiator includes the target portal group number to which the initiator is connected, as well as the iSCSI initiator nodename and ISID. If no adapter is specified, information is returned for all initiators connected through any adapter in the system. NOTE: Beginning with ONTAP 7.1 this API is only intended for use by legacy applications that are already coded to this API. New applications should use iscsi-portal-list-info to get the list of iSCSI portals. associated with this filer. Complete removal of this ZAPI may occur in any release after 7.1.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-adapter** | | string optional | Adapter to get initiator list for. If no adapter is specified, information is returned for all initiators connected through any iscsi adapter in the system. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-adapters** | | iscsi-adapter-initiators-info[] | A list of iscsi adapters containing list of initiators. |

| Errno | Description |
|---|---|
| **EADAPTERNOTFOUND** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-adapter-list-info

[top]

Display the configuration information for iscsi adaptor(s), including the iSCSI portals associated with a virtual adapter. NOTE: Beginning with ONTAP 7.1 this API is only intended for use by legacy applications that are already coded to this API. New applications should use iscsi-portal-list-info to get the list of iSCSI portals. associated with this filer. Complete removal of this ZAPI may occur in any release after 7.1.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-adapter** | | string optional | Returns configuration information for adapter if specified. If not specified, then configuration information for all adapters are returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-config-adapters** | | iscsi-config-adapter- | A list of iscsi adapter configuration information. |

| | | | |
|---|---|---|---|
| | | info[] | |

| Errno | Description |
|---|---|
| EADAPTERNOTFOUND | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| iscsi |

# iscsi-adapter-reset-stats

[top]

This API is obsolete beginning with ONTAP 7.1 and will always return the error EOPNOTSUPPORTED. For the equivalent functionality use the ZAPI iscsi-reset-stats

| Input Name | Range | Type | Description |
|---|---|---|---|
| iscsi-adapter | | string optional | Adapter to reset statistics for. |

| Errno | Description |
|---|---|
| EOPNOTSUPPORTED | |

| License |
|---|
| iscsi |

# iscsi-adapter-stats-list-info

[top]

This API is obsolete beginning with ONTAP 7.1 and will always return the error EOPNOTSUPPORTED. For the equivalent functionality use the ZAPI iscsi-stats-list-info The fields returned by iscsi-stats-list-info are very slightly different from those previously returned by iscsi-adapter-stats-list-info

| Input Name | Range | Type | Description |
|---|---|---|---|
| iscsi-adapter | | string optional | Adapter to get statistics for. |

| Errno | Description |
|---|---|
| EOPNOTSUPPORTED | |

| License |
|---|
| iscsi |

# iscsi-auth-add-initiator-address-ranges

[top]

Add one or more Initiator IP Address Ranges

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string | Initiator Name |
| **initiator-address-ranges** | | ip-range-or-mask[] | Initiator IP Address Ranges |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# iscsi-auth-generate-chap-password

[top]

Generate a 128 bit random password that can be used as a CHAP secret. This API was removed in Data ONTAP 9.0. Applications should use local entropy to generate CHAP secrets if desired.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **secret** | | string | A randomly generated 128 bit password. |

| Errno | Description |
|---|---|
| **EISCSISECPROCESSINGERROR** | |
| **EAPIUNSUPPORTEDVERSION** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-auth-remove-initiator-address-ranges

[top]

Remove one or more Initiator IP Address Ranges

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string | Initiator Name |
| **initiator-address-ranges** | | ip-range-or-mask[] | Initiator IP Address Ranges |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# iscsi-connection-get-iter

[top]

Iterate over a list of iSCSI Connection objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | iscsi-connection-list-entry-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | iscsi-connection-list-entry-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI Connection object. All iSCSI Connection objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | iscsi-connection-list-entry-info[] optional | The list of attributes of iSCSI Connection objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more iSCSI Connection objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-connection-list-info

[top]

list iscsi connections on filer

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-connection-list-entries** | | iscsi-connection-list-entry-info[] | List of connection |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |

**Vfiler-enabled**
**Yes**

**License**

| iscsi |
|---|

# iscsi-initiator-add-auth

[top]

Add initiator to the authentication list.

| Input Name | Range | Type | Description |
|---|---|---|---|
| auth-type | | string | Authentication type. Possible values: "CHAP", "none", "deny". |
| initiator | | string | Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". |
| initiator-address-ranges | | ip-range-or-mask[] optional | May be a single IPv4 or IPv6 address or a range containing a start address and an end address. The start and end addresses themselves are included in the range. If not present, the initiator is allowed to log in from any IP address.<br><br>An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'. |
| outbound-passphrase | | string optional | Outbound CHAP user password. Outbound authentication is optional. If Outbound authentication is not specified, then the initiator can only do inbound authentication. |
| outbound-user-name | | string optional | Outbound CHAP user name. Outbound authentication is optional. If Outbound authentication is not specified, then the initiator can only do inbound authentication. |
| passphrase | | string optional | Inbound CHAP user password, required for auth-type equal to CHAP. |
| radius | | boolean optional | "true" if RADIUS is the only forced CHAP authentication policy, Default is "false". |
| user-name | | string optional | Inbound CHAP user name, required for auth-type equal to CHAP. |

| Errno | Description |
|---|---|
| EISCSISECINVALIDINPUTERROR | |
| EISCSISECPROCESSINGERROR | |
| E_SAN_NOT_READY | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| iscsi |

# iscsi-initiator-auth-get-iter

[top]

Iterate over a list of iSCSI initiator authentication configuration objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **desired-attributes** | | iscsi-security-entry-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | iscsi-security-entry-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI initiator authentication configuration object. All iSCSI initiator authentication configuration objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | iscsi-security-entry-info[] optional | The list of attributes of iSCSI initiator authentication configuration objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more iSCSI initiator authentication configuration objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-initiator-auth-list-info

[top]

Gets authentication information for the specified initiator. If no initiator is specified, gets authentication information for all the known initiators. Password, if present is left out for security purposes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string optional | Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". If initiator is not supplied, all initiators are returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-security-entries** | | iscsi-security-entry-info[] | List of authentication entries. |

| Errno | Description |
|---|---|
| **EISCSISECINVALIDINPUTERROR** | |
| **EISCSISECPROCESSINGERROR** | |
| **EISCSISECINITNOTFOUNDERROR** | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| iscsi |

# iscsi-initiator-delete-auth

[top]

Delete initiator from the authentication list

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| initiator | | string | Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". |

| Errno | Description |
| --- | --- |
| EISCSISECINVALIDINPUTERROR | |
| EISCSISECINITNOTFOUNDERROR | |
| E_SAN_NOT_READY | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| iscsi |

# iscsi-initiator-get-auth

[top]

Get the authentication info for an initiator, if auth type is CHAP, only the user-name is returned, password is not returned for security purposes.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| initiator | | string | Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". If initiator is not found, default authentication method is returned |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| auth-chap-policy | | string optional | CHAP authentication path. Possible values: "radius", "local". |
| auth-type | | string | Authentication type. Possible values: "CHAP", "none", "deny". |
| initiator-address-ranges | | ip-range-or-mask[] optional | May be a single IPv4 or IPv6 address or a range containing a start address and an end address. The start and end addresses themselves are included in the range. If not present, the initiator is allowed to log in from any IP address.<br><br>An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'. |

| | | | |
|---|---|---|---|
| **outbound-user-name** | | string optional | Outbound CHAP user name, returned only if auth-type is CHAP and outbound authentication is enabled for this initiator. |
| **user-name** | | string optional | Inbound CHAP user name, returned only if auth-type is CHAP. |

| Errno | Description |
|---|---|
| **EISCSISECINVALIDINPUTERROR** | |
| **EISCSISECPROCESSINGERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-initiator-get-default-auth

[top]

Get the default authentication information for iscsi. If the authentication type is CHAP, only the username is returned, and not the password, for security purposes.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **auth-chap-policy** | | string optional | CHAP authentication path. possible values: "radius", "local". |
| **auth-type** | | string | Authentication type Possible values: "CHAP", "none", "deny". |
| **outbound-user-name** | | string optional | Outbound CHAP user name, returned only if auth-type is CHAP, and outbound authentication is set for initiator. |
| **user-name** | | string optional | Inbound CHAP user name, returned only if auth-type is CHAP. |

| Errno | Description |
|---|---|
| **EISCSISECINVALIDINPUTERROR** | |
| **EISCSISECPROCESSINGERROR** | |
| **EISCSISECINITNOTFOUNDERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-initiator-get-iter

[top]

Iterate over a list of remote iSCSI initiator objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | iscsi- | |

| | | | |
|---|---|---|---|
| **desired-attributes** | | initiator-list-entry-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | iscsi-initiator-list-entry-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the remote iSCSI initiator object. All remote iSCSI initiator objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | iscsi-initiator-list-entry-info[] optional | The list of attributes of remote iSCSI initiator objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more remote iSCSI initiator objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-initiator-list-info

[top]

Gives list of initiators logged in

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-initiator-list-entries** | | iscsi-initiator-list-entry-info[] | List of initiators logged in |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-initiator-modify-chap-params

[top]

Modify CHAP parameters to an existing per-initiator authentication info whose auth-type equals CHAP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string | Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". The per-initiator authentication info must have an auth-type equal to CHAP. |
| **outbound-passphrase** | | string optional | Outbound CHAP user password. If Outbound CHAP parameters are specified they will replace existing Outbound CHAP parameters. If no Outbound CHAP parameters were previously specified, then the specified Outbound CHAP parameters will enable mutual CHAP authentication. If no Outbound CHAP parameters are specified and no Outbound CHAP parameters exist, then one-way Inbound CHAP authentication will be continue to be used. |
| **outbound-user-name** | | string optional | Outbound CHAP user name. If Outbound CHAP parameters are specified they will replace existing Outbound CHAP parameters. If no Outbound CHAP parameters were previously specified, then the specified Outbound CHAP parameters will enable mutual CHAP authentication. If no Outbound CHAP parameters are specified and no Outbound CHAP parameters exist, then one-way Inbound CHAP authentication will be continue to be used. |
| **passphrase** | | string optional | Inbound CHAP user password. If Inbound CHAP parameters are specified they will replace the existing Inbound CHAP parameters. If they are not specified, the existing Inbound CHAP parameters will continue to be used. |
| **radius** | | boolean optional | "true" if RADIUS is the only forced CHAP authentication policy, Default is "false". |
| **remove-outbound** | | boolean optional | Flag which indicates that mutual CHAP authentication is to be converted to one-way CHAP authentication. Outbound CHAP parameters must not be specified when remove-outbound is true. The default value is false. |
| **user-name** | | string optional | Inbound CHAP user name. If Inbound CHAP parameters are specified they will replace the existing Inbound CHAP parameters. If they are not specified, the existing Inbound CHAP parameters will continue to be used. |

| Errno | Description |
|---|---|
| **EISCSISECINVALIDINPUTERROR** | |
| **EISCSISECINVALIDAUTHTYPE** | |
| **EISCSISECPROCESSINGERROR** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-initiator-set-default-auth

[top]

Configure the default authentication method. If an initiator is not configured with a specific authentication method using iscsi-initiator-add-auth the default authentication method will be applied to it.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **auth-type** | | string | Possible values: "CHAP", "none", "deny". |
| **outbound-passphrase** | | string optional | Outbound CHAP user password. Outbound authentication is optional. If Outbound authentication is not specified, then the initiator can only do inbound authentication. |
| **outbound-user-name** | | string optional | Outbound CHAP user name. Outbound authentication is optional. If Outbound authentication is not specified, then the initiator can only do inbound authentication. |
| **passphrase** | | string optional | Inbound CHAP user password, required for auth-type equal to CHAP. |
| **radius** | | boolean optional | "true" if RADIUS is the only forced CHAP authentication policy, Default is "false". |
| **user-name** | | string optional | Inbound CHAP user name, required for auth-type equal to CHAP. |

| Errno | Description |
|---|---|
| **EISCSISECINVALIDINPUTERROR** | |
| **EISCSISECPROCESSINGERROR** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-interface-accesslist-add

[top]

Add the iSCSI LIFs to the accesslist of the specified initiator

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string | Initiator that can access the iSCSI LIFs |
| **interface-name** | | string | iSCSI LIF Name |

| Errno | Description |
|---|---|
| **E_SAN_NOT_READY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# iscsi-interface-accesslist-get-iter

[top]

Iterate over a list of iSCSI Interface Accesslist objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-** | | iscsi-interface- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | accesslist-entry-info optional | present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | iscsi-interface-accesslist-entry-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI Interface Accesslist object. All iSCSI Interface Accesslist objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | iscsi-interface-accesslist-entry-info[] optional | The list of attributes of iSCSI Interface Accesslist objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more iSCSI Interface Accesslist objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-interface-accesslist-remove

[top]

Remove the iSCSI LIFs from the accesslist of the specified initiator

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string | Initiator that can access the iSCSI LIFs |
| **interface-name** | | string | iSCSI LIF Name |

| Errno | Description |
|---|---|
| **E_SAN_NOT_READY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# iscsi-interface-disable

[top]

Disables an interface for use by iSCSI

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string | Name of interface to disable. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **EINVALIDSTATE** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-interface-enable

[top]

Enables an interface for use by iSCSI

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string | Name of interface to enable. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **EINVALIDSTATE** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-interface-get-iter

[top]

Iterate over a list of iSCSI target interface objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | iscsi-interface-list-entry- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is |

| | | | |
|---|---|---|---|
| | | info optional | available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | iscsi-interface-list-entry-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI target interface object. All iSCSI target interface objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | iscsi-interface-list-entry-info[] optional | The list of attributes of iSCSI target interface objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more iSCSI target interface objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-interface-list-info

[top]

Gives status of interface for iSCSI

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string optional | Name of interface to report; if not supplied, all interfaces are listed. For example: "e0c". |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-interface-list-entries** | | iscsi-interface-list-entry-info[] | List of interfaces and enabled/disabled status |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-interface-modify

[top]

Modify the attributes of an iSCSI interface object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | lif-name | Specifies the logical interface (LIF) name. |
| **sendtargets-fqdn** | | string optional | Specifies the Fully Qualified Domain Name (FQDN) of the LIF to be returned in iSCSI SendTargets Discovery. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **E_SAN_NOT_READY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# iscsi-iptpgroup-create

[top]

Create a new IP-based tpgroup

| Input Name | Range | Type | Description |
|---|---|---|---|
| **iptpgroup-name** | | string | User-defined name of new target portal group; must be <= 60 bytes, and cannot end with "default" as this might conflict with names of default system portal groups (for example, "192.168.11.12_default" is not allowed) |
| **iptpgroup-tag** | **[1..256]** | integer optional | Optional target portal group tag supplied by user; if not supplied, system assigns tag. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iptpgroup-tag** | | integer | filer assigned tag value for newly created portal group |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| |

**iscsi**

# iscsi-iptpgroup-destroy

[top]

Destroy a IP-based tpgroup

| Input Name | Range | Type | Description |
|---|---|---|---|
| **iptpgroup-tag** | **[1..256]** | integer | tag of portal group to destroy |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **E_SAN_NOT_READY** | |

**Vfiler-enabled**
**Yes**

**License**
**iscsi**

# iscsi-iptpgroup-ipaddr-add

[top]

Add an IP Address to an IP-based target portal group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ip-addr** | | ip-address | The ip address, in dotted-decimal format, with which to add. (for example, "192.168.11.12"). |
| **iptpgroup-tag** | **[1..256]** | integer | portal group tag |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **E_SAN_NOT_READY** | |

**Vfiler-enabled**
**Yes**

**License**
**iscsi**

# iscsi-iptpgroup-ipaddr-delete

[top]

Delete an IP Address from an IP-based target portal group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ip-addr** | | ip-address | The ip address, in dotted-decimal format, with which to add. (for example, "192.168.11.12"). |
| **iptpgroup-tag** | **[1..256]** | integer | portal group |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-iptpgroup-list-info

[top]

List information about IP-based target portal groups

| Input Name | Range | Type | Description |
|---|---|---|---|
| **iptpgroup-tag** | **[1..256]** | integer optional | Portal group being queried; if not supplied, information on all portal groups is returned |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-iptpgroup-list-entries** | | iscsi-iptpgroup-list-entry-info[] | List of iptpgroups |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-isns-config

[top]

Configures the iSNS service. In Data ONTAP Cluster-Mode, this this API can only modify the configuration of a Vserver where an iSNS service has already been created. To create an iSNS service in a Vserver where one does not exist, use the iscsi-isns-create API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | iSNS config fails if vserver management LIF is not configured for the vserver. This behavior is overridden with this option when it is set to "true". |
| **isns-ip-addr** | | ip-address | The ip address, in dotted-decimal format, of the iSNS server with which to register. (for example, "192.168.11.12"). |

| Errno | Description |
|---|---|
| **ENOTSTARTED** | |
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-isns-create

[top]

Create iSNS Service in a Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | iSNS create fails if vserver management LIF is not configured for the vserver. This behavior is overridden with this option when it is set to true. |
| **isns-ip-addr** | | ip-address | iSNS server IP address. |
| **start** | | boolean optional | Determine the initial state of the iSNS Client Service. If true, the service will be automatically started after creation completes. If false, the service will be left in the stopped state and the caller must subsequently call iscsi-isns-start to start the service. The default is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **iSCSI** |

# iscsi-isns-destroy

[top]

Destroy the iSNS Service in a Vserver.

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| **License** |
|---|
| **iSCSI** |

# iscsi-isns-get-info

[top]

Gets iSNS service configuration.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-isns-enabled** | | boolean | "true" if iSNS service is running, "false" otherwise. |
| **isns-entity-id** | | string | Name of the entity id existing on the iSNS server in which to register. |
| **isns-ip-addr** | | ip-address | The ip address of the iSNS server in which we register. |
| **last-successful-update** | | integer optional | Last successful iSNS update time in seconds since January 1, 1970. |
| **last-update-attempt** | | integer optional | Last iSNS update attempt time in seconds since January 1, 1970. |
| **last-update-result** | | string optional | Result of the last iSNS update. |

| Errno | Description |
|---|---|
| **ENOTSTARTED** | |
| **EAPILICENSE** | |
| **EAPIERROR** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **iscsi** |

# iscsi-isns-get-iter

[top]

Gets iSNS service configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | iscsi-isns-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-** | integer | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| | 1] | optional | |
| **query** | | iscsi-isns-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI iSNS Service object. All iSCSI iSNS Service objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | iscsi-isns-info[] optional | The list of attributes of iSCSI iSNS Service objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more iSCSI iSNS Service objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-isns-start

[top]

Start iSNS service. The service will be available once the call returns with success.

| Errno | Description |
|---|---|
| **EALREADYSTARTED** | |
| **EAPILICENSE** | |
| **ENOTSTARTED** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-isns-stop

[top]

Stops iSNS service. Service will not be available once the call returns with success.

| Errno | Description |
|---|---|
| **ENOTSTARTED** | |
| **EAPILICENSE** | |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| iscsi |

## iscsi-isns-update

[top]

Forces iSNS service to update server.

| Errno | Description |
| --- | --- |
| ENOTSTARTED | |
| EAPILICENSE | |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| iscsi |

## iscsi-node-get-name

[top]

Return the current iscsi node name.

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| node-name | | string | Current iscsi node name. |

| Errno | Description |
| --- | --- |
| EAPILICENSE | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| iscsi |

## iscsi-node-set-name

[top]

Set the current iscsi node name.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string | New iscsi node name; must be <= 128 chars, and conform to iSCSI rules |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **EVDISK_ERROR_DUPLICATE_TARGET_NAME** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-portal-list-info

[top]

list iscsi portals

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-portal-list-entries** | | iscsi-portal-list-entry-info[] | List of portals |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-reset-stats

[top]

zero filer iscsi counters

| Errno | Description |
|---|---|
| **EAPILICENSE** | |

| License |
|---|
| **iscsi** |

# iscsi-service-create

[top]

Create an iSCSI Service in a Vserver. Each Vserver requires an online iSCSI Service in order to serve data via the iSCSI protocol.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **alias-name** | | string optional | The iSCSI target alias for the iSCSI service. If not provided, the Vserver name will be used. |
| **node-name** | | string optional | The iSCSI target name for the Vserver. The target-name must conform to RFC 3720. If not provided, one will be auto-generated. |
| **start** | | boolean optional | Determine the initial state of the iSCSI Service. If true, the service will be automatically started after creation completes. If false, the service will be left in the stopped state and the caller must subsequently call iscsi-service-start to start the service. The default is true. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string | The new iSCSI target name for the Vserver. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EONTAPI_EINVAL** | |
| **EVDISK_ERROR_DUPLICATE_TARGET_NAME** | |
| **EONTAPI_EEXIST** | |
| **EVSERVERNOTRUNNING** | |
| **E_SAN_NOT_READY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **iSCSI** |

# iscsi-service-destroy

[top]

Destroy the iSCSI Service in a Vserver.

| Errno | Description |
|---|---|
| **E_SAN_NOT_READY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **iSCSI** |

# iscsi-service-get-iter

[top]

Iterate over the list of iSCSI Services.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | iscsi-service-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | iscsi-service-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI Service object. All iSCSI Service objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | iscsi-service-info[] optional | The list of attributes of iSCSI Service objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more iSCSI Service objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-service-modify

[top]

Modify an iSCSI Service in a Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **login-timeout** | | integer optional | Login phase duration in seconds. Specifies maximum time the login phase remains active until the iSCSI target terminates the connection. Range: [5..120]. |
| **max-cmds-per-session** | | integer optional | Maximum commands per session. Specifies the maximum number of commands per session that the iSCSI target can accept. Range: [4..256]. |
| **max-conn-per-session** | | integer optional | Maximum connections per session. Specifies the maximum number of connections per session that the iSCSI target can accept. Range: [1..32]. |
| **max-error-recovery-level** | | integer optional | (DEPRECATED)-Maximum error recovery level. The possible values are:<br>• 0 - session failure recovery.<br>• 1 - digest failure recovery.<br>• 2 - connection failure recovery.<br><br>This field is DEPRECATED; updates are ignored and have no effect. |
| **retain-timeout** | | integer optional | Default time-to-retain value in secconds. Specifies the wait time before active task reassignment is possible after an unexpected connection termination. Range: [1,.120]. |

| | | | |
|---|---|---|---|
| **tcp-window-size** | | integer optional | TCP receive window size in bytes. Range: [8760..262800]. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **E_SAN_NOT_READY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **iSCSI** |

# iscsi-service-start

[top]

Start iSCSI service. The service will be available once the call returns with success.

| Errno | Description |
|---|---|
| **EALREADYSTARTED** | |
| **EINTERNALERROR** | |
| **EREVERTINPROGRESS** | |
| **EVSERVERNOTRUNNING** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-service-status

[top]

Get status of the iSCSI service, whether or not it is running.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-available** | | boolean | "true" if iSCSI service is running, "false" otherwise. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
| --- |
| iscsi |

# iscsi-service-stop

[top]

Stops iSCSI service. Service will be not be available once the call returns with success.

| Errno | Description |
| --- | --- |
| ENOTSTARTED | |
| EINTERNALERROR | |
| E_SAN_NOT_READY | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| iscsi |

# iscsi-session-get-iter

[top]

Iterate over a list of iSCSI session objects.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| desired-attributes | | iscsi-session-list-entry-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | iscsi-session-list-entry-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI session object. All iSCSI session objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| attributes-list | | iscsi-session-list-entry-info[] | The list of attributes of iSCSI session objects. |

| | | | |
|---|---|---|---|
| | | optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more iSCSI session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-session-list-info

[top]

Gives list of active sessions

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tsih** | | integer optional | target session ID handle for specific session |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-session-list-entries** | | iscsi-session-list-entry-info[] | List of active sessions |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-stats-get-iter

[top]

Iterate over a list of iscsi objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | iscsi-stats-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | iscsi-stats-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the iscsi object. All iscsi objects matching this query up to 'max-records' will be returned. |
| | | | Specify the tag from the last call. It is usually not specified for the |

| | | | |
|---|---|---|---|
| **tag** | | string optional | first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | iscsi-stats-info[] optional | The list of attributes of iscsi objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more iscsi objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-stats-list-info

[top]

return current filer iscsi statistics

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-stats** | | iscsi-stats-info[] | statistics for iscsi |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-target-alias-clear-alias

[top]

Clear the current iscsi target alias

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-target-alias-get-alias

[top]

Return the current iscsi target alias

| Output Name | Range | Type | Description |
|---|---|---|---|
| **alias-name** | | string optional | Current iscsi target alias if alias-assigned is true. |
| **is-alias-assigned** | | boolean | True if alias assigned, false otherwise. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-target-alias-set-alias

[top]

Set the current iscsi target alias

| Input Name | Range | Type | Description |
|---|---|---|---|
| **alias-name** | | string | New iscsi target alias to set; must be 128 bytes or less. Free form format otherwise, although a string of all blanks will be rejected |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-tpgroup-alua-set

[top]

Change the ALUA parameters on a tpgroup Asymmetric Logical Unit Access (ALUA) management Data ONTAP supports SCSI ALUA functionality for managing multi-pathed SCSI devices. ALUA provides a standardized mechanism for path discovery and prioritization. Devices are identified by target port IDs, which are then grouped into target port groups. Each group has a state which, when configured,

enables the host multipathing software to select the appropriate path priorities when accessing a LUN. For iSCSI, ALUA settings are controlled at the target portal group level using the "iscsi-tpgroup-alua-set" ZAPI. A target portal group can be configured to be either "optimized" or "non-optimized"; a host typically uses all the optimized paths before using any non-optimized paths it may find. All target portal groups are optimized by default. There is also an optional "preferred" setting that may be used on a target portal group. Check your host's multi-pathing software documentation to see if it supports ALUA and the preferred setting. ALUA is enabled on Initiator Groups using the "igroup-set-attribute" ZAPI. All LUNs mapped to an ALUA enabled Initiator Group will support the ALUA functionality.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tpgroup-alua-preferred** | | boolean | If "true", target portal group will be marked as preferred for ALUA enabled Initiator Groups |
| **tpgroup-alua-state** | | string | Possible values: "optimized", "non-optimized" |
| **tpgroup-tag** | | integer | portal group |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| License |
|---|
| **iscsi** |

# iscsi-tpgroup-create

[top]

Create a new user defined target portal group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tpgroup-name** | | string | Name of new user defined target portal group. Name must be <= 32 characters. In Data ONTAP 7-Mode, user defined target portal group names cannot end with "default" as this would conflict with names of default target portal groups. In Data ONTAP Cluster-Mode, user defined target portal groups cannot use the name of any defined logical interfaces (LIFs) in the vserver as this would conflict with names of default target portal groups. |
| **tpgroup-tag** | **[0..65535]** | integer optional | Optional target portal group tag supplied by user. Default value is system generated. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **tpgroup-tag** | **[0..65535]** | integer | New target portal group tag. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
| --- |
| iscsi |

# iscsi-tpgroup-destroy

[top]

Destroy a tpgroup. Only user defined target portal groups may be destroyed.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| tpgroup-tag | [0..65535] | integer | Tag of portal group to destroy. |

| Errno | Description |
| --- | --- |
| EAPILICENSE | |
| EINVALIDINPUTERROR | |
| E_SAN_NOT_READY | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| iscsi |

# iscsi-tpgroup-get-iter

[top]

Iterate over a list of iSCSI Target Portal Group objects.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| desired-attributes | | iscsi-tpgroup-list-entry-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | iscsi-tpgroup-list-entry-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI Target Portal Group object. All iSCSI Target Portal Group objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| | | iscsi-tpgroup- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | list-entry-info[] optional | The list of attributes of iSCSI Target Portal Group objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more iSCSI Target Portal Group objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-tpgroup-interface-add

[top]

Add an interface to a target portal group. Interfaces may only be added to a user defined target portal group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string | Name of network interface to add. In Data ONTAP 7-Mode, this is the name of a physical or virtual ethernet interface, for example: "e0c" or "vif1". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver. |
| **tpgroup-tag** | **[0..65535]** | integer | Target portal group tag. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-tpgroup-interface-delete

[top]

Remove an interface from a target portal group. Interfaces may only be removed from a user defined target portal group. Removing an interface will return it to the system defined default group for the interface.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string | Name of network interface to remove. In Data ONTAP 7-Mode, this is the name of a physical or virtual ethernet interface, for example: "e0c" or "vif1" In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver. |
| **tpgroup-tag** | **[0..65535]** | integer | Target portal group tag. |

| Errno | Description |
|---|---|
| EAPILICENSE | |
| EINVALIDINPUTERROR | |
| E_SAN_NOT_READY | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| iscsi |

## iscsi-tpgroup-list-info

[top]

List information about target portal groups

| Input Name | Range | Type | Description |
|---|---|---|---|
| tpgroup-tag | | integer optional | Portal group being queried; if not supplied, information on all portal groups is returned |

| Output Name | Range | Type | Description |
|---|---|---|---|
| iscsi-tpgroup-list-entries | | iscsi-tpgroup-list-entry-info[] | List of tpgroups |

| Errno | Description |
|---|---|
| EAPILICENSE | |
| EINVALIDINPUTERROR | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| iscsi |

## Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

## Element definition: **ip-range-or-mask**

[top]

IPv4 and IPv6 address range containing a start address and an end address. The start and end addresses themselves are included in the range.

An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'.

[none]

# Element definition: **iscsi-adapter-initiators-info**

[top]

A list of initiators currently connected to the adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-connected-initiators** | | iscsi-connected-initiator-info[] | Information about the connected initiators |
| **name** | | string | The name this adapter is given. |

# Element definition: **iscsi-config-adapter-info**

[top]

Configuration information about a single iscsi adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | The name this adapter is given. |
| **portal-addresses** | | iscsi-portal-address-info[] | A list of portal group address + port that this adapter is listening on. |
| **state** | | string | State of the adapter, either "online", "offline", "local", "partner" or "error". "online" and "offline" are used when the adapter is used for the current host. "local" is used if the adapter is operating on behalf of the local host, and "partner" is used if the adapter is operating on behalf of the partner host. "error" is used if an internal error occurred while retrieving the adapter information. |
| **status** | | string optional | A short status message explaining the state. i.e. if the adapter is offline, the reason for it, or if its "error" what the error is. This will not be returned if the state of the adapter is "online". |

# Element definition: **iscsi-connection-list-entry-info**

[top]

Information about an iSCSI connection. In Data ONTAP 7-Mode, connections are uniquely identified by the combination of 'session-id' and 'connection-id'. In Data ONTAP Cluster-Mode, sessions are uniquely identified within a Vserver by the combination of 'tpgroup-name', 'session-id' and 'connection-id'.

| Name | Range | Type | Description |
|---|---|---|---|
| **connection-id** | **[0..65535]** | integer | Connection id |
| | | | Current state of this connection. Possible values:<br>• "New_Connection", |

| | | | |
|---|---|---|---|
| **connection-state** | | string | • "Waiting_Tpgtag_Assignment",<br>• "Login_Waiting_Req",<br>• "Login_Req_Rcvd",<br>• "Login_Waiting_Auth",<br>• "Login_OK_New_Session_Requested",<br>• "Login_New_Session_Waiting_Reinstatement",<br>• "Login_OK_New_Conn_Requested",<br>• "Login_New_Conn_Waiting_Reinstatement",<br>• "Login_Send_Final_Resp",<br>• "Full_Feature_Phase",<br>• "Shutdown_Start",<br>• "Shutdown_Waiting_Sockio_Shutdown",<br>• "Shutdown_Sockio_Shutdown_Done",<br>• "Shutdown_Waiting_ImmDeliv_FFPCmds_Done",<br>• "Shutdown_ImmDeliv_FFPCmds_Done",<br>• "Shutdown_Recovery_Waiting_FFPCmds_Ready",<br>• "Shutdown_Recovery_Waiting_Logout_Rcvd",<br>• "Shutdown_Recovery_Logout_Rcvd",<br>• "Shutdown_Recovery_Waiting_FFPCmds_Reassigned",<br>• "Shutdown_Terminate_Abort_Seq_FFPCmds",<br>• "Shutdown_Terminate_Waiting_Seq_FFPCmds_Done",<br>• "Shutdown_Terminate_Seq_FFPCmds_Done". |
| **has-session** | | boolean | True if this connection is associated to a session, false otherwise. |
| **interface-name** | | string | Name of the network interface hosting this connection. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver. |
| **local-ip-address** | | string | Storage System iSCSI Target IP address. |
| **local-ip-port** | **[0..65535]** | integer | Storage System iSCSI Target TCP port. |
| **remote-ip-address** | | string | Remote initiator IP address. |
| **remote-ip-port** | **[0..65535]** | integer | Remote initiator TCP port. |
| **session-id** | **[0..65535]** | integer | Session id for the associated session, or 0 if this connection is not yet associated to a session. |
| **tpgroup-name** | | string | The name of the target portal group associated with this session. |
| **tpgroup-tag** | **[0..65535]** | integer | The tag of the target portal group associated with this session. |
| **vserver** | | string | Name of the vserver containing this connection. |

# Element definition: **iscsi-initiator-list-entry-info**

[top]

Information about a single initiator.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-aliasname** | | string optional | User-friendly name assigned to initiator. This field is only present if the initiator provided an alias during login. |
| **initiator-** | | initiator-group-list- | List of initiator groups containing this iSCSI initiator. |

| | | | |
|---|---|---|---|
| **group-list** | | info[] optional | |
| **initiator-nodename** | | string | Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". |
| **isid** | | string | ISID for this session selected by initiator represented as 6 hexadecimal octets separated by colons, for example: "40:01:37:00:00:00". |
| **target-session-id** | **[0..65535]** | integer | iSCSI session identifier assigned by the target. |
| **tpgroup-name** | | string | The name of the target portal group associated with this session. |
| **tpgroup-tag** | **[0..65535]** | integer | Tag of target portal group associated with this session. |
| **vserver** | | string | Name of the vserver this initiator is connected to. |

# Element definition: **iscsi-interface-accesslist-entry-info**

[top]

Information about a single accesslist entry When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string optional | Initiator that can access the iSCSI LIFs Attributes: key, non-creatable, non-modifiable |
| **interface-name** | | string optional | iSCSI LIF Name Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver hosting the iSCSI LIF Attributes: key, non-creatable, non-modifiable |

# Element definition: **iscsi-interface-list-entry-info**

[top]

Information about a single interface

| Name | Range | Type | Description |
|---|---|---|---|
| **current-node** | | string | Name of the node currently hosting the LIF. |
| **current-port** | | string | Name of the physical ethernet interface currently hosting the LIF. |
| **interface-name** | | string | Name of interface. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver. |
| **ip-address** | | string | iSCSI target portal IP address. |
| **ip-port** | **[0..65535]** | integer | iSCSI target portal TCP port. |

| | | | |
|---|---|---|---|
| **is-interface-enabled** | | boolean | "true" if interface enabled for iSCSI, "false" otherwise. |
| **relative-port-id** | **[1..65535]** | integer | The SCSI Relative Target Port Identifier of the LIF. |
| **sendtargets-fqdn** | | string optional | Specifies the Fully Qualified Domain Name (FQDN) of the LIF to be returned in iSCSI SendTargets discovery. If unset, the IP address of the LIF is used instead. |
| **tpgroup-name** | | string | Name of target portal group interface is associated with. |
| **tpgroup-tag** | **[0..65535]** | integer | Id of target portal group interface is associated with. |
| **vserver** | | string optional | The name of the vserver containing this iSCSI data LIF. |

# Element definition: **iscsi-iptpgroup-list-entry-info**

[top]

Information about a single portal group

| Name | Range | Type | Description |
|---|---|---|---|
| **ipaddress-list-entries** | | ipaddress-list-entry-info[] | List of IP Addresses associated with this iptpgroup |
| **tpgroup-name** | | string | Portal group name |
| **tpgroup-tag** | | integer | Portal group tag |

# Element definition: **iscsi-isns-info**

[top]

iSCSI iSNS Service Configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-isns-enabled** | | boolean optional | true if the iSNS Service is running, false otherwise. Attributes: optional-for-create, non-modifiable |
| **isns-entity-id** | | string optional | Entity id existing on the iSNS server Attributes: non-creatable, non-modifiable |
| **isns-ip-addr** | | ip-address optional | iSNS server IP address. Attributes: required-for-create, modifiable |
| **last-successful-update** | | integer optional | Last successful iSNS update time in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable |
| **last-update-attempt** | | integer optional | Last iSNS update attempt time in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **last-update-result** | | string optional | Result of the last iSNS update. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver hosting the iSNS service. Attributes: key, non-creatable, non-modifiable |

# Element definition: **iscsi-portal-list-entry-info**

[top]

information about a single portal

| Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string | Name of network interface exporting this portal |
| **ip-address** | | string | portal IP address |
| **ip-port** | **[0..65535]** | integer | portal listening port |
| **tpgroup-tag** | **[0..65535]** | integer | tag of portal group this portal is associated with |

# Element definition: **iscsi-security-entry-info**

[top]

Information about a single authentication entry.

| Name | Range | Type | Description |
|---|---|---|---|
| **auth-chap-policy** | | string optional | CHAP authentication path. Possible values: "local", "radius". |
| **auth-type** | | string | Authentication type. Possible values: "CHAP", "none", "deny". |
| **initiator** | | string | Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346", or "default" if this is a default auth entry. |
| **initiator-address-ranges** | | ip-range-or-mask[] optional | May be a single IPv4 or IPv6 address or a range containing a start address and an end address. The start and end addresses themselves are included in the range. If not present, the initiator is allowed to log in from any IP address.<br><br>An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'. |
| **outbound-user-name** | | string optional | Outbound CHAP user name, returned only if auth-type is CHAP, and outbound authentication is set for initiator. |
| **user-name** | | string optional | Inbound CHAP user name, returned only if auth-type is CHAP. |
| **vserver** | | string | Vserver containing this authentication information. |

# Element definition: **iscsi-service-info**

[top]

iSCSI Target Service Configuration. When returned as part of the output, all elements of this typedef

are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **alias-name** | | string optional | The iSCSI target alias of the Vserver. Attributes: optional-for-create, modifiable |
| **is-available** | | boolean optional | true if the iSCSI Service is running, false otherwise. Attributes: non-creatable, non-modifiable |
| **login-timeout** | **[5..120]** | integer optional | Login phase duration in seconds. Specifies maximum time the login phase remains active until the iSCSI target terminates the connection. Attributes: optional-for-create, modifiable |
| **max-cmds-per-session** | **[4..256]** | integer optional | Maximum commands per session. Specifies the maximum number of commands per session that the iSCSI target can accept. Attributes: optional-for-create, modifiable |
| **max-conn-per-session** | **[1..32]** | integer optional | Maximum connections per session. Specifies the maximum number of connections per session that the iSCSI target can accept. Attributes: optional-for-create, modifiable |
| **max-error-recovery-level** | **[0..2]** | integer optional | (DEPRECATED)-Maximum error recovery level. The possible values are:<br>• 0 - session failure recovery.<br>• 1 - digest failure recovery.<br>• 2 - connection failure recovery.<br><br>Attributes: optional-for-create, modifiable |
| **node-name** | | string optional | The iSCSI target name of the Vserver. Attributes: optional-for-create, modifiable |
| **retain-timeout** | **[1..120]** | integer optional | Default time-to-retain value in seconds. Specifies the wait time before active task reassignment is possible after an unexpected connection termination. Attributes: optional-for-create, modifiable |
| **tcp-window-size** | **[8760..262800]** | integer optional | TCP receive window size in bytes. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver hosting the iSCSI service. Attributes: key, non-creatable, non-modifiable |

# Element definition: **iscsi-session-list-entry-info**

[top]

Information about a single iSCSI session. In Data ONTAP 7-Mode, sessions are uniquely identified by the 'target-session-id'. In Data ONTAP Cluster-Mode, sessions are uniquely identified within a Vserver by the combination of 'tpgroup-name' and 'target-session-id'.

| Name | Range | Type | Description |
|---|---|---|---|
| **cmd-window-size** | **[0..2^31-1]** | integer | The maximum number of I/O operations per session. This field has been superseded by max-ios-per-session starting with Data ONTAP 8.3 and is retained for compatibility. |

| | | | |
|---|---|---|---|
| **data-pdu-in-order** | | boolean | The DataPDUInOrder of the session as defined in RFC 3720. |
| **data-sequence-in-order** | | boolean | The DataSequenceInOrder of the session as defined in RFC 3720. |
| **default-time-to-retain** | **[0..3600]** | integer | The DefaultTime2Retain of the session as defined in RFC 3720, in seconds. |
| **default-time-to-wait** | **[0..3600]** | integer | The DefaultTime2Wait of the session as defined in RFC 3720, in seconds. |
| **error-recovery-level** | **[0..2]** | integer | iSCSI ErrorRecoveryLevel as defined in RFC 3720. |
| **first-burst-length** | **[512..2^24-1]** | integer | The FirstBurstLength of the session as defined in RFC 3720, in bytes. |
| **immediate-data-enabled** | | boolean | True if this session has immediate data enabled, false otherwise. |
| **initial-r2t-enabled** | | boolean | True if this session has R2T enabled, false otherwise. |
| **initiator-aliasname** | | string optional | The user-friendly name assigned to initiator. This field is only present if the initiator provided an alias during login. |
| **initiator-nodename** | | string | Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". |
| **iscsi-session-connection-list-entries** | | iscsi-session-connection-list-entry-info[] optional | List of TCP/IP connections associated with this session. |
| **iscsi-sesssion-cmd-list-entries** | | iscsi-sesssion-cmd-list-entry-info[] optional | List of active commands associated with this session |
| **isid** | | string | ISID for this session selected by initiator represented as 6 hexadecimal octets separated by colons, for example: "40:01:37:00:00:00". |
| **max-burst-length** | **[512..2^24-1]** | integer | The MaxBurstLength of the session as defined in RFC 3720, in bytes. |
| **max-connections** | **[0..65535]** | integer | Maximum number of connections for this session. |
| **max-ios-per-session** | **[0..2^31-1]** | integer | The maximum number of I/O operations per session. This field is available in Data ONTAP 8.3 and later. |
| **max-outstanding-r2t** | **[1..65535]** | integer | The MaxOutstandingR2T of the session as defined in RFC 3720. |
| **session-type** | | string | Possible values: "normal" or "discovery". |
| **target-session-id** | **[0..65535]** | integer | The iSCSI session identifier assigned by the storage system. |
| **tpgroup-name** | | string | The name of the target portal group associated with this session. |
| **tpgroup-tag** | **[0..65535]** | integer | The tag of the target portal group associated with this session. |
| **vserver** | | string | The name of the vserver containing this session. |

# Element definition: **iscsi-stats-info**

[top]

Statistics block

| Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-cdb-stats** | | iscsi-cdb-stats-info | Statistics of Command Descriptor Blocks. |
| **iscsi-error-stats** | | iscsi-error-stats-info | Statistics of errors. |
| **iscsi-received-stats** | | iscsi-received-stats-info | Statistics of PDUs received. |
| **iscsi-transmitted-stats** | | iscsi-transmitted-stats-info | Statistics of PDUs transmitted. |
| **vserver** | | string | Vserver hosting the iSCSI service. |

# Element definition: **iscsi-tpgroup-list-entry-info**

[top]

Information about a single portal group

| Name | Range | Type | Description |
|---|---|---|---|
| **interface-list-entries** | | interface-list-entry-info[] optional | List of interfaces associated with this tpgroup. |
| **is-user-defined** | | boolean | True if the target portal group is user defined, false if the target portal group is system defined. |
| **tpgroup-alua-preferred** | | boolean optional | True if target portal group is the preferred group for ALUA enabled initiator groups, false otherwise. |
| **tpgroup-alua-state** | | string optional | Possible values: "optimized", "non-optimized". |
| **tpgroup-name** | | string | Portal group name. |
| **tpgroup-tag** | | integer | Portal group tag. |
| **vserver** | | string optional | Vserver containing this target portal group. |

# Element definition: **lif-name**

[top]

Logical Interface Id

[none]

# Element definition: **initiator-group-list-info**

[top]

The initiator group this initiator belongs to.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of initiator group. |

# Element definition: **interface-list-entry-info**

[top]

Information about a single interface

| Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string | Name of network interface. In Data ONTAP 7-Mode, this is the name of a physical or virtual ethernet interface, for example: "e0c" or "vif0". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver. |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **ip-range-or-mask**

[top]

IPv4 and IPv6 address range containing a start address and an end address. The start and end addresses themselves are included in the range.

An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'.

[none]

# Element definition: **ipaddress-list-entry-info**

[top]

Information about a single IP Address

| Name | Range | Type | Description |
|---|---|---|---|
| **ip-address** | | string | IP address |

# Element definition: **iscsi-cdb-stats-info**

[top]

Counts for Command Descriptor Blocks processed

| Name | Range | Type | Description |
|---|---|---|---|
| **data-in-blocks** | | integer | Count of data in blocks. |
| **data-out-blocks** | | integer | Count of data out blocks. |

| | | | |
|---|---|---|---|
| **error-status** | | integer | Count of errors. |
| **success-status** | | integer | Count of successes. |
| **total** | | integer | Total Command Descriptor Blocks processed. |

# Element definition: **iscsi-connected-initiator-info**

[top]

Information about an initiator connected to an iSCSI adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-name** | | string | Name of initiator. |
| **isid** | | string | ISID in form of "xx:xx:xx:xx:xx:xx". |
| **portal-group-id** | | integer | Target portal group number to which the initiator is connected. |

# Element definition: **iscsi-error-stats-info**

[top]

Counts for iSCSI errors.

| Name | Range | Type | Description |
|---|---|---|---|
| **data-digest** | | integer | Count of digest errors. |
| **failed-logins** | | integer | Count of failed logins. |
| **failed-logouts** | | integer | Count of failed logouts. |
| **failed-task-mgt** | | integer | Count of failed management tasks. |
| **failed-text-cmd** | | integer | Count of failed text commands. |
| **hdr-digest** | | integer | Count of digest errors. |
| **invalid-header** | | integer | Count of PDU discards due to invalid PDU header. |
| **outside-cmd-sn-window** | | integer | Count of PDU discards due to PDU being outside of command sequence number window. |
| **protocol** | | integer | Count of protocol errors. |
| **total** | | integer | Total errors. |

# Element definition: **iscsi-portal-address-info**

[top]

Configuration information about an inet-address and port pair for a portal group.

| Name | Range | Type | Description |
|---|---|---|---|
| **id** | | integer | ID of this portal group. |
| **inet-address** | | ip-address | inet-address. |
| **port** | | integer | The port that is being listened on for that address. |

# Element definition: **iscsi-received-stats-info**

[top]

Counts for PDUs received.

| Name | Range | Type | Description |
|---|---|---|---|
| **data-out** | | integer | Count of data out requests. |
| **login-req** | | integer | Count of login requests. |
| **logout-req** | | integer | Count of logout requests. |
| **nop-out** | | integer | Count of NOP Out. |
| **scsi-cmd** | | integer | Count of SCSI commands. |
| **scsi-task-mgt-cmd** | | integer | Count of SCSI task management commands. |
| **snack** | | integer | Count of SNACK requests. |
| **text-req** | | integer | Count of text requests. |
| **total** | | integer | Total PDUs received. |
| **unknown** | | integer | Count of unknown PDUs. |

# Element definition: **iscsi-session-connection-list-entry-info**

[top]

Information about a single tcp connection

| Name | Range | Type | Description |
|---|---|---|---|
| **authentication-method** | | string | Authentication method of this connection. Possible values: "CHAP", "none". |
| **connection-id** | **[0..65535]** | integer | Connection id within the session. |
| **data-digest-enabled** | | boolean | True if data digests are enabled on this connection, false otherwise. |
| **header-digest-enabled** | | boolean | True if header digests are enabled on this connection, false otherwise. |
| **initiator-max-rcv-data-segment-length** | **[512..2^24-1]** | integer | Initiator's MaxRecvDataSegmentLength as defined in RFC 3720, in bytes. |
| **interface-name** | | string | Name of network interface hosting this connection. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver. |
| **local-ip-address** | | string | Local storage system iSCSI target interface address. |
| **local-ip-port** | **[0..65535]** | integer | Local storage system iSCSI target TCP port. |
| **rcv-window-size** | **[0..2^30]** | integer | TCP/IP receive window size, in octets. |
| **remote-ip-address** | | string | Remote initiator IP address. |
| **remote-ip-port** | **[0..65535]** | integer | Remote initiator TCP port. |
| **target-max-rcv-data-segment-length** | **[512..2^24-1]** | integer | Target's MaxRecvDataSegmentLength as defined in RFC 3720, in bytes. |

# Element definition: **iscsi-sesssion-cmd-list-entry-info**

[top]

information about a particular command

| Name | Range | Type | Description |
|---|---|---|---|
| **cmd-state** | | string | State of iSCSI command. Possible values:<br>• "FREE" - Free,<br>• "Logout_Begin" - Logout - Begin,<br>• "Logout_Wait_For_Other_Conn" - Logout - Wait For Other Conn,<br>• "Logout_Build_and_Send_Resp" - Logout - Build and Send Resp,<br>• "Logout_Waiting_StatSN_ACK" - Logout - Waiting StatSN ACK,<br>• "Logout_Done" - Logout - Done,<br>• "Nopout_Begin" - Nopout - Begin,<br>• "Nopout_Build_And_Send_Resp" - Nopout - Build And Send Resp,<br>• "Nopout_Waiting_Resp_Sockio_Comp" - Nopout - Waiting Resp Sockio Comp,<br>• "Nopout_Resp_Sockio_Comp" - Nopout - Resp Sockio Comp,<br>• "Nopout_Waiting_StatSN_ACK" - Nopout - Waiting StatSN ACK,<br>• "Nopout_Done" - Nopout - Done,<br>• "Taskmgmt_Begin" - Taskmgmt - Begin,<br>• "Taskmgmt_Waiting_FFPCmds_Rcvd" - Taskmgmt - Waiting FFPCmds Rcvd,<br>• "Taskmgmt_FFPCmds_Rcvd" - Taskmgmt - FFPCmds Rcvd,<br>• "Taskmgmt_Waiting_FFPCmds_Complete" - Taskmgmt - Waiting FFPCmds Complete,<br>• "Taskmgmt_Build_And_Send_Resp" - Taskmgmt - Build And Send Resp,<br>• "Taskmgmt_Waiting_StatSN_ACK" - Taskmgmt - Waiting StatSN ACK,<br>• "Taskmgmt_Done" - Taskmgmt - Done,<br>• "Text_Begin" - Text - Begin,<br>• "Text_Waiting_Portal_List_Notify" - Text - Waiting Portal List Notify,<br>• "Text_Build_And_Send_Resp" - Text - Build And Send Resp,<br>• "Text_Waiting_Resp_Sockio_Comp" - Text - Waiting Resp Sockio Comp,<br>• "Text_Resp_Sockio_Comp" - Text - Resp Sockio Comp,<br>• "Text_Waiting_StatSN_ACK" - Text - Waiting StatSN ACK,<br>• "Text_Done" - Text - Done,<br>• "Scsicdb_Begin" - Scsicdb - Begin,<br>• "Scsicdb_Claim_Early_Udata" - Scsicdb - Claim Early Udata,<br>• "Scsicdb_Waiting_Udata_Rcvd" - Scsicdb - Waiting Udata Rcvd,<br>• "Scsicdb_Udata_Rcvd" - Scsicdb - Udata Rcvd,<br>• "Scsicdb_Ready_For_STSubmit" - Scsicdb - Ready For STSubmit,<br>• "Scsicdb_Udata_Not_Rcvd" - Scsicdb - Udata Not Rcvd,<br>• "Scsicdb_Udata_Waiting_Task_Reassignment" - Scsicdb - Udata Waiting Task Reassignment,<br>• "Scsicdb_Udata_Task_Reassigned" - Scsicdb - Udata Task Reassigned,<br>• "Scsicdb_Waiting_STLayer" - Scsicdb - Waiting STLayer,<br>• "Scsicdb_RD_STLayer_Called" - Scsicdb - RD STLayer Called,<br>• "Scsicdb_RD_Build_And_Send_R2T" - Scsicdb - RD Build And Send R2T,<br>• "Scsicdb_RD_Waiting_Burst" - Scsicdb - RD Waiting Burst,<br>• "Scsicdb_RD_Burst_Rcvd" - Scsicdb - RD Burst Rcvd,<br>• "Scsicdb_RD_Done" - Scsicdb - RD Done,<br>• "Scsicdb_RD_Burst_Not_Rcvd" - Scsicdb - RD Burst Not Rcvd,<br>• "Scsicdb_RD_Waiting_Task_Reassignment" - Scsicdb - RD Waiting Task Reassignment, |

| | | | |
|---|---|---|---|
| | | | • "Scsicdb_RD_Task_Reassigned" - Scsicdb - RD Task Reassigned,<br>• "Scsicdb_SD_STLayer_Called" - Scsicdb - SD STLayer Called,<br>• "Scsicdb_SD_XDI_Done" - Scsicdb - SD XDI Done,<br>• "Scsicdb_SD_Waiting_DataSN_ACK" - Scsicdb - SD Waiting DataSN ACK,<br>• "Scsicdb_SD_Done" - Scsicdb - SD Done,<br>• "Scsicdb_SD_SNACK_Rcvd" - Scsicdb - SD SNACK Rcvd,<br>• "Scsicdb_SD_Task_Reassigned" - Scsicdb - SD Task Reassigned,<br>• "Scsicdb_SR_STLayer_Called" - Scsicdb - SR STLayer Called,<br>• "Scsicdb_SR_Build_And_Send_Resp" - Scsicdb - SR Build And Send Resp,<br>• "Scsicdb_SR_Waiting_StatSN_ACK" - Scsicdb - SR Waiting StatSN ACK,<br>• "Scsicdb_SR_Done" - Scsicdb - SR Done,<br>• "Scsicdb_SR_SNACK_Rcvd" - Scsicdb - SR SNACK Rcvd,<br>• "Scsicdb_SR_Task_Reassigned" - Scsicdb - SR Task Reassigned,<br>• "Scsicdb_SR_XDI_Done" - Scsicdb - SR XDI Done,<br>• "Scsicdb_SDR_STLayer_Called" - Scsicdb - SDR STLayer Called,<br>• "Scsicdb_SDR_XDI_Done" - Scsicdb - SDR XDI Done,<br>• "Scsicdb_SDR_Waiting_StatSN_ACK" - Scsicdb - SDR Waiting StatSN ACK,<br>• "Scsicdb_SDR_Done" - Scsicdb - SDR Done,<br>• "Scsicdb_SDR_SNACK_Rcvd" - Scsicdb - SDR SNACK Rcvd,<br>• "Scsicdb_SDR_Task_Reassigned" - Scsicdb - SDR Task Reassigned,<br>• "Scsicdb_Abort_Begin" - Scsicdb - Abort Begin,<br>• "Scsicdb_Abort_Build_And_Send_Resp" - Scsicdb - Abort Build And Send Resp,<br>• "Scsicdb_Abort_Waiting_StatSN_ACK" - Scsicdb - Abort Waiting StatSN ACK,<br>• "Scsicdb_Abort_Done" - Scsicdb - Abort Done,<br>• "Scsicdb_Abort_SNACK_Rcvd" - Scsicdb - Abort SNACK Rcvd,<br>• "Scsicdb_Abort_Task_Reassigned" - Scsicdb - Abort Task Reassigned,<br>• "Scsicdb_Abort_XDI_Done" - Scsicdb - Abort XDI Done,<br>• "Scsicdb_QFull_Begin" - Scsicdb - QFull Begin,<br>• "Scsicdb_QFull_Build_And_Send_Resp" - Scsicdb - QFull Build And Send Resp,<br>• "Scsicdb_QFull_Waiting_StatSN_ACK" - Scsicdb - QFull Waiting StatSN ACK,<br>• "Scsicdb_QFull_Done" - Scsicdb - QFull Done,<br>• "Scsicdb_XDI_Start" - Scsicdb - XDI Start,<br>• "Scsicdb_XDI_Waiting_Data_In_Sockio_Comp" - Scsicdb - XDI Waiting Data In Sockio Comp,<br>• "Scsicdb_Waiting_Scsitgt_Abort" - Scsicdb - Waiting Scsitgt Abort,<br>• "Done" - Done. |
| **cmd-sub-id** | **[0..2^32-1]** | integer | Variety specific sub-id. |
| **cmd-type** | | string | Type of command being executed. Possible values:<br>• "Seq",<br>• "ITM",<br>• "Oth",<br>• "UNK". |

## Element definition: **iscsi-transmitted-stats-info**

[top]

Counts for PDUs transmitted.

| Name | Range | Type | Description |
|---|---|---|---|
| **async-msg** | | integer | Count of asynchronous iSCSI messages. |
| **data-in** | | integer | Count of data in PDUs. |
| **login-rsp** | | integer | Count of login responses. |
| **logout-rsp** | | integer | Count of logout responses. |
| **nop-in** | | integer | Count of NOP In. |
| **ready-to-transmit** | | integer | Count of ready to transmit PDUs |
| **reject** | | integer | Count of reject PDUs. |
| **scsi-rsp** | | integer | Count of scsi responses. |
| **scsi-task-mgt-rsp** | | integer | Count of scsi task management responses. |
| **text-rsp** | | integer | Count of text responses. |
| **total** | | integer | Total PDUs transmitted. |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# APIs in Category: **job**


job-by-node-get
job-by-node-get-iter
job-completed-get
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job-get
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job-history-get
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job-pause
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job-queue-config-get
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job-resume
job-resume-iter
job-schedule-cron-create
job-schedule-cron-destroy
job-schedule-cron-destroy-iter
job-schedule-cron-get
job-schedule-cron-get-iter
job-schedule-cron-modify
job-schedule-get
job-schedule-get-iter
job-schedule-interval-create
job-schedule-interval-destroy
job-schedule-interval-destroy-iter
job-schedule-interval-get
job-schedule-interval-get-iter
job-schedule-interval-


Cluster management requires that certain operations run reliably, asynchronously and on particular schedules. These 'jobs' offer these benefits to the work they manage:

- Guaranteed execution, even in the face of node failure or reboot.
- Cluster-wide or node-specific scheduling. This permits jobs to execute where it makes the most sense.
- Flexible scheduling as a one time event, on regular intervals or coordinated to specific calendar dates.

On their exterior, jobs are a fundamentally simple concept. A job is a task that executes at a specific time. Around this idea, there are extended attributes that control if the job will be automatically re-scheduled upon completion, survive major system failures, run under which priority and so on. But in a healthy cluster with little activity, all jobs appear very similarly. The job APIs are generally comprised of those that enumerate and act upon jobs in the system and those that allow schedule customization. It should be noted that there are no APIs that allow one to explicitly create jobs. This is intentional as jobs are used to manage internal system workload. Jobs are responsible for activities like moving a volume, scanning for viruses or automatically taking snapshots as opposed to being a generic administrative process scheduler.

Every job is described specifically by its type, id, affinity, visibility and schedule. Both the job type and id are represented by unique universal identifiers (UUIDs). All jobs of a given type will perform the same task, usually with different runtime data. For instance a volume move operation is one type of job, but can be used for many different volumes. Job id is a specific instance of a job type. In the example above three different volume move jobs would have the same type but three different job ids. Jobs are also sometimes identified by a monotonically increasing numeric value, although this is often just a shorthand notation for the UUID. Affinity describes whether a job may be scheduled for execution on any node in the cluster (cluster) or must be tied to a specific compute instance (node). Visibility dictates whether a job's state is stored in the cluster-wide replicated database (public) or only on the node on which it is scheduled for execution (private). Finally a job schedun abstract concept like when the system starts up or based upon a calendar date or interval between executions of the same job.

Jobs always execute as small state machines with a definitive current state as well as a specific list of states the job may enter at any point in time. A job can be in one of the following states:

- Initial - job has been created but not queued yet
- Queued - job is in the queue; it could be ready to run immediately or it may be scheduled to run at a later time
- Running - the job has been picked by an instance of the Job Manager and is running
- Waiting - the job is waiting for another job to complete
- Pausing - the job is in the process of pausing after being

modify
job-soft-pause
job-soft-pause-iter
job-stop
job-stop-iter

requested to pause
- Paused - the job is indefinitely paused
- Quitting - the job has been requested to terminate and it is shutting down
- Success - the job has successfully completed and the results are available
- Failure - the job has failed
- Reschedule - the job is being re-scheduled
- Error - internal error occurred
- Quit - the job has been requested to terminate
- Dead - the job exceeded the drop dead time and is being removed from the queue
- Unknown - the state of the job is unknown
- Restart - the job is restartable
- Dormant - the job is inactive while waiting on some external event

Internally, the job execution engine organizes jobs of similar states into common queues. Queues are processed according to the rules of the state. For example, jobs in the wait queue are only periodically checked to determine if their waiting condition is met, whereas jobs in the running queue are actively processed as CPU capacity permits.

These APIs allow for job enumeration, schedule creation and low-level management. The most common enumeration APIs are job-get, job-private-get and job-history-get, while the more specific APIs like job-by-node-get act on a subset of the job-get result set once it has been suitable filtered and/or sorted.

Schedules may either occur at well-defined calendar dates or on a given interval between job executions. Use of the low-level APIs should be attempted with care as they can cause the jobs to behave abnormally or fail.

# job-by-node-get

[top]

Get a single job entry. This is just a performance optimization for job-get that only searches for the job among the ones currently owned by the given node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **job-id** | **[0..2^64-1]** | integer | The job id. |
| **job-node** | | node-name | The name of the node where the job is run. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | job-info | The attributes of the job-by-node entry. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-by-node-get-iter

[top]

Get multiple job records organized by node. This is just a performance optimization for job-get-iter that only searches for the job among the ones currently owned by the given node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | job-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the job-by-node entry object. All job-by-node entry objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | job-info[] optional | The list of attributes of job-by-node entry objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more job-by-node entry objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-completed-get

[top]

Get a single completed job entry. This is just a performance optimization for job-get.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **job-id** | **[0..2^64-1]** | integer | Job ID |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **attributes** | | job-info | The attributes of the job completed. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-completed-get-iter

[top]

Get multiple completed job records. This is just a performance optimization for job-get-iter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | job-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the job completed object. All job completed objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | job-info[] optional | The list of attributes of job completed objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more job completed objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-get

[top]

Get a single job entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **job-id** | **[0..2^64-1]** | integer | The job id. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | job-info | The attributes of the job. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-get-iter

[top]

Get multiple job records.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | job-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the job object. All job objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | job-info[] optional | The list of attributes of job objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more job objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-history-get

[top]

Get a single job history event.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **job-node** | | node-name | The name of the node where the job ran, or the node that changed the job's state. |
| **log-id** | **[0..2^64-1]** | integer | The internal identifier of this job history event. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | job-history-info | The attributes of the job history event. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-history-get-iter

[top]

Get multiple job history records.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 100 |
| **query** | | job-history-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the job history event object. All job history event objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | job-history-info[] optional | The list of attributes of job history event objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more job history event objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-pause

[top]

Pause a job. A job must be of a type that has job-type-is-pausible set to true before it may be paused. Once notified of a pause request, a job should stop performing work until it is subsequently resumed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer | The job id. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-pause-iter

[top]

Pause a collection of jobs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple job objects match a given query. If set to true, the API will continue with the next matching job even when the operation fails for the job. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching job even when the operation on a previous matching job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of job objects to be operated in this call. Default: 20 |
| **query** | | job-info | If operating on a specific job, this input element must specify all keys. If operating on job objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of job objects (just keys) that were not operated on due to some error. If set to false, the list of job objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of job objects (just keys) that were successfully operated on. If set to false, the list of job objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | job-pause-iter-info[] optional | Information about job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching job objects to be operated on. |
| | **[0..2^32-** | integer | The number of job objects that matched the query, but were not |

| | | | |
|---|---|---|---|
| **num-failed** | **1]** | optional | operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of job objects that matched the query and were successfully processed. |
| **success-list** | | job-pause-iter-info[] optional | The job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-private-completed-get

[top]

Get a single completed, private job entry. This is just a performance optimization for job-private-get.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **job-id** | **[0..2^64-1]** | integer | Job ID |
| **job-node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | job-info | The attributes of the private job completion entry. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-private-completed-get-iter

[top]

Get multiple completed, private job records. This is just a performance optimization for job-private-get-iter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | job-info | A query that specifies which objects to return. A query could be specified on any number of attributes in the private job completion |

| | | | |
|---|---|---|---|
| | | optional | entry object. All private job completion entry objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | job-info[] optional | The list of attributes of private job completion entry objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more private job completion entry objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-private-get

[top]

Get a single private job entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **job-id** | **[0..2^64-1]** | integer | Job ID |
| **job-node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | job-info | The attributes of the private job. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-private-get-iter

[top]

Get multiple private job records.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available |

| | | | |
|---|---|---|---|
| | | | will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | job-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the private job object. All private job objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | job-info[] optional | The list of attributes of private job objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more private job objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-private-pause

[top]

Pause a private job.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer | Job ID |
| **job-node** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-private-pause-iter

[top]

Pause a collection of private jobs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple private job objects match a given query. If set to true, the API will continue with the next matching private job even when the operation fails for the private job. If set to false, the API will return on the first failure. Default: false |
| | | | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed |

| | | | |
|---|---|---|---|
| **max-failure-count** | **[1..2^32-1]** | integer optional | operations before the server gives up and returns. If set, the API will continue with the next matching private job even when the operation on a previous matching private job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of private job objects to be operated in this call. Default: 20 |
| **query** | | job-info | If operating on a specific private job, this input element must specify all keys. If operating on private job objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of private job objects (just keys) that were not operated on due to some error. If set to false, the list of private job objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of private job objects (just keys) that were successfully operated on. If set to false, the list of private job objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | job-private-pause-iter-info[] optional | Information about private job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching private job objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of private job objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of private job objects that matched the query and were successfully processed. |
| **success-list** | | job-private-pause-iter-info[] optional | The private job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-private-resume

[top]

Resume a job.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer | Job ID |

| job-node | | node-name | Node |
|---|---|---|---|

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# job-private-resume-iter

[top]

Resume a collection of jobs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| continue-on-failure | | boolean optional | This input element is useful when multiple private job objects match a given query. If set to true, the API will continue with the next matching private job even when the operation fails for the private job. If set to false, the API will return on the first failure. Default: false |
| max-failure-count | [1..2^32-1] | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching private job even when the operation on a previous matching private job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| max-records | [1..2^32-1] | integer optional | The maximum number of private job objects to be operated in this call. Default: 20 |
| query | | job-info | If operating on a specific private job, this input element must specify all keys. If operating on private job objects based on query, this input element must specify a query. |
| return-failure-list | | boolean optional | If set to true, the API will return the list of private job objects (just keys) that were not operated on due to some error. If set to false, the list of private job objects not operated on will not be returned. Default: true |
| return-success-list | | boolean optional | If set to true, the API will return the list of private job objects (just keys) that were successfully operated on. If set to false, the list of private job objects operated on will not be returned. Default: true |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| failure-list | | job-private-resume-iter-info[] optional | Information about private job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more matching private job objects to be operated on. |
| num-failed | [0..2^32-1] | integer optional | The number of private job objects that matched the query, but were not operated on due some error. |

| | | | |
|---|---|---|---|
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of private job objects that matched the query and were successfully processed. |
| **success-list** | | job-private-resume-iter-info[] optional | The private job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-private-soft-pause

[top]

Soft pause a private job.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer | Job ID |
| **job-node** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-private-soft-pause-iter

[top]

Soft pause a collection of private jobs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple private job objects match a given query. If set to true, the API will continue with the next matching private job even when the operation fails for the private job. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching private job even when the operation on a previous matching private job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of private job objects to be operated in this call. Default: 20 |
| **query** | | job-info | If operating on a specific private job, this input element must specify all keys. If operating on private job objects based on query, this input element must specify a query. |
| | | | If set to true, the API will return the list of private job objects (just |

| | | | |
|---|---|---|---|
| **return-failure-list** | | boolean optional | keys) that were not operated on due to some error. If set to false, the list of private job objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of private job objects (just keys) that were successfully operated on. If set to false, the list of private job objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | job-private-soft-pause-iter-info[] optional | Information about private job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching private job objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of private job objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of private job objects that matched the query and were successfully processed. |
| **success-list** | | job-private-soft-pause-iter-info[] optional | The private job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-private-stop

[top]

Stop a job.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer | Job ID |
| **job-node** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-private-stop-iter

[top]

Stop a collection of jobs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple private job objects match a given query. If set to true, the API will continue with the next matching private job even when the operation fails for the private job. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching private job even when the operation on a previous matching private job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of private job objects to be operated in this call. Default: 20 |
| **query** | | job-info | If operating on a specific private job, this input element must specify all keys. If operating on private job objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of private job objects (just keys) that were not operated on due to some error. If set to false, the list of private job objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of private job objects (just keys) that were successfully operated on. If set to false, the list of private job objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | job-private-stop-iter-info[] optional | Information about private job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching private job objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of private job objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of private job objects that matched the query and were successfully processed. |
| **success-list** | | job-private-stop-iter-info[] optional | The private job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-queue-config-get

[top]

Get the job queue configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-queue-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | job-queue-config-info | The attributes of the job-queue-config. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-queue-config-modify

[top]

Modify the job queue configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-queue-config-jobs-per-type-threshold** | **[0..100]** | integer optional | Threshold for accepted jobs per type. |
| **job-queue-config-queue-size-limit** | **[0..2^32-1]** | integer optional | Job queue size limit. |
| **job-queue-config-warning-threshold** | **[0..100]** | integer optional | Warning threshold for total number of jobs. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-resume

[top]

Resume a job from the paused state.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer | The job id. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# job-resume-iter

[top]

Resume a collection of jobs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| continue-on-failure | | boolean optional | This input element is useful when multiple job objects match a given query. If set to true, the API will continue with the next matching job even when the operation fails for the job. If set to false, the API will return on the first failure. Default: false |
| max-failure-count | [1..2^32-1] | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching job even when the operation on a previous matching job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| max-records | [1..2^32-1] | integer optional | The maximum number of job objects to be operated in this call. Default: 20 |
| query | | job-info | If operating on a specific job, this input element must specify all keys. If operating on job objects based on query, this input element must specify a query. |
| return-failure-list | | boolean optional | If set to true, the API will return the list of job objects (just keys) that were not operated on due to some error. If set to false, the list of job objects not operated on will not be returned. Default: true |
| return-success-list | | boolean optional | If set to true, the API will return the list of job objects (just keys) that were successfully operated on. If set to false, the list of job objects operated on will not be returned. Default: true |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| failure-list | | job-resume-iter-info[] optional | Information about job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more matching job objects to be operated on. |
| num-failed | [0..2^32-1] | integer optional | The number of job objects that matched the query, but were not operated on due some error. |
| num-succeeded | [0..2^32-1] | integer optional | The number of job objects that matched the query and were successfully processed. |
| success-list | | job-resume-iter- | The job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| | | | |
|---|---|---|---|
| | | info[] optional | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# job-schedule-cron-create

[top]

Create a new cron job schedule entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| job-schedule-cluster | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. |
| job-schedule-cron-day | | cron-day-of-month[] optional | The day(s) of the month when the job should be run. |
| job-schedule-cron-day-of-week | | cron-day-of-week[] optional | The day(s) in the week when the job should be run. |
| job-schedule-cron-hour | | cron-hour[] optional | The hour(s) of the day when the job should be run. |
| job-schedule-cron-minute | | cron-minute[] | The minute(s) of each hour when the job should be run. |
| job-schedule-cron-month | | cron-month[] optional | The month(s) when the job should be run. |
| job-schedule-name | | string | The name of the job schedule. |
| return-record | | boolean optional | If set to true, returns the job-schedule-cron on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| result | | job-schedule-cron-info optional | The job-schedule-cron created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# job-schedule-cron-destroy

[top]

Delete a single cron job schedule entry. The entry must not be in use.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. |
| **job-schedule-name** | | string | The name of the job schedule. |

| Errno | Description |
|---|---|
| **E_SCHEDULE_IN_USE** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# job-schedule-cron-destroy-iter

[top]

Delete multiple cron job schedule entries. The entries must not be in use.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple job-schedule-cron objects match a given query. If set to true, the API will continue deleting the next matching job-schedule-cron even when the deletion of a previous job-schedule-cron fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching job-schedule-cron even when the deletion of a previous matching job-schedule-cron fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of job-schedule-cron objects to delete in this call. Default: 100 |
| **query** | | job-schedule-cron-info | If deleting a specific job-schedule-cron, this input element must specify all keys. If deleting multiple job-schedule-cron objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of job-schedule-cron objects (just keys) that were not deleted due to some error. If set to false, the list of job-schedule-cron objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of job-schedule-cron objects (just keys) that were successfully deleted. If set to false, the list of job-schedule-cron objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | job- | |

| | | | |
|---|---|---|---|
| **failure-list** | | schedule-cron-destroy-iter-info[] optional | Information about job-schedule-cron objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching job-schedule-cron objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of job-schedule-cron objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of job-schedule-cron objects that matched the query and were successfully deleted. |
| **success-list** | | job-schedule-cron-destroy-iter-info[] optional | The job-schedule-cron objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-schedule-cron-get

[top]

Get a single cron job schedule entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-schedule-cron-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. |
| **job-schedule-name** | | string | The name of the job schedule. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | job-schedule-cron-info | The attributes of the job-schedule-cron. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-schedule-cron-get-iter

[top]

Get multiple cron job schedule entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-schedule-cron-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 100 |
| **query** | | job-schedule-cron-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the job-schedule-cron object. All job-schedule-cron objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | job-schedule-cron-info[] optional | The list of attributes of job-schedule-cron objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more job-schedule-cron objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-schedule-cron-modify

[top]

Modify an existing cron job schedule entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. |
| **job-schedule-cron-day** | | cron-day-of-month[] optional | The day(s) of the month when the job should be run. |
| **job-schedule-cron-day-of-week** | | cron-day-of-week[] optional | The day(s) in the week when the job should be run. |
| **job-schedule-cron-hour** | | cron-hour[] optional | The hour(s) of the day when the job should be run. |
| **job-schedule-cron-minute** | | cron-minute[] optional | The minute(s) of each hour when the job should be run. |

| | | | |
|---|---|---|---|
| **job-schedule-cron-month** | | cron-month[] optional | The month(s) when the job should be run. |
| **job-schedule-name** | | string | The name of the job schedule. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# job-schedule-get

[top]

Get a single job schedule entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-schedule-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. |
| **job-schedule-name** | | string | The name of the job schedule. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | job-schedule-info | The attributes of the job-schedule. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-schedule-get-iter

[top]

Get multiple job schedule entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-schedule-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-** | integer | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| | 1] | optional | |
| **query** | | job-schedule-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the job-schedule object. All job-schedule objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | job-schedule-info[] optional | The list of attributes of job-schedule objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more job-schedule objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-schedule-interval-create

[top]

Create a new interval job schedule entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. |
| **job-schedule-interval-days** | **[0..2^32-1]** | integer optional | The number of days between jobs. |
| **job-schedule-interval-hours** | **[0..2^32-1]** | integer optional | The number of hours between jobs. |
| **job-schedule-interval-minutes** | **[0..2^32-1]** | integer optional | The number of minutes between jobs. |
| **job-schedule-interval-seconds** | **[0..2^32-1]** | integer optional | The number of seconds between jobs. |
| **job-schedule-name** | | string | The name of the job schedule. |
| **return-record** | | boolean optional | If set to true, returns the job-schedule-interval on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | job-schedule-interval-info optional | The job-schedule-interval created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# job-schedule-interval-destroy

[top]

Delete a single interval job schedule entry. The entry must not be in use.

| Input Name | Range | Type | Description |
|---|---|---|---|
| job-schedule-cluster | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. |
| job-schedule-name | | string | The name of the job schedule. |

| Errno | Description |
|---|---|
| E_SCHEDULE_IN_USE | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# job-schedule-interval-destroy-iter

[top]

Delete multiple interval job schedule entries. The entries must not be in use.

| Input Name | Range | Type | Description |
|---|---|---|---|
| continue-on-failure | | boolean optional | This input element is useful when multiple job-schedule-interval objects match a given query. If set to true, the API will continue deleting the next matching job-schedule-interval even when the deletion of a previous job-schedule-interval fails. If set to false, the API will return on the first failure. Default: false |
| max-failure-count | [1..2^32-1] | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching job-schedule-interval even when the deletion of a previous matching job-schedule-interval fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| max-records | [1..2^32-1] | integer optional | The maximum number of job-schedule-interval objects to delete in this call. Default: 100 |
| query | | job-schedule-interval-info | If deleting a specific job-schedule-interval, this input element must specify all keys. If deleting multiple job-schedule-interval objects based on query, this input element must specify a query. |
| | | | |

| | | | |
|---|---|---|---|
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of job-schedule-interval objects (just keys) that were not deleted due to some error. If set to false, the list of job-schedule-interval objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of job-schedule-interval objects (just keys) that were successfully deleted. If set to false, the list of job-schedule-interval objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | job-schedule-interval-destroy-iter-info[] optional | Information about job-schedule-interval objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching job-schedule-interval objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of job-schedule-interval objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of job-schedule-interval objects that matched the query and were successfully deleted. |
| **success-list** | | job-schedule-interval-destroy-iter-info[] optional | The job-schedule-interval objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-schedule-interval-get

[top]

Get a single interval job schedule entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-schedule-interval-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. |
| **job-schedule-name** | | string | The name of the job schedule. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | job-schedule-interval-info | The attributes of the job-schedule-interval. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-schedule-interval-get-iter

[top]

Get multiple interval job schedule entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-schedule-interval-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 100 |
| **query** | | job-schedule-interval-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the job-schedule-interval object. All job-schedule-interval objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | job-schedule-interval-info[] optional | The list of attributes of job-schedule-interval objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more job-schedule-interval objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-schedule-interval-modify

[top]

Modify an existing interval job schedule entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. |
| **job-schedule-interval-days** | **[0..2^32-1]** | integer optional | The number of days between jobs. |
| **job-schedule-interval-hours** | **[0..2^32-1]** | integer optional | The number of hours between jobs. |
| **job-schedule-interval-minutes** | **[0..2^32-1]** | integer optional | The number of minutes between jobs. |
| **job-schedule-interval-seconds** | **[0..2^32-1]** | integer optional | The number of seconds between jobs. |
| **job-schedule-name** | | string | The name of the job schedule. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# job-soft-pause

[top]

Soft pause a job. Indicates to the job that a soft pause has been initiated. It is up to the job to do what it needs to do for a soft pause. As a result of this command the job may request to be moved into the runnnable queue to perform further processing of the soft pause.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer | The job id. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-soft-pause-iter

[top]

Soft pause a collection of jobs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple job objects match a given query. If set to true, the API will continue with the next matching job even when the operation fails for the job. If set to false, the API will return on the first failure. Default: false |
| | | | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed |

| | | | |
|---|---|---|---|
| **max-failure-count** | **[1..2^32-1]** | integer optional | operations before the server gives up and returns. If set, the API will continue with the next matching job even when the operation on a previous matching job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of job objects to be operated in this call. Default: 20 |
| **query** | | job-info | If operating on a specific job, this input element must specify all keys. If operating on job objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of job objects (just keys) that were not operated on due to some error. If set to false, the list of job objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of job objects (just keys) that were successfully operated on. If set to false, the list of job objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | job-soft-pause-iter-info[] optional | Information about job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching job objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of job objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of job objects that matched the query and were successfully processed. |
| **success-list** | | job-soft-pause-iter-info[] optional | The job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-stop

[top]

Stop a job. A job must be of a type that has job-type-is-quittable set to true before it may be stopped. job-stop attempts to stop a job that's currently running. If the job allows itself to stop it completes its current run. If the job has a recurring schedule it will transition to the Queued state; otherwise it will transition into either the Success or Failure state.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer | The job id. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-stop-iter

[top]

Stop a collection of jobs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple job objects match a given query. If set to true, the API will continue with the next matching job even when the operation fails for the job. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching job even when the operation on a previous matching job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of job objects to be operated in this call. Default: 20 |
| **query** | | job-info | If operating on a specific job, this input element must specify all keys. If operating on job objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of job objects (just keys) that were not operated on due to some error. If set to false, the list of job objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of job objects (just keys) that were successfully operated on. If set to false, the list of job objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | job-stop-iter-info[] optional | Information about job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching job objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of job objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of job objects that matched the query and were successfully processed. |

| | | | |
|---|---|---|---|
| **success-list** | | job-stop-iter-info[] optional | The job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## Element definition: **cluster-name** [top]

Name of the Peer Cluster

[none]

## Element definition: **cron-day-of-month** [top]

Job Manager cron scheduling day of month. -1 represents all days of a month from 1 to 31, and only supported for cron schedule create and modify. Range : [-1..31].

[none]

## Element definition: **cron-day-of-week** [top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

## Element definition: **cron-hour** [top]

Job Manager cron scheduling hour. -1 represents all hours and only supported for cron schedule create and modify. Range : [-1..23].

[none]

## Element definition: **cron-minute** [top]

Job Manager cron scheduling minute. -1 represents all minutes and only supported for cron schedule create and modify. Range : [-1..59].

[none]

# Element definition: **cron-month**

[top]

Job Manager cron scheduling month. -1 represents all months and only supported for cron schedule create and modify. Range : [-1..11].

[none]

# Element definition: **job-history-info**

[top]

Job history log event When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **job-completion** | | string optional | Human-readable job completion message. Attributes: non-creatable, non-modifiable |
| **job-description** | | string optional | Job description. Attributes: non-creatable, non-modifiable |
| **job-end-time** | **[0..2^31-1]** | integer optional | When the job last completed. The time value is in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable |
| **job-event-time** | **[0..2^31-1]** | integer optional | The time when this event was logged. The time value is in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable |
| **job-event-type** | | job-event-type optional | The type of this history event. Attributes: non-creatable, non-modifiable Possible values:<br>• "idle" - The job has become idle,<br>• "running" - The job has started running,<br>• "succeeded" - The job has completed successfully,<br>• "failed" - The job has completed with a failure,<br>• "paused" - The job has been paused,<br>• "stopped" - The job has been stopped,<br>• "deleted" - The job has been deleted,<br>• "error" - Job Manager experienced an error while processing the job |
| **job-id** | **[0..2^64-1]** | integer optional | The identifier associated with this job by the Job Manager. This identifier is unique within a cluster. The 'job-history-get-iter' API can return multiple records for a given job identifier because it logs the state transitions that the job has been through. Records in the 'job-history-get-iter' API are returned in reverse chronological order. Attributes: non-creatable, non-modifiable |
| **job-** | **[0..2^64-** | integer | The error code, if any, that the Job Manager associated with this |

| | | | |
|---|---|---|---|
| **manager-error-code** | **1]** | optional | event. If set, 'job-error-text' will contain human-readable information about the error. Attributes: non-creatable, non-modifiable |
| **job-manager-error-text** | | string optional | The human-readable text for the error code, if any, that the Job Manager associated with this event. Attributes: non-creatable, non-modifiable |
| **job-name** | | string optional | Name of the job. Attributes: non-creatable, non-modifiable |
| **job-node** | | node-name optional | The name of the node where the job ran, or the node that changed the job's state. Attributes: key, non-creatable, non-modifiable |
| **job-progress** | | string optional | Human-readable job progress message. Attributes: non-creatable, non-modifiable |
| **job-start-time** | **[0..2^31-1]** | integer optional | When the job last started. The time value is in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable |
| **job-status-code** | **[0..2^64-1]** | integer optional | Status code. Value other than 0 indicates an error in the job execution, in which case 'job-completion' will contain human-readable information about the error. Attributes: non-creatable, non-modifiable |
| **job-username** | | string optional | The name of the user that created the job. Attributes: non-creatable, non-modifiable |
| **job-uuid** | | uuid optional | Job's universally unique identifier (UUID). Attributes: non-creatable, non-modifiable |
| **job-vserver** | | job-history-vserver-name optional | Vserver from which the job was created. Attributes: key, non-creatable, non-modifiable |
| **log-id** | **[0..2^64-1]** | integer optional | The internal identifier of this job history event. Attributes: key, non-creatable, non-modifiable |

# Element definition: **job-info**

[top]

Contains information about a specific job When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-restarted** | | boolean optional | Restarted? Attributes: non-creatable, non-modifiable |
| **job-category** | | string optional | Job Category Attributes: non-creatable, non-modifiable |
| **job-completion** | | string optional | Completion String Attributes: non-creatable, non-modifiable |
| **job-description** | | string optional | Description Attributes: non-creatable, non-modifiable |
| **job-dropdead-time** | **[0..2^31-1]** | integer optional | Drop-dead Time Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **job-end-time** | **[0..2^31-1]** | integer optional | End Time Attributes: non-creatable, non-modifiable |
| **job-id** | **[0..2^64-1]** | integer optional | Job ID Attributes: key, non-creatable, non-modifiable |
| **job-name** | | string optional | Name Attributes: non-creatable, non-modifiable |
| **job-node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **job-priority** | | job-priority optional | Priority Attributes: non-creatable, non-modifiable Possible values:<br>• "low" ,<br>• "medium" ,<br>• "high" ,<br>• "exclusive" |
| **job-progress** | | string optional | Execution Progress Attributes: non-creatable, non-modifiable |
| **job-queue-time** | **[0..2^31-1]** | integer optional | Queue Time Attributes: non-creatable, non-modifiable |
| **job-schedule** | | string optional | Schedule Attributes: non-creatable, non-modifiable |
| **job-start-time** | **[0..2^31-1]** | integer optional | Start Time Attributes: non-creatable, non-modifiable |
| **job-state** | | job-state optional | State Attributes: non-creatable, non-modifiable Possible values:<br>• "initial" - Initializing,<br>• "queued" - Queued,<br>• "running" - Running,<br>• "waiting" - Waiting For Another Job,<br>• "pausing" - Entering Paused State,<br>• "paused" - Paused,<br>• "quitting" - Entering Quit State,<br>• "success" - Succeeded,<br>• "failure" - Failed,<br>• "reschedule" - Forcing Reschedule,<br>• "error" - Internal Error,<br>• "quit" - Quit,<br>• "dead" - Died,<br>• "unknown" - Unknown,<br>• "restart" - Forcing Restart,<br>• "dormant" - Waiting For External Event |
| **job-status-code** | **[0..2^64-1]** | integer optional | Status Code Attributes: non-creatable, non-modifiable |
| **job-type** | | string optional | Job Type Attributes: non-creatable, non-modifiable |
| **job-username** | | string optional | User Name Attributes: non-creatable, non-modifiable |
| **job-uuid** | | uuid optional | UUID Attributes: non-creatable, non-modifiable |
| **job-vserver** | | vserver-name optional | Owning Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **job-pause-iter-info**

[top]

Information about the operation that was attempted/performed against job object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **job-key** | | job-info | The keys for the job object to which the operation applies. |

# Element definition: **job-private-pause-iter-info**

[top]

Information about the operation that was attempted/performed against private job object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **job-private-key** | | job-info | The keys for the private job object to which the operation applies. |

# Element definition: **job-private-resume-iter-info**

[top]

Information about the operation that was attempted/performed against private job object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **job-private-key** | | job-info | The keys for the private job object to which the operation applies. |

# Element definition: **job-private-soft-pause-iter-info**

[top]

Information about the operation that was attempted/performed against private job object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |

| | | | |
|---|---|---|---|
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **job-private-key** | | job-info | The keys for the private job object to which the operation applies. |

## Element definition: **job-private-stop-iter-info** [top]

Information about the operation that was attempted/performed against private job object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **job-private-key** | | job-info | The keys for the private job object to which the operation applies. |

## Element definition: **job-queue-config-info** [top]

Contains configuration detail information about the job queue. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **job-queue-config-jobs-per-type-threshold** | **[0..100]** | integer optional | Threshold for accepted jobs per type. Attributes: non-creatable, modifiable |
| **job-queue-config-queue-size-limit** | **[0..2^32-1]** | integer optional | Job queue size limit. Attributes: non-creatable, modifiable |
| **job-queue-config-warning-threshold** | **[0..100]** | integer optional | Warning threshold for total number of jobs. Attributes: non-creatable, modifiable |

## Element definition: **job-resume-iter-info** [top]

Information about the operation that was attempted/performed against job object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| | | string | |

| | | | |
|---|---|---|---|
| **error-message** | | optional | Error description, if the operation caused an error. |
| **job-key** | | job-info | The keys for the job object to which the operation applies. |

# Element definition: **job-schedule-cron-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against job-schedule-cron object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **job-schedule-cron-key** | | job-schedule-cron-info | The keys for the job-schedule-cron object to which the deletion applies. |

# Element definition: **job-schedule-cron-info**

[top]

Contains detail information about cron job schedules. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. Attributes: key, optional-for-create, non-modifiable |
| **job-schedule-cron-day** | | cron-day-of-month[] optional | The day(s) of the month when the job should be run. Attributes: optional-for-create, modifiable |
| **job-schedule-cron-day-of-week** | | cron-day-of-week[] optional | The day(s) in the week when the job should be run. Attributes: optional-for-create, modifiable |
| **job-schedule-cron-hour** | | cron-hour[] optional | The hour(s) of the day when the job should be run. Attributes: optional-for-create, modifiable |
| **job-schedule-cron-minute** | | cron-minute[] optional | The minute(s) of each hour when the job should be run. Attributes: required-for-create, modifiable |
| **job-schedule-** | | cron-month[] | The month(s) when the job should be run. Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **cron-month** | | optional | |
| **job-schedule-description** | | string optional | The description of the job schedule. Attributes: non-creatable, non-modifiable |
| **job-schedule-name** | | string optional | The name of the job schedule. Attributes: key, required-for-create, non-modifiable |

# Element definition: **job-schedule-info**

[top]

Contains overview information about a single job schedule. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. Attributes: key, optional-for-create, non-modifiable |
| **job-schedule-description** | | string optional | The description of the job schedule. Attributes: non-creatable, non-modifiable |
| **job-schedule-name** | | string optional | The name of the job schedule. Attributes: key, required-for-create, non-modifiable |
| **job-schedule-type** | | schedule-type optional | The type of job schedule. Attributes: non-creatable, non-modifiable Possible values:<br>• "cron" ,<br>• "interval" ,<br>• "builtin" ,<br>• "unknown" |

# Element definition: **job-schedule-interval-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against job-schedule-interval object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| | | | |

| | | | |
|---|---|---|---|
| **job-schedule-interval-key** | | job-schedule-interval-info | The keys for the job-schedule-interval object to which the deletion applies. |

# Element definition: **job-schedule-interval-info**

[top]

Contains detail information about interval job schedules. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. Attributes: key, optional-for-create, non-modifiable |
| **job-schedule-description** | | string optional | The description of the job schedule. Attributes: non-creatable, non-modifiable |
| **job-schedule-interval-days** | **[0..2^32-1]** | integer optional | The number of days between jobs. Attributes: optional-for-create, modifiable |
| **job-schedule-interval-hours** | **[0..2^32-1]** | integer optional | The number of hours between jobs. Attributes: optional-for-create, modifiable |
| **job-schedule-interval-minutes** | **[0..2^32-1]** | integer optional | The number of minutes between jobs. Attributes: optional-for-create, modifiable |
| **job-schedule-interval-seconds** | **[0..2^32-1]** | integer optional | The number of seconds between jobs. Attributes: optional-for-create, modifiable |
| **job-schedule-name** | | string optional | The name of the job schedule. Attributes: key, required-for-create, non-modifiable |

# Element definition: **job-soft-pause-iter-info**

[top]

Information about the operation that was attempted/performed against job object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |

| | | | |
|---|---|---|---|
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **job-key** | | job-info | The keys for the job object to which the operation applies. |

## Element definition: **job-stop-iter-info**

[top]

Information about the operation that was attempted/performed against job object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **job-key** | | job-info | The keys for the job object to which the operation applies. |

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

## Element definition: **cron-day-of-month**

[top]

Job Manager cron scheduling day of month. -1 represents all days of a month from 1 to 31, and only supported for cron schedule create and modify. Range : [-1..31].

[none]

## Element definition: **cron-day-of-week**

[top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

## Element definition: **cron-hour**

[top]

Job Manager cron scheduling hour. -1 represents all hours and only supported for cron schedule create and modify. Range : [-1..23].

[none]

## Element definition: **cron-minute**

[top]

Job Manager cron scheduling minute. -1 represents all minutes and only supported for cron schedule create and modify. Range : [-1..59].

[none]

## Element definition: **cron-month**

[top]

Job Manager cron scheduling month. -1 represents all months and only supported for cron schedule create and modify. Range : [-1..11].

[none]

## Element definition: **job-event-type**

[top]

Jobs will trigger history events at certain stages of their life cycle. These events are of the types described herein. Possible values:

- "idle" - The job has become idle,
- "running" - The job has started running,
- "succeeded" - The job has completed successfully,
- "failed" - The job has completed with a failure,
- "paused" - The job has been paused,
- "stopped" - The job has been stopped,
- "deleted" - The job has been deleted,
- "error" - Job Manager experienced an error while processing the job

[none]

## Element definition: **job-history-vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **job-info**

[top]

Contains information about a specific job When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-restarted** | | boolean optional | Restarted? Attributes: non-creatable, non-modifiable |
| **job-category** | | string optional | Job Category Attributes: non-creatable, non-modifiable |
| **job-completion** | | string optional | Completion String Attributes: non-creatable, non-modifiable |
| **job-description** | | string optional | Description Attributes: non-creatable, non-modifiable |
| **job-dropdead-time** | **[0..2^31-1]** | integer optional | Drop-dead Time Attributes: non-creatable, non-modifiable |
| **job-end-time** | **[0..2^31-1]** | integer optional | End Time Attributes: non-creatable, non-modifiable |
| **job-id** | **[0..2^64-1]** | integer optional | Job ID Attributes: key, non-creatable, non-modifiable |
| **job-name** | | string optional | Name Attributes: non-creatable, non-modifiable |
| **job-node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **job-priority** | | job-priority optional | Priority Attributes: non-creatable, non-modifiable Possible values:<br>• "low" ,<br>• "medium" ,<br>• "high" ,<br>• "exclusive" |
| **job-progress** | | string optional | Execution Progress Attributes: non-creatable, non-modifiable |
| **job-queue-time** | **[0..2^31-1]** | integer optional | Queue Time Attributes: non-creatable, non-modifiable |
| **job-schedule** | | string optional | Schedule Attributes: non-creatable, non-modifiable |
| **job-start-time** | **[0..2^31-1]** | integer optional | Start Time Attributes: non-creatable, non-modifiable |
| | | | State Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **job-state** | | job-state optional | • "initial" - Initializing,<br>• "queued" - Queued,<br>• "running" - Running,<br>• "waiting" - Waiting For Another Job,<br>• "pausing" - Entering Paused State,<br>• "paused" - Paused,<br>• "quitting" - Entering Quit State,<br>• "success" - Succeeded,<br>• "failure" - Failed,<br>• "reschedule" - Forcing Reschedule,<br>• "error" - Internal Error,<br>• "quit" - Quit,<br>• "dead" - Died,<br>• "unknown" - Unknown,<br>• "restart" - Forcing Restart,<br>• "dormant" - Waiting For External Event |
| **job-status-code** | **[0..2^64-1]** | integer optional | Status Code Attributes: non-creatable, non-modifiable |
| **job-type** | | string optional | Job Type Attributes: non-creatable, non-modifiable |
| **job-username** | | string optional | User Name Attributes: non-creatable, non-modifiable |
| **job-uuid** | | uuid optional | UUID Attributes: non-creatable, non-modifiable |
| **job-vserver** | | vserver-name optional | Owning Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **job-priority**

[top]

Execution priority of a job. There are thread pools for each priority level. Higher priority jobs may run in the pools of lower priorities. So High-priority jobs may run in the High, Medium or Low thread pools, Medium-priority jobs may run in the Medium or Low thread pools and Low-priority jobs may only run in the Low thread pool. The exception to this is Exclusive jobs: Exclusive-priority jobs will only run in the Exclusive thread pool and only Exclusive-priority jobs will be run in the Exclusive thread pool. Possible values:

- "low" ,
- "medium" ,
- "high" ,
- "exclusive"

[none]

# Element definition: **job-state**

[top]

Jobs execute as self-contained state machines. They follow a series of careful steps from creation to destruction. These steps are dictated by the states that they find themselves in as well as the allowable list of states they may transition into. The state can be an indicator of whether a job is executing and if not, why that is the case. Possible values:

- "initial" - Initializing,
- "queued" - Queued,
- "running" - Running,
- "waiting" - Waiting For Another Job,
- "pausing" - Entering Paused State,
- "paused" - Paused,
- "quitting" - Entering Quit State,
- "success" - Succeeded,
- "failure" - Failed,
- "reschedule" - Forcing Reschedule,
- "error" - Internal Error,
- "quit" - Quit,
- "dead" - Died,
- "unknown" - Unknown,
- "restart" - Forcing Restart,
- "dormant" - Waiting For External Event

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **schedule-type**

[top]

Jobs may be scheduled according to one of three major styles: 'cron' is for jobs that should be run at a specific time or well-defined calendar date; 'interval' is for jobs that should be run on a regular period; 'builtin' is for jobs that should be run according to internal rules. Of these 'cron' and 'interval' may be customized. Possible values:

- "cron" ,
- "interval" ,
- "builtin" ,
- "unknown"

[none]

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **kerberos**


kerberos-config-get
kerberos-config-get-iter
kerberos-config-modify
kerberos-realm-create
kerberos-realm-delete
kerberos-realm-get-iter
kerberos-realm-modify


This set of ZAPIs allows Kerberos realm configuration and management.

## kerberos-config-get

[top]

Get Kerberos configuration information for a LIF.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | kerberos-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **interface-name** | | string | Logical interface. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | kerberos-config-info | The attributes of the kerberos-config. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## kerberos-config-get-iter

[top]

Get Kerberos configuration information for a group of LIFs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | kerberos-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 50 |
| **query** | | kerberos-config- | A query that specifies which objects to return. A query could be specified on any number of attributes in the kerberos-config |

| | | | |
|---|---|---|---|
| | | info optional | object. All kerberos-config objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | kerberos-config-info[] optional | The list of attributes of kerberos-config objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more kerberos-config objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# kerberos-config-modify

[top]

Modify Kerberos configuration information for a LIF

| Input Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string optional | Administrator password. |
| **admin-user-name** | | string optional | Administrator username. |
| **force** | | boolean optional | Force option to disable Kerberos security on a LIF (default:false). If set to true, any errors encountered when deleting the corresponding account on the KDC are ignored in which case the account should be deleted manually. |
| **interface-name** | | string | Logical interface. |
| **is-kerberos-enabled** | | boolean optional | If 'true', then kerberos security is enabled. |
| **keytab-uri** | | string optional | Keytab to load the uri from. |
| **machine-account** | | string optional | Machine Account Name. |
| **organizational-unit** | | string optional | Organizational Unit. |
| **service-principal-name** | | string optional | Kerberos service principal name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_CANT_SHARE_AD_KERBEROS_ACCOUNT** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# kerberos-realm-create

[top]

Create a new Kerberos realm configuration.

In Data ONTAP 8.2.x and prior versions, Kerberos realms were owned by Cserver and were accessible only from Admin Vserver LIFs using the input 'config-name'. The 'vserver' input was not required.

Starting from Data ONTAP 8.3.0, Kerberos realms are owned by data Vservers and are accessible from both Admin and data Vserver LIFs. The 'config-name' input can no longer be used as a key. The 'realm' input must be used instead. The 'vserver' input is required.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ad-server-ip** | | ip-address optional | IP Address of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft'. |
| **ad-server-name** | | string optional | Host name of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft' |
| **admin-server-ip** | | ip-address optional | IP address of the host where the Kerberos administration daemon is running. This is usually the master KDC. If this parameter is omitted, the IP address specified in kdc-ip is used. If specified, this should be the same as the kdc-ip if the kdc-vendor is 'microsoft'. |
| **admin-server-port** | | integer optional | The TCP port on the Kerberos administration server where the Kerberos administration service is running. The default for this parmater is 749. |
| **clock-skew** | | integer optional | The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock. The default for this parameter is 5 minutes. |
| **comment** | | string optional | Comment |
| **config-name** | | string optional | Kerberos configuration name. |
| **kdc-ip** | | ip-address | IP address of the Key Distribution Centre (KDC) server for this Kerberos realm. |
| **kdc-port** | | integer optional | TCP port on the KDC to be used for Kerberos communication. The default for this parameter is 88. |
| **kdc-vendor** | | kdc-vendor | The vendor of the Key Distribution Centre (KDC) server. If the configuration uses a Microsoft Active Directory (AD) domain for authentication, this field should be 'microsoft'. |
| **password-server-ip** | | ip-address optional | IP address of the host where the Kerberos password-changing server is running. Typically, this is the same as the host indicated in the adminserver-ip. If this parameter is omitted, the IP address in kdc-ip is used. |
| **password-server-port** | | integer optional | The TCP port on the Kerberos password-changing server where the Kerberos password-changing service is running. The default for this parameter is 464. |
| **realm** | | string | Kerberos realm name. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# kerberos-realm-delete

[top]

Delete the Kerberos realm configuration.

In Data ONTAP 8.2.x and prior versions, Kerberos realms were owned by Cserver and were accessible only from Admin Vserver LIFs using the input 'config-name'. The 'vserver' input was not required.

Starting from Data ONTAP 8.3.0, Kerberos realms are owned by data Vservers and are accessible from both Admin and data Vserver LIFs. The 'config-name' input can no longer be used as a key. The 'realm' input must be used instead. The 'vserver' input is required.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **config-name** | | string optional | Kerberos configuration name. |
| **realm** | | string optional | Kerberos realm name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# kerberos-realm-get-iter

[top]

Retrieve the list of Kerberos realm configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | kerberos-realm optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | kerberos-realm optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the kerberos-realm object. All kerberos-realm objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | kerberos-realm[] optional | The list of attributes of kerberos-realm objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more kerberos-realm objects to return. |
| **num-records** | **[0..2^32-** | integer | The number of records returned in this call. |

| | 1] | | |
|---|---|---|---|

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# kerberos-realm-modify

[top]

Modify the Kerberos realm configuration.

In Data ONTAP 8.2.x and prior versions, Kerberos realms were owned by Cserver and were accessible only from Admin Vserver LIFs using the input 'config-name'. The 'vserver' input was not required.

Starting from Data ONTAP 8.3.0, Kerberos realms are owned by data Vservers and are accessible from both Admin and data Vserver LIFs. The 'config-name' input can no longer be used as a key. The 'realm' input must be used instead. The 'vserver' input is required.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ad-server-ip** | | ip-address optional | IP Address of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft'. |
| **ad-server-name** | | string optional | Host name of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft' |
| **admin-server-ip** | | ip-address optional | IP address of the host where the Kerberos administration daemon is running. This is usually the master KDC. If this parameter is omitted, the IP address specified in kdc-ip is used. If specified, this should be the same as the kdc-ip if the kdc-vendor is 'microsoft'. |
| **admin-server-port** | | integer optional | The TCP port on the Kerberos administration server where the Kerberos administration service is running. The default for this parmater is 749. |
| **clock-skew** | | integer optional | The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock. The default for this parameter is 5 minutes. |
| **comment** | | string optional | Comment |
| **config-name** | | string optional | Kerberos configuration name. |
| **kdc-ip** | | ip-address optional | IP address of the Key Distribution Centre (KDC) server for this Kerberos realm. |
| **kdc-port** | | integer optional | TCP port on the KDC to be used for Kerberos communication. The default for this parameter is 88. |
| **kdc-vendor** | | kdc-vendor optional | The vendor of the Key Distribution Centre (KDC) server. If the configuration uses a Microsoft Active Directory (AD) domain for authentication, this field should be 'microsoft'. |
| **password-server-ip** | | ip-address optional | IP address of the host where the Kerberos password-changing server is running. Typically, this is the same as the host indicated in the adminserver-ip. If this parameter is omitted, the IP address in kdc-ip is used. |
| **password-server-port** | | integer optional | The TCP port on the Kerberos password-changing server where the Kerberos password-changing service is running. The default for this parameter is 464. |
| **realm** | | string optional | Kerberos realm name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **kdc-vendor**

[top]

Kerberos Key Distribution Center (KDC) Vendor Possible values:

- "microsoft" ,
- "other"

[none]

# Element definition: **kerberos-config-info**

[top]

Kerberos configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string optional | Administrator password for the Key Distribution Center. This is a required input. Attributes: non-creatable, modifiable |
| **admin-user-name** | | string optional | Administrator username for the Key Distribution Center. This is a required input. Attributes: non-creatable, modifiable |
| **force** | | boolean optional | Force option to disable Kerberos security on a LIF (default:false). If set to true, any errors encountered when deleting the corresponding account on the KDC are ignored in which case the account should be deleted manually. Attributes: non-creatable, modifiable |
| **interface-name** | | string optional | Logical interface. Attributes: key, non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **ip-address** | | string optional | Logical interface IP address. Attributes: non-creatable, non-modifiable |
| **is-kerberos-enabled** | | boolean optional | This is a required input.<br><br>If 'true', Kerberos security is enabled by creating an account in the Key Distribution Center using the Service Principal Name. If another logical interface uses the same Service Principal Name, the account is shared.<br><br>If 'false', Kerberos security is disabled and the associated account is deleted when it is not used by any logical interface. Attributes: non-creatable, modifiable |
| **keytab-uri** | | string optional | Load Keytab from URI. This field should not be specified when disabling Kerberos. Attributes: non-creatable, modifiable |
| **machine-account** | | string optional | Machine Account Name. Attributes: non-creatable, modifiable |
| **organizational-unit** | | string optional | Organization Unit. This option is available for a Microsoft AD KDC only. Attributes: non-creatable, modifiable |
| **permitted-enc-types** | | string[] optional | Permitted encryption types in the Vserver. Attributes: non-creatable, non-modifiable |
| **service-principal-name** | | string optional | Kerberos service principal name. This is a required input for enabling Kerberos. This input should not be specified when disabling Kerberos. Attributes: non-creatable, modifiable |
| **vserver** | | string optional | Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **kerberos-realm**

[top]

Kerberos realm configuration specifies the locations of Key Distribution Center (KDC) servers and administration daemons for the Kerberos realms of interest. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ad-server-ip** | | ip-address optional | IP Address of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft'. Attributes: optional-for-create, modifiable |
| **ad-server-name** | | string optional | Host name of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft' Attributes: optional-for-create, modifiable |
| **admin-server-ip** | | ip-address optional | IP address of the host where the Kerberos administration daemon is running. This is usually the master KDC. If this parameter is omitted, the IP address specified in kdc-ip is used. If specified, this should be the same as the kdc-ip if the kdc-vendor is 'microsoft'. Attributes: optional-for-create, modifiable |
| **admin-server-** | **[1..65535]** | integer | The TCP port on the Kerberos administration server where the Kerberos administration service is running. The default for this |

| | | | |
|---|---|---|---|
| **port** | | optional | parmater is 749. Attributes: optional-for-create, modifiable |
| **clock-skew** | **[0..2^32-1]** | integer optional | The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock. The default for this parameter is 5 minutes. Attributes: optional-for-create, modifiable |
| **comment** | | string optional | Comment Attributes: optional-for-create, modifiable |
| **config-name** | | string optional | Kerberos configuration name. Attributes: key, non-creatable, non-modifiable |
| **kdc-ip** | | ip-address optional | IP address of the Key Distribution Centre (KDC) server for this Kerberos realm. Attributes: required-for-create, modifiable |
| **kdc-port** | **[1..65535]** | integer optional | TCP port on the KDC to be used for Kerberos communication. The default for this parameter is 88. Attributes: optional-for-create, modifiable |
| **kdc-vendor** | | kdc-vendor optional | The vendor of the Key Distribution Centre (KDC) server. If the configuration uses a Microsoft Active Directory (AD) domain for authentication, this field should be 'microsoft'. Attributes: required-for-create, modifiable Possible values:<br>• "microsoft" ,<br>• "other" |
| **password-server-ip** | | ip-address optional | IP address of the host where the Kerberos password-changing server is running. Typically, this is the same as the host indicated in the adminserver-ip. If this parameter is omitted, the IP address in kdc-ip is used. Attributes: optional-for-create, modifiable |
| **password-server-port** | **[1..65535]** | integer optional | The TCP port on the Kerberos password-changing server where the Kerberos password-changing service is running. The default for this parameter is 464. Attributes: optional-for-create, modifiable |
| **permitted-enc-types** | | string[] optional | Permitted encryption types on the Vserver. Attributes: non-creatable, non-modifiable |
| **realm** | | string optional | Kerberos realm name. Attributes: key, required-for-create, non-modifiable |
| **vserver-name** | | vserver-name optional | Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **kdc-vendor**

[top]

Kerberos Key Distribution Center (KDC) Vendor Possible values:

- "microsoft" ,
- "other"

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **ldap**


ldap-check-get-iter
ldap-client-create
ldap-client-delete
ldap-client-get-iter
ldap-client-modify
ldap-client-schema-copy
ldap-client-schema-delete
ldap-client-schema-get-iter
ldap-client-schema-modify
ldap-config-create
ldap-config-delete
ldap-config-get-iter
ldap-config-modify


This set of ZAPIs manages Lightweight Directory Access Protocol (LDAP) configuration.

## ldap-check-get-iter

[top]

Display the status of an LDAP configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ldap-status optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ldap-status optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ldap-client-check object. All ldap-client-check objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ldap-status[] optional | The list of attributes of ldap-client-check objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ldap-client-check objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| | |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **E_LDAP_VSERVER_OPSTATE_STOPPED** | |
| **E_LDAP_CONFIG_DISABLED** | |
| **E_LDAP_VSERVER_CONFIG_INVALID** | |

# ldap-client-create

[top]

Create a new Lightweight Directory Access Protocol (LDAP) client configuration for the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ad-domain** | | string optional | The Active Directory Domain Name for this LDAP configuration. The option is ONLY applicable for configurations using Active Directory LDAP servers. |
| **base-dn** | | ldap-dn optional | Indicates the starting point for searches within the LDAP directory tree. If omitted, searches will start at the root of the directory tree. |
| **base-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search. If omitted, this parameter defaults to 'subtree'. Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **bind-as-cifs-server** | | boolean optional | If set, the cluster will use the CIFS server's credentials to bind to the LDAP server. If omitted, this parameter defaults to 'true' if the configuration uses Active Directory LDAP and defaults to 'false' otherwise. |
| **bind-dn** | | ldap-dn optional | The Bind Distinguished Name (DN) is the LDAP identity used during the authentication process by the clients. This is required if the LDAP server does not support anonymous binds. This field is not used if 'bind-as-cfs-server' is set to 'true'. Example : cn=username,cn=Users,dc=example,dc=com |
| **bind-password** | | string optional | The password to be used with the bind-dn. |
| **group-dn** | | ldap-dn optional | The Group Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for group lookups. If not specified, group lookups will start at the base-dn. |
| **group-membership-filter** | | string optional | This indicates the custom filter to be used while looking up group membership from an LDAP server. |
| **group-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search when doing group lookups. Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |

| | | | |
|---|---|---|---|
| **is-netgroup-byhost-enabled** | | boolean optional | This indicates whether netgroup.byhost map should be queried for lookups. |
| **ldap-client-config** | | string | The name of the LDAP client configuration. |
| **ldap-servers** | | string[] optional | List of LDAP Servers to use for this configuration. The option is NOT applicable for configurations using ad-domain parameter. |
| **ldaps-enabled** | | boolean optional | Indicates whether LDAPS is enabled or not. |
| **min-bind-level** | | ldap-auth-method optional | The minimum authentication level that can be used to authenticate with the LDAP server. If omitted, this parameter defaults to 'sasl' if the configuration uses Active Directory LDAP. For configurations that use LDAP servers from other vendors, this parameter defaults to 'simple' if a 'bind-dn' is specified and 'anonymous' otherwise. Possible values:<br>• "anonymous" - Anonymous bind,<br>• "simple" - Simple bind,<br>• "sasl" - Simple Authentication and Security Layer (SASL) bind |
| **netgroup-byhost-dn** | | ldap-dn optional | The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup byhost lookups. If not specified, netgroup byhost lookups will start at the base-dn. |
| **netgroup-byhost-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search when doing netgroup byhost lookups. Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **netgroup-dn** | | ldap-dn optional | The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup lookups. If not specified, netgroup lookups will start at the base-dn. |
| **netgroup-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search when doing netgroup lookups. Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **obs-password** | | hex-string optional | Encrypted Password |
| **preferred-ad-servers** | | ip-address[] optional | Preferred Active Directory (AD) Domain controllers to use for this configuration. This option is ONLY applicable for configurations using Active Directory LDAP servers |
| **query-timeout** | **[0..10]** | integer optional | Maximum time in seconds to wait for a query response from the LDAP server. The default for this parameter is 3 seconds. |
| **referral-enabled** | | boolean optional | If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for LDAP referral chasing for this Vserver. |
| **return-** | | boolean | If set to true, returns the ldap-client on successful creation. |

| | | | |
|---|---|---|---|
| **record** | | optional | Default: false |
| **schema** | | string | LDAP schema to use for this configuration. The list of possible schemas can be obtained using the ldap-client-schema-get-iter API. |
| **servers** | | ip-address[] optional | (DEPRECATED)-List of LDAP Server IP addresses to use for this configuration. The option is NOT applicable for configurations using Active Directory LDAP servers. |
| **session-security** | | ldap-security optional | This indicates the level of security for LDAP communications. By default this option is none. Possible values:<br>• "none" - No Signing or Sealing.,<br>• "sign" - Sign LDAP traffic.,<br>• "seal" - Seal and Sign LDAP traffic |
| **tcp-port** | **[1..65535]** | integer optional | The TCP port on the LDAP server to use for this configuration. If omitted, this parameter defaults to 389. |
| **try-channel-binding** | | boolean optional | This indicates whether channel binding will be tried in case of TLS/LDAPS. |
| **use-start-tls** | | boolean optional | This indicates if start_tls will be used over LDAP connections. |
| **user-dn** | | ldap-dn optional | The User Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for user lookups. If this parameter is omitted, user lookups will start at the base-dn. |
| **user-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search when doing user lookups. Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | ldap-client optional | The ldap-client created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EDUPLICATEENTRY** | |
| | |
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |

# ldap-client-delete

[top]

Delete an existing Lightweight Directory Access Protocol (LDAP) client configuration from the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ldap-client-config** | | string | The name of the LDAP client configuration. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

| EINTERNALERROR | |
|---|---|

# ldap-client-get-iter

[top]

Retrieve the list of Lightweight Directory Access Protocol (LDAP) client configurations for the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ldap-client optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ldap-client optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ldap-client object. All ldap-client objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ldap-client[] optional | The list of attributes of ldap-client objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ldap-client objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |

# ldap-client-modify

[top]

Modify an existing Lightweight Directory Access Protocol (LDAP) client configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ad-domain** | | string optional | The Active Directory Domain Name for this LDAP configuration. The option is ONLY applicable for configurations using Active Directory LDAP servers. |
| **base-dn** | | ldap-dn optional | Indicates the starting point for searches within the LDAP directory tree. If omitted, searches will start at the root of the directory tree. |
| **base-scope** | | ldap-search- | This indicates the scope for LDAP search. If omitted, this parameter defaults to 'subtree'. Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the |

| | | | |
|---|---|---|---|
| | | scope optional | base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **bind-as-cifs-server** | | boolean optional | If set, the cluster will use the CIFS server's credentials to bind to the LDAP server. If omitted, this parameter defaults to 'true' if the configuration uses Active Directory LDAP and defaults to 'false' otherwise. |
| **bind-dn** | | ldap-dn optional | The Bind Distinguished Name (DN) is the LDAP identity used during the authentication process by the clients. This is required if the LDAP server does not support anonymous binds. This field is not used if 'bind-as-cfs-server' is set to 'true'. Example : cn=username,cn=Users,dc=example,dc=com |
| **bind-password** | | string optional | The password to be used with the bind-dn. |
| **group-dn** | | ldap-dn optional | The Group Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for group lookups. If not specified, group lookups will start at the base-dn. |
| **group-membership-filter** | | string optional | This indicates the custom filter to be used while looking up group membership from an LDAP server. |
| **group-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search when doing group lookups. Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **is-netgroup-byhost-enabled** | | boolean optional | This indicates whether netgroup.byhost map should be queried for lookups. |
| **ldap-client-config** | | string | The name of the LDAP client configuration. |
| **ldap-servers** | | string[] optional | List of LDAP Servers to use for this configuration. The option is NOT applicable for configurations using ad-domain parameter. |
| **ldaps-enabled** | | boolean optional | Indicates whether LDAPS is enabled or not. |
| **min-bind-level** | | ldap-auth-method optional | The minimum authentication level that can be used to authenticate with the LDAP server. If omitted, this parameter defaults to 'sasl' if the configuration uses Active Directory LDAP. For configurations that use LDAP servers from other vendors, this parameter defaults to 'simple' if a 'bind-dn' is specified and 'anonymous' otherwise. Possible values:<br>• "anonymous" - Anonymous bind,<br>• "simple" - Simple bind,<br>• "sasl" - Simple Authentication and Security Layer (SASL) bind |
| **netgroup-byhost-dn** | | ldap-dn optional | The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup byhost lookups. If not specified, netgroup byhost lookups will start at the base-dn. |
| | | | This indicates the scope for LDAP search when doing netgroup byhost lookups. Possible values: |

| | | | |
|---|---|---|---|
| **netgroup-byhost-scope** | | ldap-search-scope optional | • "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **netgroup-dn** | | ldap-dn optional | The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup lookups. If not specified, netgroup lookups will start at the base-dn. |
| **netgroup-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search when doing netgroup lookups. Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **obs-password** | | hex-string optional | Encrypted Password |
| **preferred-ad-servers** | | ip-address[] optional | Preferred Active Directory (AD) Domain controllers to use for this configuration. This option is ONLY applicable for configurations using Active Directory LDAP servers |
| **query-timeout** | **[0..10]** | integer optional | Maximum time in seconds to wait for a query response from the LDAP server. The default for this parameter is 3 seconds. |
| **referral-enabled** | | boolean optional | If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for LDAP referral chasing for this Vserver. |
| **schema** | | string optional | LDAP schema to use for this configuration. The list of possible schemas can be obtained using the ldap-client-schema-get-iter API. |
| **servers** | | ip-address[] optional | (DEPRECATED)-List of LDAP Server IP addresses to use for this configuration. The option is NOT applicable for configurations using Active Directory LDAP servers. |
| **session-security** | | ldap-security optional | This indicates the level of security for LDAP communications. By default this option is none. Possible values:<br>• "none" - No Signing or Sealing.,<br>• "sign" - Sign LDAP traffic.,<br>• "seal" - Seal and Sign LDAP traffic |
| **skip-config-validation** | | boolean optional | If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped. |
| **tcp-port** | **[1..65535]** | integer optional | The TCP port on the LDAP server to use for this configuration. If omitted, this parameter defaults to 389. |
| **try-channel-binding** | | boolean optional | This indicates whether channel binding will be tried in case of TLS/LDAPS. |
| **use-start-tls** | | boolean optional | This indicates if start_tls will be used over LDAP connections. |
| **user-dn** | | ldap-dn optional | The User Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for user lookups. If this parameter is omitted, user lookups will start at the base-dn. |
| | | ldap-search- | This indicates the scope for LDAP search when doing user lookups. Possible values:<br>• "base" - Searches only the base directory entry, |

| | | | |
|---|---|---|---|
| **user-scope** | | scope optional | "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |

| Errno | Description |
|---|---|
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |

# ldap-client-schema-copy

[top]

Copy an existing LDAP schema. If the LDAP server that the storage system needs to query does not support any of the default read-only schemas, this API can be used to create an editable copy of an existing read-only schema. After copying the schema, the copy can be modified using the ldap-client-schema-modify API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-schema-name** | | string | New Schema Template Name |
| **schema** | | string | A name for the schema. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ldap-client-schema-delete

[top]

Delete an existing Lightweight Directory Access Protocol (LDAP) schema configuration. Only the schemas that are defined using the ldap-client-schema-copy API can be deleted using this API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **schema** | | string | A name for the schema. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ldap-client-schema-get-iter

[top]

Retrieve the list of Lightweight Directory Access Protocol (LDAP) client schema configurations that are defined for the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ldap-client-schema | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is |

| | | | |
|---|---|---|---|
| | | optional | available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ldap-client-schema optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ldap-client-schema object. All ldap-client-schema objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ldap-client-schema[] optional | The list of attributes of ldap-client-schema objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ldap-client-schema objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ldap-client-schema-modify

[top]

Modify an existing Lightweight Directory Access Protocol (LDAP) schema configuration. If the LDAP server that the storage system needs to query does not support any of the default read-only schemas, the ldap-client-schema-copy API can be used to create a editable copy of an existing read-only schema. After copying the schema, the copy can be modified using this API to support the target schema.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cn-group-attribute** | | string optional | Name that represents the RFC 2256 cn attribute used by RFC 2307 when working with groups. |
| **cn-netgroup-attribute** | | string optional | Name that represents the RFC 2256 cn attribute used by RFC 2307 when working with netgroups. |
| **comment** | | string optional | A comment that can be associated with the schema. |
| **enable-rfc2307bis** | | boolean optional | This indicates if the RFC 2307bis is enabled for client schema. |
| **gecos-attribute** | | string optional | Name that represents the RFC 2307 gecos attribute. |
| **gid-number-attribute** | | string optional | Name that represents the RFC 2307 gidNumber attribute. |
| **group-of-unique-names-object-class** | | string optional | Name that represents the RFC 2307bis groupOfUniqueNames object class. |
| **home-directory-attribute** | | string optional | Name that represents the RFC 2307 homeDirectory attribute. |
| **login-shell-attribute** | | string optional | Name that represents the RFC 2307 loginShell attribute. |
| **member-nis-netgroup-** | | string | Name that represents the RFC 2307 memberNisNetgroup |

| | | | |
|---|---|---|---|
| **attribute** | | optional | attribute. |
| **member-uid-attribute** | | string optional | Name that represents the RFC 2307 memberUid attribute. |
| **nis-mapentry-attribute** | | string optional | Name that represents the RFC 2307 nisMapEntry Attribute. |
| **nis-mapname-attribute** | | string optional | Name that represents the RFC 2307 nisMapName Attribute. |
| **nis-netgroup-object-class** | | string optional | Name that represents the RFC 2307 nisNetgroup object class. |
| **nis-netgroup-triple-attribute** | | string optional | Name that represents the RFC 2307 nisNetgroupTriple attribute. |
| **nis-object-class** | | string optional | Name that represents the RFC 2307 nisObject Object Class. |
| **posix-account-object-class** | | string optional | Name that represents the RFC 2307 posixAccount object class. |
| **posix-group-object-class** | | string optional | Name that represents the RFC 2307 posixGroup object class. |
| **schema** | | string | A name for the schema. |
| **uid-attribute** | | string optional | Name that represents the RFC 1274 userid attribute used by RFC 2307 as uid. |
| **uid-number-attribute** | | string optional | Name that represents the RFC 2307 uidNumber attribute. |
| **unique-member-attribute** | | string optional | Name that represents the RFC 2307bis uniqueMember attribute. |
| **user-password-attribute** | | string optional | Name that represents the RFC 2256 userPassword attribute used by RFC 2307. |
| **windows-account-attribute** | | string optional | Attribute name to be used to get the windows account information for a unix user account. |
| **windows-to-unix-attribute** | | string optional | Attribute name to be used to get the unix account information for a windows user account. |
| **windows-to-unix-no-domain-prefix** | | boolean optional | This indicates if the name for windows to unix name mapping should have no domain prefix. |
| **windows-to-unix-object-class** | | string optional | Name that represents the windowsToUnix object class. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ldap-config-create

[top]

Create a new association between a Lightweight Directory Access Protocol (LDAP) client configuration and a Vserver. A Vserver can have only one client configuration associated with it.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-config** | | string | The name of an existing Lightweight Directory Access Protocol (LDAP) client configuration. The LDAP client configuration can be created using the ldap-client-create API. The ldap-client-get-iter API can be used to retrieve the list of available LDAP client configurations for the cluster. |
| **client-enabled** | | boolean optional | If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for this Vserver. |

| | | | |
|---|---|---|---|
| **return-record** | | boolean optional | If set to true, returns the ldap-config on successful creation. Default: false |
| **skip-config-validation** | | boolean optional | If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | ldap-config optional | The ldap-config created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EDUPLICATEENTRY** | |
| **E_LDAP_VSERVER_CONFIG_INVALID** | |
| **E_LDAP_CLIENT_DISABLED_NOT_SUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# ldap-config-delete

[top]

Delete a Vserver's association with a Lightweight Directory Access Protocol (LDAP) configuration.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# ldap-config-get-iter

[top]

Retrieve the list of Lightweight Directory Access Protocol (LDAP) configurations in the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ldap-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ldap-config optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ldap-config object. All ldap-config objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ldap-config[] optional | The list of attributes of ldap-config objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ldap-config objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ldap-config-modify

[top]

Modify the Lightweight Directory Access Protocol (LDAP) configuration for a Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-config** | | string optional | The name of an existing Lightweight Directory Access Protocol (LDAP) client configuration. The LDAP client configuration can be created using the ldap-client-create API. The ldap-client-get-iter API can be used to retrieve the list of available LDAP client configurations for the cluster. |
| **client-enabled** | | boolean optional | If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for this Vserver. |
| **skip-config-validation** | | boolean optional | If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped. |

| Errno | Description |
|---|---|
| **E_LDAP_VSERVER_CONFIG_INVALID** | |
| **E_LDAP_CLIENT_DISABLED_NOT_SUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# Element definition: **hex-string**

[top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **ldap-auth-method**

[top]

anonymous|simple|sasl Possible values:

- "anonymous" - Anonymous bind,
- "simple" - Simple bind,
- "sasl" - Simple Authentication and Security Layer (SASL) bind

[none]

# Element definition: **ldap-client**

[top]

LDAP Client Information. Each entry specifies an LDAP client configuration that can be associated with a Vserver using the ldap-config-create API. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ad-domain** | | string optional | The Active Directory Domain Name for this LDAP configuration. The option is ONLY applicable for configurations using Active Directory LDAP servers. Attributes: optional-for-create, modifiable |
| **base-dn** | | ldap-dn optional | Indicates the starting point for searches within the LDAP directory tree. If omitted, searches will start at the root of the directory tree. Attributes: optional-for-create, modifiable |
| **base-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search. If omitted, this parameter defaults to 'subtree'. Attributes: optional-for-create, modifiable Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **bind-as-cifs-server** | | boolean optional | If set, the cluster will use the CIFS server's credentials to bind to the LDAP server. If omitted, this parameter defaults to 'true' if the configuration uses Active Directory LDAP and defaults to 'false' otherwise. Attributes: optional-for-create, modifiable |
| **bind-dn** | | ldap-dn optional | The Bind Distinguished Name (DN) is the LDAP identity used during the authentication process by the clients. This is required if the LDAP server does not support anonymous binds. This field is not used if 'bind-as-cfs-server' is set to 'true'. Example : cn=username,cn=Users,dc=example,dc=com Attributes: optional-for-create, modifiable |
| **bind-** | | string | The password to be used with the bind-dn. Attributes: optional- |

| | | | |
|---|---|---|---|
| **password** | | optional | for-create, modifiable |
| **group-dn** | | ldap-dn optional | The Group Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for group lookups. If not specified, group lookups will start at the base-dn. Attributes: optional-for-create, modifiable |
| **group-membership-filter** | | string optional | This indicates the custom filter to be used while looking up group membership from an LDAP server. Attributes: optional-for-create, modifiable |
| **group-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search when doing group lookups. Attributes: optional-for-create, modifiable Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **is-netgroup-byhost-enabled** | | boolean optional | This indicates whether netgroup.byhost map should be queried for lookups. Attributes: optional-for-create, modifiable |
| **is-owner** | | boolean optional | This indicates if the vserver owns the client configuration. Attributes: non-creatable, non-modifiable |
| **ldap-client-config** | | string optional | The name of the LDAP client configuration. Attributes: key, required-for-create, non-modifiable |
| **ldap-servers** | | string[] optional | List of LDAP Servers to use for this configuration. The option is NOT applicable for configurations using ad-domain parameter. Attributes: optional-for-create, modifiable |
| **ldaps-enabled** | | boolean optional | Indicates whether LDAPS is enabled or not. Attributes: optional-for-create, modifiable |
| **min-bind-level** | | ldap-auth-method optional | The minimum authentication level that can be used to authenticate with the LDAP server. If omitted, this parameter defaults to 'sasl' if the configuration uses Active Directory LDAP. For configurations that use LDAP servers from other vendors, this parameter defaults to 'simple' if a 'bind-dn' is specified and 'anonymous' otherwise. Attributes: optional-for-create, modifiable Possible values:<br>• "anonymous" - Anonymous bind,<br>• "simple" - Simple bind,<br>• "sasl" - Simple Authentication and Security Layer (SASL) bind |
| **netgroup-byhost-dn** | | ldap-dn optional | The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup byhost lookups. If not specified, netgroup byhost lookups will start at the base-dn. Attributes: optional-for-create, modifiable |
| **netgroup-byhost-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search when doing netgroup byhost lookups. Attributes: optional-for-create, modifiable Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| | | | The Netgroup Distinguished Name (DN), if specified, is used as |

| | | | |
|---|---|---|---|
| **netgroup-dn** | | ldap-dn optional | the starting point in the LDAP directory tree for netgroup lookups. If not specified, netgroup lookups will start at the base-dn. Attributes: optional-for-create, modifiable |
| **netgroup-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search when doing netgroup lookups. Attributes: optional-for-create, modifiable Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **obs-password** | | hex-string optional | Encrypted Password Attributes: optional-for-create, modifiable |
| **preferred-ad-servers** | | ip-address[] optional | Preferred Active Directory (AD) Domain controllers to use for this configuration. This option is ONLY applicable for configurations using Active Directory LDAP servers Attributes: optional-for-create, modifiable |
| **query-timeout** | **[0..10]** | integer optional | Maximum time in seconds to wait for a query response from the LDAP server. The default for this parameter is 3 seconds. Attributes: optional-for-create, modifiable |
| **referral-enabled** | | boolean optional | If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for LDAP referral chasing for this Vserver. Attributes: optional-for-create, modifiable |
| **schema** | | string optional | LDAP schema to use for this configuration. The list of possible schemas can be obtained using the ldap-client-schema-get-iter API. Attributes: required-for-create, modifiable |
| **servers** | | ip-address[] optional | (DEPRECATED)-List of LDAP Server IP addresses to use for this configuration. The option is NOT applicable for configurations using Active Directory LDAP servers. Attributes: optional-for-create, modifiable |
| **session-security** | | ldap-security optional | This indicates the level of security for LDAP communications. By default this option is none. Attributes: optional-for-create, modifiable Possible values:<br>• "none" - No Signing or Sealing.,<br>• "sign" - Sign LDAP traffic.,<br>• "seal" - Seal and Sign LDAP traffic |
| **skip-config-validation** | | boolean optional | If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped. Attributes: non-creatable, modifiable |
| **tcp-port** | **[1..65535]** | integer optional | The TCP port on the LDAP server to use for this configuration. If omitted, this parameter defaults to 389. Attributes: optional-for-create, modifiable |
| **try-channel-binding** | | boolean optional | This indicates whether channel binding will be tried in case of TLS/LDAPS. Attributes: optional-for-create, modifiable |
| **use-start-tls** | | boolean optional | This indicates if start_tls will be used over LDAP connections. Attributes: optional-for-create, modifiable |
| **user-dn** | | ldap-dn optional | The User Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for user lookups. If this parameter is omitted, user lookups will start at the base-dn. Attributes: optional-for-create, modifiable |
| | | | This indicates the scope for LDAP search when doing user lookups. Attributes: optional-for-create, modifiable Possible values: |

| | | | |
|---|---|---|---|
| **user-scope** | | ldap-search-scope optional | • "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **vserver** | | vserver-name-data-admin optional | Name of the Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **ldap-client-schema**

[top]

An LDAP Client Schema Definition. A schema definition is a way of defining what attribute names are to be used in LDAP queries to get information that the storage system needs for its operation. This will depend on the schema that the LDAP server supports. For example, to query for user account information, the LDAP query should ask for the 'posixAccount' class if the LDAP server is compatible with RFC-2307 and it should ask for 'User' class if the LDAP server is an Active Directory LDAP Server. The default LDAP configuration has two schemas defined namely 'RFC-2307' and 'AD-SFU'. The 'RFC-2307' schema is the default schema that should be used to query servers that support RFC-2307. The 'AD-SFU' schema is the default schema that should be used to query Active Directory LDAP servers. These schemas are read-only and cannot be modified. The default schemas will work with most common LDAP configurations. If it is required to support other schema configurations, 808 :existing schemas can be copied using the 'ldap-client-schema-copy' API and modified using the 'ldap-client-schema-modify' API to work for the new configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cn-group-attribute** | | string optional | Name that represents the RFC 2256 cn attribute used by RFC 2307 when working with groups. Attributes: optional-for-create, modifiable |
| **cn-netgroup-attribute** | | string optional | Name that represents the RFC 2256 cn attribute used by RFC 2307 when working with netgroups. Attributes: optional-for-create, modifiable |
| **comment** | | string optional | A comment that can be associated with the schema. Attributes: optional-for-create, modifiable |
| **enable-rfc2307bis** | | boolean optional | This indicates if the RFC 2307bis is enabled for client schema. Attributes: optional-for-create, modifiable |
| **gecos-attribute** | | string optional | Name that represents the RFC 2307 gecos attribute. Attributes: optional-for-create, modifiable |
| **gid-number-attribute** | | string optional | Name that represents the RFC 2307 gidNumber attribute. Attributes: optional-for-create, modifiable |
| **group-of-unique-names-object-class** | | string optional | Name that represents the RFC 2307bis groupOfUniqueNames object class. Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **home-directory-attribute** | | string optional | Name that represents the RFC 2307 homeDirectory attribute. Attributes: optional-for-create, modifiable |
| **is-owner** | | boolean optional | This indicates if the vserver owns the client schema. Attributes: non-creatable, non-modifiable |
| **login-shell-attribute** | | string optional | Name that represents the RFC 2307 loginShell attribute. Attributes: optional-for-create, modifiable |
| **member-nis-netgroup-attribute** | | string optional | Name that represents the RFC 2307 memberNisNetgroup attribute. Attributes: optional-for-create, modifiable |
| **member-uid-attribute** | | string optional | Name that represents the RFC 2307 memberUid attribute. Attributes: optional-for-create, modifiable |
| **nis-mapentry-attribute** | | string optional | Name that represents the RFC 2307 nisMapEntry Attribute. Attributes: optional-for-create, modifiable |
| **nis-mapname-attribute** | | string optional | Name that represents the RFC 2307 nisMapName Attribute. Attributes: optional-for-create, modifiable |
| **nis-netgroup-object-class** | | string optional | Name that represents the RFC 2307 nisNetgroup object class. Attributes: optional-for-create, modifiable |
| **nis-netgroup-triple-attribute** | | string optional | Name that represents the RFC 2307 nisNetgroupTriple attribute. Attributes: optional-for-create, modifiable |
| **nis-object-class** | | string optional | Name that represents the RFC 2307 nisObject Object Class. Attributes: optional-for-create, modifiable |
| **posix-account-object-class** | | string optional | Name that represents the RFC 2307 posixAccount object class. Attributes: optional-for-create, modifiable |
| **posix-group-object-class** | | string optional | Name that represents the RFC 2307 posixGroup object class. Attributes: optional-for-create, modifiable |
| **schema** | | string optional | A name for the schema. Attributes: key, required-for-create, non-modifiable |
| **uid-attribute** | | string optional | Name that represents the RFC 1274 userid attribute used by RFC 2307 as uid. Attributes: optional-for-create, modifiable |
| **uid-number-attribute** | | string optional | Name that represents the RFC 2307 uidNumber attribute. Attributes: optional-for-create, modifiable |
| **unique-member-attribute** | | string optional | Name that represents the RFC 2307bis uniqueMember attribute. Attributes: optional-for-create, modifiable |
| **user-password-attribute** | | string optional | Name that represents the RFC 2256 userPassword attribute used by RFC 2307. Attributes: optional-for-create, modifiable |
| **vserver** | | vserver-name-data-admin optional | Vserver Attributes: key, non-creatable, non-modifiable |
| **windows-account-attribute** | | string optional | Attribute name to be used to get the windows account information for a unix user account. Attributes: optional-for-create, modifiable |
| **windows-to-unix-attribute** | | string optional | Attribute name to be used to get the unix account information for a windows user account. Attributes: optional-for-create, modifiable |
| **windows-to-unix-no-domain-prefix** | | boolean optional | This indicates if the name for windows to unix name mapping should have no domain prefix. Attributes: optional-for-create, modifiable |
| **windows-to-unix-object-class** | | string optional | Name that represents the windowsToUnix object class. Attributes: optional-for-create, modifiable |

[top]

# Element definition: **ldap-config**

Lightweight Directory Access Protocol (LDAP) configuration. Specifies the LDAP client configuration that is associated with this Vserver and whether the configuration is enabled. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-config** | | string optional | The name of an existing Lightweight Directory Access Protocol (LDAP) client configuration. The LDAP client configuration can be created using the ldap-client-create API. The ldap-client-get-iter API can be used to retrieve the list of available LDAP client configurations for the cluster. Attributes: required-for-create, modifiable |
| **client-enabled** | | boolean optional | If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for this Vserver. Attributes: optional-for-create, modifiable |
| **skip-config-validation** | | boolean optional | If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped. Attributes: optional-for-create, modifiable |
| **vserver** | | vserver-name-data-admin optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **ldap-dn**

[top]

LDAP Distinguished Name

[none]

# Element definition: **ldap-search-scope**

[top]

base|onelevel|subtree Possible values:

- "base" - Searches only the base directory entry,
- "onelevel" - Searches the immediate subordinates of the base directory entry,
- "subtree" - Searches the base directory entry and all its subordinates

[none]

# Element definition: **ldap-security**

[top]

The list of possible values for LDAP Security. Possible values:

- "none" - No Signing or Sealing.
- "sign" - Sign LDAP traffic.
- "seal" - Seal and Sign LDAP traffic.

[none]

# Element definition: **ldap-status**

[top]

LDAP Configuration Check When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-config** | | string optional | Specifies the LDAP Client configuration for the Vserver Attributes: non-creatable, non-modifiable |
| **ldap-dn-status-details** | | string[] optional | Specifies additional information about the status of a LDAP DN config. Attributes: non-creatable, non-modifiable |
| **ldap-status** | | boolean optional | Specifies the status of a LDAP service. Attributes: non-creatable, non-modifiable |
| **ldap-status-details** | | string optional | Specifies additional information about the status of a LDAP config. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Specifies the Vserver for the LDAP configuration. Attributes: key, non-creatable, non-modifiable |

# Element definition: **hex-string**

[top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

## Element definition: **ldap-auth-method**

[top]

anonymous|simple|sasl Possible values:

- "anonymous" - Anonymous bind,
- "simple" - Simple bind,
- "sasl" - Simple Authentication and Security Layer (SASL) bind

[none]

## Element definition: **vserver-name-data-admin**

[top]

The name of the Vserver.

[none]

# APIs in Category: **license-v2**


license-v2-add
license-v2-apply
license-v2-capacity-create
license-v2-capacity-get-iter
license-v2-cleanup-list-info
license-v2-delete
license-v2-delete-expired
license-v2-delete-unused
license-v2-entitlement-risk-get-iter
license-v2-leases-update
license-v2-license-manager-config-get
license-v2-license-manager-config-modify
license-v2-license-manager-status-get-iter
license-v2-list-info
license-v2-status-get-iter
license-v2-status-list-info
license-v2-subscription-create
license-v2-subscription-get-iter
system-license-aggregate-get-iter


This set of zapis allows management of 7-Mode and Cluster-Mode licenses for Data ONTAP 8.2 and later. License keys are controller based which requires a separate license for each controller. A typical license key has a serial number embedded in it that restrict its use on a specific controller only (with the exception of Site and Demo keys). In a cluster, a single license with an associated serial number can allow a package to be used in the cluster, but to be fully entitled for a package, one must install a license for each controller. Site and Demo licenses are cluster wide and only require a single license for the entire cluster.

## license-v2-add

[top]

Add license for a Data ONTAP service.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **codes** | | license-code-v2[] | Data ONTAP Cluster-Mode service/feature. 24 or 48 uppercase alpha only characters. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **license-v2-failure-list** | | license-v2-result[] optional | A list of failed license operations, one entry per license. |
| **license-v2-success-list** | | license-v2-added[] optional | A list of successfully added licenses, one entry per license. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# license-v2-apply

[top]

Add entitlements described in license content

| Input Name | Range | Type | Description |
|---|---|---|---|
| content | | string | Content of license specification |

| Errno | Description |
|---|---|
| EONTAPI_INVALID_LICENSE | |
| EONTAPI_INVALID_SIGNATURE | |
| EONTAPI_PLATFORM | |
| EONTAPI_ZERO_VALUE | |
| EONTAPI_TABLE_ERROR | |

# license-v2-capacity-create

[top]

Adds V2 capacity license.

| Input Name | Range | Type | Description |
|---|---|---|---|
| license-input | | string | Capacity license input. |

| Errno | Description |
|---|---|
| EONTAPI_INVALID_LICENSE | |
| EONTAPI_INVALID_CAPACITY | |
| EONTAPI_INVALID_SIGNATURE | |
| EONTAPI_PLATFORM | |
| EONTAPI_TABLE_ERROR | |
| EONTAPI_ZERO_CAPACITY | |

# license-v2-capacity-get-iter

[top]

Get V2 capacity license information. This command is deprecated in Data ONTAP 9.2 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | license-v2-capacity-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| | | optional | |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | license-v2-capacity-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the license object. All license objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | license-v2-capacity-info[] optional | The list of attributes of license objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more license objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# license-v2-cleanup-list-info

[top]

Returns licenses that can be cleaned up. A license can be cleaned up if it's a demo license and its expiration time has passed (expired), or if it is a license for a controller that is no longer part of a cluster (unused). One can use the cleanup apis to remove these licenses together, or alternatively, they can use the standard license-remove api to remove them one at a time.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **licenses** | | license-v2-cleanup[] optional | An array, one entry per each license. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# license-v2-delete

[top]

Removes license for a Data ONTAP service.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Package Possible values:<br>• "base" - Cluster Base License. This value has been deprecated in |

| | | | |
|---|---|---|---|
| **package** | | licensed-package | Data ONTAP 9.2,<br>• "nfs" - NFS License,<br>• "cifs" - CIFS License,<br>• "iscsi" - iSCSI License,<br>• "fcp" - FCP License,<br>• "snaprestore" - SnapRestore License,<br>• "snapmirror" - SnapMirror License,<br>• "flexclone" - FlexClone License,<br>• "snapvault" - SnapVault License,<br>• "snaplock" - SnapLock License,<br>• "snapmanagersuite" - SnapManagerSuite License,<br>• "snapprotectapps" - SnapProtectApp License,<br>• "v_storageattach" - Virtual Attached Storage License,<br>• "insight_balance" - OnCommand Balance License,<br>• "ocshift" - OnCommand Shift License,<br>• "cloud" - Cloud ONTAP License,<br>• "select" - ONTAP Select License,<br>• "tpm" - Trusted Platform Module License,<br>• "ve" - Volume Encryption License,<br>• "dp_optimized" - Data Protection Optimized Secondary License<br>• "snapmirror_sync" - SnapMirror Synchronous License<br>• "nvme_of" - NVMe-oF License<br>• "flexcache" - FlexCache License |
| **serial-number** | | node-serial-number optional | Serial number of the node associated with the license. If this parameter is not provided, the default serial number used is the cluster serial number. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# license-v2-delete-expired

[top]

Remove licenses that have expired in the cluster.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# license-v2-delete-unused

[top]

Remove licenses that have no controller affiliation in the cluster.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# license-v2-entitlement-risk-get-iter

[top]

Returns license entitlement risk for cluster mode packages.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | license-v2-entitlement-risk-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | license-v2-entitlement-risk-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the license object. All license objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | license-v2-entitlement-risk-info[] optional | The list of attributes of license objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more license objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# license-v2-leases-update

[top]

Attempt to reconcile capacity leases

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force renewal of valid leases. |
| **node** | | node-name optional | Node(s) to attempt renewal. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **results** | | leases-update-results | Results of reconciliation attempt. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# license-v2-license-manager-config-get

[top]

Get license manager configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | lm-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | lm-config | The attributes of the lm_config. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# license-v2-license-manager-config-modify

[top]

Modify license manager configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **host** | | string optional | License Manager Host |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# license-v2-license-manager-status-get-iter

[top]

Check accessibility of license manager

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | lm-status optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | lm- | A query that specifies which objects to return. A query could be |

| | | | |
|---|---|---|---|
| **query** | | status optional | specified on any number of attributes in the lm_status object. All lm_status objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | lm-status[] optional | The list of attributes of lm_status objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more lm_status objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# license-v2-list-info

[top]

Returns infomation for DATA ONTAP licenses.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **licenses** | | license-v2-info[] | An array, one entry per license. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# license-v2-status-get-iter

[top]

Get Data ONTAP licenses status information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | license-v2-license-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | license-v2-license-info | A query that specifies which objects to return. A query could be specified on any number of attributes in the license-v2 object. All license-v2 objects matching this query up to 'max-records' will be |

| | | | |
|---|---|---|---|
| | | optional | returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | license-v2-license-info[] optional | The list of attributes of license-v2 objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more license-v2 objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# license-v2-status-list-info

[top]

Returns license status information for cluster mode packages. This command is deprecated in Data ONTAP 9.2 and may be removed in a future release.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **license-v2-status** | | license-v2-status-info[] | An array, one entry per each licensable service. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# license-v2-subscription-create

[top]

Add V2 subscription license.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **license-input** | | string | Subscription license input. |

| Errno | Description |
|---|---|
| **EONTAPI_INVALID_LICENSE** | |
| **EONTAPI_INVALID_SIGNATURE** | |
| **EONTAPI_TABLE_ERROR** | |

# license-v2-subscription-get-iter

[top]

Get V2 subscription license information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | license-v2-subscription-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | license-v2-subscription-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the license object. All license objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | license-v2-subscription-info[] optional | The list of attributes of license objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more license objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-license-aggregate-get-iter

[top]

Get Data ONTAP aggregate license information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-license-aggregate-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | system-license-aggregate-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the system-license-aggregate object. All system-license-aggregate objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| | | | |
|---|---|---|---|

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | system-license-aggregate-info[] optional | The list of attributes of system-license-aggregate objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more system-license-aggregate objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **leases-update-results**

[top]

Lease Update Results When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **failed-to-update** | **[0..2^64-1]** | integer optional | Number of Leases Failed to Update Attributes: non-creatable, non-modifiable |
| **up-to-date** | **[0..2^64-1]** | integer optional | Number of Leases Up to Date Attributes: non-creatable, non-modifiable |
| **updated** | **[0..2^64-1]** | integer optional | Number of Leases Updated Attributes: non-creatable, non-modifiable |

# Element definition: **license-code-v2**

[top]

License Code V2

[none]

# Element definition: **license-v2-added**

[top]

A license entry that was successfully added to the controller or the cluster.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **customer-id** | | string optional | Customer Identification. This value is only present in site licenses. It is set to none for standard and demo licenses. Attributes: non-creatable, non-modifiable |
| **expiration-time** | | datetime optional | License expiration time. This value is only present in demo licenses. It is set to zero for permanent licenses such as standard and site licenses. Attributes: non-creatable, non-modifiable |
| **license-key** | | license-code-v2 optional | License Key. Attributes: non-creatable, non-modifiable |
| **package** | | licensed-package optional | Package Name. Attributes: non-creatable, non-modifiable |
| **package-description** | | string optional | Description of the package. Attributes: non-creatable, non-modifiable |
| **serial-number** | | node-serial-number optional | Serial Number. This value is only present in standard licenses. It is set to none for site and demo licenses. Attributes: non-creatable, non-modifiable |
| **type** | | license-v2-type optional | License Type. Attributes: non-creatable, non-modifiable |

# Element definition: **license-v2-capacity-info**

[top]

Information about a capacity license package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **current-capacity** | | integer optional | The node's current disk capacity. Attributes: non-creatable, non-modifiable |
| **expiration-time** | | datetime optional | License expiration time. Attributes: non-creatable, non-modifiable |
| **max-capacity** | | integer optional | Maximum licensed capacity. Absence of this element within a returned value implies that the maximum capacity is temporarily unlimited. Attributes: non-creatable, non-modifiable |
| **owner** | | string optional | Node that owns the serial number. Attributes: non-creatable, non-modifiable |
| | | | Name of the licensed package. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "nfs" - NFS License,<br>• "cifs" - CIFS License,<br>• "iscsi" - iSCSI License,<br>• "fcp" - FCP License,<br>• "snaprestore" - SnapRestore License,<br>• "snapmirror" - SnapMirror License,<br>• "flexclone" - FlexClone License, |

| | | | |
|---|---|---|---|
| **package** | | licensed-package optional | • "snapvault" - SnapVault License,<br>• "snaplock" - SnapLock Compliance License,<br>• "snapmanagersuite" - SnapManagerSuite License,<br>• "snapprotectapps" - SnapProtectApp License,<br>• "v_storageattach" - Virtual Attached Storage License,<br>• "snaplock_enterprise" - SnapLock Enterprise License,<br>• "insight_balance" - OnCommand Balance,<br>• "ocshift" - OnCommand Shift License,<br>• "cloud" - Cloud ONTAP License,<br>• "select" - ONTAP Select License,<br>• "tpm" - Trusted Platform Module License,<br>• "ve" - Volume Encryption License,<br>• "dp_optimized" - Data Protection Optimized Secondary License<br>• "snapmirror_sync" - SnapMirror Synchronous License<br>• "nvme_of" - NVMe-oF License<br>• "flexcache" - FlexCache License |
| **reported-state** | | reported-capacity-state optional | Current state of capacity license. Attributes: non-creatable, non-modifiable Possible values:<br>• "evaluation" - evaluation license in effect,<br>• "missing" - license has been purchased but not yet installed,<br>• "installed" - valid purchased license in effect,<br>• "warning" - purchased license in use, but attached capacity is approaching maximum entitled amount,<br>• "enforcement" - attached capacity exceeds amount permitted by purchased license |
| **serial-number** | | node-serial-number optional | Serial number of the node. Attributes: key, non-creatable, non-modifiable |

# Element definition: **license-v2-cleanup**

[top]

Status information about a licensable package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **owner** | | string optional | Name of the controller associated with the license. Attributes: non-creatable, non-modifiable |
| | | | Name of the licensed package. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "base" - Cluster Base License. This value has been deprecated in Data ONTAP 9.2,<br>• "nfs" - NFS License,<br>• "cifs" - CIFS License,<br>• "iscsi" - iSCSI License, |

| | | | |
|---|---|---|---|
| **package** | | licensed-package optional | • "fcp" - FCP License,<br>• "snaprestore" - SnapRestore License,<br>• "snapmirror" - SnapMirror License,<br>• "flexclone" - FlexClone License,<br>• "snapvault" - SnapVault License,<br>• "snaplock" - SnapLock License,<br>• "snapmanagersuite" - SnapManagerSuite License,<br>• "snapprotectapps" - SnapProtectApp License,<br>• "v_storageattach" - Virtual Attached Storage License,<br>• "insight_balance" - OnCommand Balance License,<br>• "ocshift" - OnCommand Shift License,<br>• "cloud" - Cloud ONTAP License,<br>• "select" - ONTAP Select License,<br>• "tpm" - Trusted Platform Module License,<br>• "ve" - Volume Encryption License,<br>• "dp_optimized" - Data Protection Optimized Secondary License<br>• "snapmirror_sync" - SnapMirror Synchronous License<br>• "nvme_of" - NVMe-oF License<br>• "flexcache" - FlexCache License |
| **reason** | | string optional | The reason the license can be cleaned up. Attributes: non-creatable, non-modifiable |
| **serial-number** | | node-serial-number optional | Serial number of the controller or cluster. Attributes: key, non-creatable, non-modifiable |

# Element definition: **license-v2-entitlement-risk-info**

[top]

Information about entitlement risk for license packages. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **action** | | string optional | Corrective action text. Attributes: non-creatable, non-modifiable |
| **action-code** | | license-entitlement-risk-action optional | Corrective action needed to reduce cluster license entitlement risk. Attributes: non-creatable, non-modifiable Possible values:<br>• "acquire_license" - Acquire a node-locked license,<br>• "verify_entitlement" - Verify all controllers are entitled,<br>• "verify_system_health" - Verify system health,<br>• "none" - None |
| **node-license-usage** | | node-license-usage-info[] optional | Node-locked license information and usage status for each node. |
| | | | Name of the license package Attributes: key, non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **package** | | licensed-package optional | • "nfs" - NFS License,<br>• "cifs" - CIFS License,<br>• "iscsi" - iSCSI License,<br>• "fcp" - FCP License,<br>• "snaprestore" - SnapRestore License,<br>• "snapmirror" - SnapMirror License,<br>• "flexclone" - FlexClone License,<br>• "snapvault" - SnapVault License,<br>• "snaplock" - SnapLock License,<br>• "snapmanagersuite" - SnapManagerSuite License,<br>• "snapprotectapps" - SnapProtectApp License,<br>• "v_storageattach" - Virtual Attached Storage License,<br>• "insight_balance" - OnCommand Balance License,<br>• "ocshift" - OnCommand Shift License,<br>• "cloud" - Cloud ONTAP License,<br>• "select" - ONTAP Select License,<br>• "tpm" - Trusted Platform Module License,<br>• "ve" - Volume Encryption License,<br>• "dp_optimized" - Data Protection Optimized Secondary License<br>• "snapmirror_sync" - SnapMirror Synchronous License<br>• "nvme_of" - NVMe-oF License<br>• "flexcache" - FlexCache License |
| **risk** | | license-entitlement-risk optional | Entitlement risk for the license package. Attributes: non-creatable, non-modifiable Possible values:<br><br>• "high" - Cluster license entitlement risk is high,<br>• "medium" - Cluster license entitlement risk is medium,<br>• "low" - Cluster license entitlement risk is low,<br>• "unlicensed" - No node-locked license present and corresponding features are not in use,<br>• "unknown" - License entitlement is unknown |

# Element definition: **license-v2-info**

[top]

Information about a licensable package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **customer-id** | | string optional | Customer Identification. This field is used to track site licenses issued to Enterprise Level Agreement customers. It will typical be set to "none" unless a unique customer id has been assigned. This value is reported in Auto Support, and can be used to correlate licensing information with backend business systems for tracking purposes. Attributes: non-creatable, non-modifiable |
| **description** | | string optional | Description of the licensed package. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **expiration-time** | | datetime optional | License expiration time. Attributes: non-creatable, non-modifiable |
| **legacy** | | boolean optional | Legacy License. A legacy license indicates that the license was previously installed prior to this release. Returns true if the license was installed prior to this release and false otherwise. |
| **owner** | | string optional | Controller or Cluster that owns the serial number. Attributes: non-creatable, non-modifiable |
| **package** | | licensed-package optional | Name of the licensed package. Attributes: key, required-for-create, non-modifiable Possible values:<br>• "base" - Cluster Base License. This value has been deprecated in Data ONTAP 9.2,<br>• "nfs" - NFS License,<br>• "cifs" - CIFS License,<br>• "iscsi" - iSCSI License,<br>• "fcp" - FCP License,<br>• "snaprestore" - SnapRestore License,<br>• "snapmirror" - SnapMirror License,<br>• "flexclone" - FlexClone License,<br>• "snapvault" - SnapVault License,<br>• "snaplock" - SnapLock License,<br>• "snapmanagersuite" - SnapManagerSuite License,<br>• "snapprotectapps" - SnapProtectApp License,<br>• "v_storageattach" - Virtual Attached Storage License,<br>• "insight_balance" - OnCommand Balance License,<br>• "ocshift" - OnCommand Shift License,<br>• "cloud" - Cloud ONTAP License,<br>• "select" - ONTAP Select License,<br>• "tpm" - Trusted Platform Module License,<br>• "ve" - Volume Encryption License,<br>• "dp_optimized" - Data Protection Optimized Secondary License<br>• "snapmirror_sync" - SnapMirror Synchronous License<br>• "nvme_of" - NVMe-oF License<br>• "flexcache" - FlexCache License |
| **serial-number** | | node-serial-number optional | Serial number of the controller or cluster. The license serial-number is reported in Auto Support also and can be used to correlate controller or cluster wide licensing information. Attributes: key, required-for-create, non-modifiable |
| **type** | | license-v2-type optional | License type. Attributes: non-creatable, non-modifiable Possible values:<br>• "license" ,<br>• "site" ,<br>• "demo" ,<br>• "subscr" ,<br>• "capacity" |

# Element definition: **license-v2-license-info**

[top]

Information about Data ONTAP licenses. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **detailed-status** | | string[] optional | Detailed status of license. Attributes: non-creatable, non-modifiable |
| **license** | | licensed-package optional | License Name. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "base" - (DEPRECATED)-Cluster Base License,<br>• "nfs" - NFS License,<br>• "cifs" - CIFS License,<br>• "iscsi" - iSCSI License,<br>• "fcp" - FCP License,<br>• "snaprestore" - SnapRestore License,<br>• "snapmirror" - SnapMirror License,<br>• "flexclone" - FlexClone License,<br>• "snapvault" - SnapVault License,<br>• "snaplock" - SnapLock License,<br>• "snapmanagersuite" - SnapManagerSuite License,<br>• "snapprotectapps" - SnapProtectApp License,<br>• "v_storageattach" - Virtual Attached Storage License,<br>• "insight_balance" - OnCommand Balance,<br>• "ocshift" - OnCommand Shift License,<br>• "cloud" - Cloud ONTAP License,<br>• "select" - ONTAP Select License,<br>• "tpm" - Trusted Platform Module License,<br>• "ve" - Volume Encryption License,<br>• "dp_optimized" - Data Protection Optimized Secondary License,<br>• "fabricpool" - FabricPool License,<br>• "snapmirror_sync" - SnapMirror Synchronous License,<br>• "nvme_of" - NVMe-oF License,<br>• "flexcache" - (DEPRECATED)-FlexCache License,<br>• "capacitypool" - Capacity Pool License,<br>• "mt_ek_mgmt" - Multi-tenant Encryption Key Management License,<br>• "s3" - S3 License,<br>• "snapmirror_cloud" - SnapMirror Cloud License,<br>• "anti_ransomware" - Anti-ransomware License,<br>• "s3_snapmirror" - S3-SnapMirror License,<br>• "s3_snapmirror_external" - S3-SnapMirror External License,<br>• "all_san_array" - All SAN Array (ASA) Software License |
| **scope** | | licensescope optional | Scope of the license. Valid scope: node/cluster/site. Attributes: non-creatable, non-modifiable Possible values:<br>• "na" - License scope NA,<br>• "site" - Site Scope,<br>• "cluster" - Cluster Scope,<br>• "node" - Node Scope,<br>• "pool" - Pool Scope |
| **status** | | licensestatus | Current status of the license. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "not_compliant" - Not Compliant,<br>• "eval" - Evaluation License,<br>• "partially_installed" - Partially Installed, |

| | | | |
|---|---|---|---|
| | | optional | • "valid" - Valid,<br>• "not_installed" - Not Installed,<br>• "not_applicable" - Not Applicable,<br>• "not_known" - Not Known |

# Element definition: **license-v2-result**

[top]

License operation result When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | Additional information of the failure. Attributes: non-creatable, non-modifiable |
| **entry** | | license-code-v2 optional | Failed license entry. Attributes: non-creatable, non-modifiable |
| **errcode** | | license-v2-op-status optional | Failure error code. Attributes: non-creatable, non-modifiable |

# Element definition: **license-v2-status-info**

[top]

Status information about a licensable package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | Description of the licensed package. Attributes: non-creatable, non-modifiable |
| **expiration-time** | | datetime optional | License expiration date. Attributes: non-creatable, non-modifiable |
| **method** | | licensed-method optional | Method in which a package is licensed in a cluster. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" - None,<br>• "license" - License,<br>• "site" - Site,<br>• "demo" - Demo, |

| | | | |
|---|---|---|---|
| | | | • "subscr" - Subscription |
| **package** | | licensed-package optional | Name of the licensed package. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "base" - Cluster Base License. This value has been deprecated in Data ONTAP 9.2,<br>• "nfs" - NFS License,<br>• "cifs" - CIFS License,<br>• "iscsi" - iSCSI License,<br>• "fcp" - FCP License,<br>• "snaprestore" - SnapRestore License,<br>• "snapmirror" - SnapMirror License,<br>• "flexclone" - FlexClone License,<br>• "snapvault" - SnapVault License,<br>• "snaplock" - SnapLock License,<br>• "snapmanagersuite" - SnapManagerSuite License,<br>• "snapprotectapps" - SnapProtectApp License,<br>• "v_storageattach" - Virtual Attached Storage License,<br>• "insight_balance" - OnCommand Balance License,<br>• "ocshift" - OnCommand Shift License,<br>• "cloud" - Cloud ONTAP License,<br>• "select" - ONTAP Select License,<br>• "tpm" - Trusted Platform Module License,<br>• "ve" - Volume Encryption License,<br>• "dp_optimized" - Data Protection Optimized Secondary License<br>• "snapmirror_sync" - SnapMirror Synchronous License<br>• "nvme_of" - NVMe-oF License<br>• "flexcache" - FlexCache License |
| **status-details** | | string optional | More information about cluster level license status. Attributes: non-creatable, non-modifiable |

# Element definition: **license-v2-subscription-info**

[top]

Information about a subscription license package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **alert** | | string optional | Alert message for the given period Attributes: non-creatable, non-modifiable |
| **description** | | string optional | Description of the licensed package. Attributes: non-creatable, non-modifiable |
| **expiration** | | datetime optional | License expiration time. Attributes: non-creatable, non-modifiable |
| **is-default** | | true-false optional | Is the node using default license Attributes: non-creatable, non-modifiable |
| **owner** | | string | Node that owns the serial number. Attributes: non-creatable, non- |

| | | | |
|---|---|---|---|
| | | optional | modifiable |
| **package** | | licensed-package optional | Name of the licensed package. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "nfs" - NFS License,<br>• "cifs" - CIFS License,<br>• "iscsi" - iSCSI License,<br>• "fcp" - FCP License,<br>• "snaprestore" - SnapRestore License,<br>• "snapmirror" - SnapMirror License,<br>• "flexclone" - FlexClone License,<br>• "snapvault" - SnapVault License,<br>• "snaplock" - SnapLock License,<br>• "snapmanagersuite" - SnapManagerSuite License,<br>• "snapprotectapps" - SnapProtectApp License,<br>• "v_storageattach" - Virtual Attached Storage License,<br>• "insight_balance" - OnCommand Balance,<br>• "ocshift" - OnCommand Shift License,<br>• "cloud" - Cloud ONTAP License,<br>• "select" - ONTAP Select License,<br>• "tpm" - Trusted Platform Module License,<br>• "ve" - Volume Encryption License,<br>• "dp_optimized" - Data Protection Optimized Secondary License<br>• "snapmirror_sync" - SnapMirror Synchronous License<br>• "nvme_of" - NVMe-oF License<br>• "flexcache" - FlexCache License |
| **serial-number** | | node-serial-number optional | Serial number of the node. Attributes: key, non-creatable, non-modifiable |
| **state** | | licenseperiod optional | License state - valid/reminder/warning/enforcement. Attributes: non-creatable, non-modifiable Possible values:<br>• "valid" - License is valid,<br>• "reminder" - License is in reminder period,<br>• "warning" - License is in warning period,<br>• "enforcement" - License is in enforcement period |

# Element definition: **licensed-package**

[top]

Licensable Package Possible values:

- "base" - (DEPRECATED)-Cluster Base License,
- "nfs" - NFS License,
- "cifs" - CIFS License,
- "iscsi" - iSCSI License,
- "fcp" - FCP License,
- "snaprestore" - SnapRestore License,
- "snapmirror" - SnapMirror License,
- "flexclone" - FlexClone License,
- "snapvault" - SnapVault License,
- "snaplock" - SnapLock License,
- "snapmanagersuite" - SnapManagerSuite License,
- "snapprotectapps" - SnapProtectApp License,
- "v_storageattach" - Virtual Attached Storage License,
- "insight_balance" - OnCommand Balance,

- "ocshift" - OnCommand Shift License,
- "cloud" - Cloud ONTAP License,
- "select" - ONTAP Select License,
- "tpm" - Trusted Platform Module License,
- "ve" - Volume Encryption License,
- "dp_optimized" - Data Protection Optimized Secondary License,
- "fabricpool" - FabricPool License,
- "snapmirror_sync" - SnapMirror Synchronous License,
- "nvme_of" - NVMe-oF License,
- "flexcache" - (DEPRECATED)-FlexCache License,
- "capacitypool" - Capacity Pool License,
- "mt_ek_mgmt" - Multi-tenant Encryption Key Management License,
- "s3" - S3 License,
- "snapmirror_cloud" - SnapMirror Cloud License,
- "anti_ransomware" - Anti-ransomware License,
- "s3_snapmirror" - S3-SnapMirror License,
- "s3_snapmirror_external" - S3-SnapMirror External License,
- "all_san_array" - All SAN Array (ASA) Software License

[none]

# Element definition: **lm-config**

[top]

lm config info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **host** | | string optional | License Manager Host Attributes: non-creatable, modifiable |

# Element definition: **lm-status**

[top]

lm status info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **status** | | string optional | Status Attributes: non-creatable, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **node-serial-number**

[top]

Assigned Node serial-number

[none]

# Element definition: **system-license-aggregate-info**

[top]

Information about Data ONTAP aggregate license status. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-name** | | string optional | Aggregate name. Attributes: key, non-creatable, non-modifiable |
| **aggr-size** | | size optional | Physical size of an aggregate. Attributes: non-creatable, non-modifiable |
| **expiration** | | datetime optional | Lease expiration date of an aggregate. Attributes: non-creatable, non-modifiable |
| **licensed-size** | | size optional | Licensed size. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node Name Attributes: key, non-creatable, non-modifiable |
| | | | Current status of an aggregate. Attributes: non-creatable, non-modifiable Possible values:<br>• "lease_not_required" - Lease not required,<br>• "lease_up_to_date" - Lease is up to date, |

| | | | |
|---|---|---|---|
| **status** | | aggrlicstatus optional | • "lease_expired" - Lease expired,<br>• "lease_missing" - Lease missing,<br>• "plex_deleted" - Plex deleted,<br>• "aggregate_deleted" - Aggregate deleted,<br>• "aggregate_license_size_decreased" - Aggregate license size decreased,<br>• "aggregate_license_size_increased" - Aggregate license size increased,<br>• "aggregate_status_unknown" - Aggregate status unknown |

# Element definition: **aggrlicstatus**

[top]

Aggregate License Status Possible values:

- "lease_not_required" - Lease not required,
- "lease_up_to_date" - Lease is up to date,
- "lease_expired" - Lease expired,
- "lease_missing" - Lease missing,
- "plex_deleted" - Plex deleted,
- "aggregate_deleted" - Aggregate deleted,
- "aggregate_license_size_decreased" - Aggregate license size decreased,
- "aggregate_license_size_increased" - Aggregate license size increased,
- "aggregate_status_unknown" - Aggregate status unknown

[none]

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **license-code-v2**

[top]

License Code V2

[none]

# Element definition: **license-entitlement-risk**

[top]

high|medium|low|unlicensed|unknown Possible values:

- "high" - Cluster license entitlement risk is high,
- "medium" - Cluster license entitlement risk is medium,

- "low" - Cluster license entitlement risk is low,
- "unlicensed" - No node-locked license present and corresponding features are not in use,
- "unknown" - License entitlement is unknown

[none]

## Element definition: **license-entitlement-risk-action**

[top]

acquire-license|adjust-capacity|verify-entitlement|verify-system-health|none Possible values:

- "acquire_license" - Acquire a node-locked license,
- "adjust_capacity" - Acquire license for larger system disk capacity, or reduce system capacity,
- "verify_entitlement" - Verify all controllers are entitled,
- "verify_system_health" - Verify system health,
- "none" - None

[none]

## Element definition: **license-v2-op-status**

[top]

License Operation Status Possible values:

- "license_success" - Operation Completed Successfully,
- "license_invalid" - Failed: Invalid License Key,
- "license_expired" - Failed: License Expired,
- "license_notallowed" - Failed: Operation Not Allowed,
- "license_unavailable" - Failed: License NOT Available,
- "license_internal" - Failed: Internal Error,
- "license_err_unknown" - Failed: Unknown Error

[none]

## Element definition: **license-v2-type**

[top]

This field indicates the type of a license. A typical license will be of "license" type, which indicates that it's associated with a specific controller. A "site" license is a special license provided under Enterprise Level Agreements. A "demo" license is a temporary license with an expiration time. It is usually issued for trial purposes only. A "subscr" license is a subscription with expiration date. Possible values:

- "license" ,
- "site" ,
- "demo" ,
- "subscr" ,
- "capacity"

[none]

## Element definition: **licensed-method**

[top]

none|license|site|demo|subscr|capacity|enabled Possible values:

- "none" - None,
- "license" - License,
- "site" - Site,
- "demo" - Demo,
- "subscr" - Subscription,
- "capacity" - Capacity,
- "enabled" - Enabled

[none]

## Element definition: **licenseperiod**

[top]

valid|reminder|warning|enforcement Possible values:

- "valid" - License is valid,
- "reminder" - License is in reminder period,
- "warning" - License is in warning period,
- "enforcement" - License is in enforcement period

[none]

## Element definition: **licensescope**

[top]

License scope Possible values:

- "na" - License scope NA,
- "site" - Site Scope,
- "cluster" - Cluster Scope,
- "node" - Node Scope,
- "pool" - Pool Scope

[none]

## Element definition: **licensestatus**

[top]

License status Possible values:

- "not_compliant" - Not Compliant,
- "eval" - Evaluation License,

- "partially_installed" - Partially Installed,
- "valid" - Valid,
- "not_installed" - Not Installed,
- "not_applicable" - Not Applicable,
- "not_known" - Not Known

[none]

## Element definition: **node-license-usage-info**

[top]

Node-locked license information and usage status for each node.

| Name | Range | Type | Description |
|---|---|---|---|
| **in-use** | | true-false optional | Usage status for the node. Attributes: non-creatable, non-modifiable |
| **is-licensed** | | true-false optional | Whether the node has a node-locked license. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Name of the node. Attributes: non-creatable, non-modifiable |
| **serial-number** | | node-serial-number optional | Node Serial Number Attributes: key, non-creatable, non-modifiable |

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **node-serial-number**

[top]

Assigned Node serial-number

[none]

## Element definition: **reported-capacity-state**

[top]

evaluation|warning|missing|enforcement|installed Possible values:

- "evaluation" ,
- "warning" ,
- "missing" ,
- "enforcement" ,

- "installed"

[none]

## Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **true-false** [top]

True/False

[none]

# APIs in Category: **lock**

lock-break-iter
lock-get-iter

This set of APIs provides the ability to view or break the current lock state in the clustered ONTAP environment. Locks can be viewed or broken according to a wide range of query fields that are presented in the lock-info definition. When utilizing these APIs, it is suggested that users provide as many fields as possible to optimize query processing.

## lock-break-iter

[top]

Breaks one or more locks in the cluster that match the query.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of lock objects to be operated in this call. Default: 20 |
| **query** | | lock-info optional | If operating on a specific lock, this input element must specify all keys. If operating on lock objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of lock objects (just keys) that were not operated on due to some error. If set to false, the list of lock objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of lock objects (just keys) that were successfully operated on. If set to false, the list of lock objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | lock-break-iter-info[] optional | Information about lock objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching lock objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of lock objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of lock objects that matched the query and were successfully processed. |
| **success-list** | | lock-break-iter-info[] optional | The lock objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EVOLUMEQUIESCED** | |

| | |
|---|---|
| **EVOLUMEOFFLINE** | |
| **ELOCK_RECONSTRUCTION_IN_PROGRESS** | |
| **ELOCK_SYNC_IN_PROGRESS** | |
| **EINTERNALERROR** | |

# lock-get-iter

[top]

Returns information for one or more locks in the cluster that match the query.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | lock-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | lock-info optional | A query that specifies which locks to return. A query could be specified on any number of attributes in the lock object. All lock objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | lock-info[] optional | The list of attributes of lock objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more lock objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **ELOCK_RECONSTRUCTION_IN_PROGRESS** | |
| **EINTERNALERROR** | |

# Element definition: **lock-break-iter-info**

[top]

Information about the operation that was attempted/performed against lock object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **lock-key** | | lock-info | The key for the lock object to which the operation applies. |

# Element definition: **lock-info**

[top]

Information about a single lock in the cluster. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **bytelock-length** | **[0..2^64-1]** | integer optional | The length starting from the offset for a bytelock. Attributes: non-creatable, non-modifiable |
| **bytelock-offset** | **[0..2^64-1]** | integer optional | The starting offset for a bytelock. Attributes: non-creatable, non-modifiable |
| **client-address** | | string optional | The IP address (IPv4/IPv6) for a set of locks owned by a client. Unavailable for NFSv4 or NFSv4.1 locks. Attributes: non-creatable, non-modifiable |
| **client-address-type** | | string optional | The IP address interface type the client is connected over. Unavailable for NFSv4 or NFSv4.1 locks. Possible values:<br>• "ipv4" ,<br>• "ipv6" , |
| **client-id** | | string optional | A unique client-id for a set of locks owned by a client. Attributes: non-creatable, non-modifiable |
| **delegation-type** | | string optional | The type of delegation the lock has (NFSv4 only). Attributes: non-creatable, non-modifiable Possible values:<br>• "read" ,<br>• "write" |
| **flexcache-cluster** | | string optional | The name of the cluster hosting the FlexCache volume. |
| **flexcache-lock-authority** | | string optional | Indicates the lock authority granted/denied to a FlexCache volume. |
| **flexcache-volume** | | string optional | The name of the FlexCache volume that is the endpoint of the caching relationship, and is holding the lock. |
| **flexcache-vserver** | | string optional | The name of the Vserver hosting the FlexCache volume. |
| **is-bytelock-exclusive** | | boolean optional | Indicates if the bytelock is exclusive. Attributes: non-creatable, non-modifiable |
| **is-bytelock-mandatory** | | boolean optional | Indicates whether the bytelock is mandatory or advisory. Attributes: non-creatable, non-modifiable |
| **is-bytelock-soft** | | boolean optional | Indicates if the bytelock is softened. Attributes: non-creatable, non-modifiable A bytelock can become soft if an NFSv4 client loses connection. A soft bytelock may be reclaimed if the client reconnects. However, if another client were to request a bytelock that conflicts with a softened bytelock, then the softened bytelock will be released. |

| | | | |
|---|---|---|---|
| **is-bytelock-super** | | boolean optional | Indicates if the bytelock is a priveledged super lock. Attributes: non-creatable, non-modifiable A super bytelock is used to grant a byte range lock regardless of conflicting lock state on the system. If there is conflicting lock state, those locks will be released before graning the super lock. |
| **is-constituent** | | boolean optional | This field indicates if this volume is a constituent within another volume. For a FlexGroup, this field is true for all its constituents. This field is set to false for volumes which are not the constituents of a FlexGroup, including for constituents of an Infinite Volume. Attributes: non-creatable, non-modifiable |
| **is-flexcache-lock** | | boolean optional | This field indicates if it the lock is held on a FlexCache volume. |
| **is-sharelock-soft** | | boolean optional | Indicates if the sharelock is softened. Attributes: non-creatable, non-modifiable A sharelock can become soft if an NFSv4 client loses connection. A soft sharelock may be reclaimed if the client reconnects. However, if another client were to request a sharelock that conflicts with a softened sharelock, then the softened sharelock will be released. |
| **lif** | | string optional | The logical interface the lock was created over. Attributes: key, non-creatable, non-modifiable |
| **lock-state** | | string optional | The state of the lock. Attributes: non-creatable, non-modifiable Possible values:<br>• "granted" ,<br>• "revoking" ,<br>• "revoked" ,<br>• "gwaiting" ,<br>• "ewaiting" ,<br>• "adjusted" ,<br>• "denied" ,<br>• "timedout" ,<br>• "subsumed" ,<br>• "gone" ,<br>• "unused" ,<br>• "waiting" ,<br>• "timeout" |
| **lock-type** | | string optional | The type of lock. Attributes: non-creatable, non-modifiable Possible values:<br>• "byte_range" - locks over a specific byte range of a file,<br>• "share_level" - represent file opens,<br>• "op_lock" - provide client-side caching semantics for SMB,<br>• "delegation" - provide client-side caching for NFSv4 |
| **lockid** | | uuid optional | A unique ID for a lock. Attributes: key, non-creatable, non-modifiable |
| **node** | | string optional | The node that the lock is on. Attributes: non-creatable, non-modifiable |
| **oplock-cache-level** | | string optional | The current caching level for an oplock. Attributes: non-creatable, non-modifiable Possible values:<br>• "exclusive" ,<br>• "level2" ,<br>• "batch" ,<br>• "null" ,<br>• "read_batch" |

| | | | |
|---|---|---|---|
| **owner-id** | | string optional | A unique owner-id for a set of locks belonging to an owner. Attributes: non-creatable, non-modifiable |
| **path** | | string optional | The file path (/volume/file) that is being locked. Attributes: key, non-creatable, non-modifiable |
| **protocol** | | string optional | The protcol the lock was created with. Attributes: non-creatable, non-modifiable Possible values:<br>• "cifs" ,<br>• "fcache" ,<br>• "nfsv4" ,<br>• "nlm" ,<br>• "nfsv4.1" ,<br>• "crposix" ,<br>• "cdmi" |
| **sharelock-mode** | | string optional | The sharing level of a lock. Attributes: non-creatable, non-modifiable Possible values:<br>• "delete_on_close" ,<br>• "read_deny_read" ,<br>• "read_deny_write" ,<br>• "read_deny_all" ,<br>• "read_deny_delete" ,<br>• "read_deny_none" ,<br>• "read_deny_read_write" ,<br>• "read_deny_read_delete" ,<br>• "read_deny_write_delete" ,<br>• "write_deny_read" ,<br>• "write_deny_write" ,<br>• "write_deny_all" ,<br>• "write_deny_delete" ,<br>• "write_deny_none" ,<br>• "write_deny_read_write" ,<br>• "write_deny_read_delete" ,<br>• "write_deny_write_delete" ,<br>• "delete_deny_read" ,<br>• "delete_deny_write" ,<br>• "delete_deny_all" ,<br>• "delete_deny_delete" ,<br>• "delete_deny_none" ,<br>• "delete_deny_read_write" ,<br>• "delete_deny_read_delete" ,<br>• "delete_deny_write_delete" ,<br>• "read_write_deny_read" ,<br>• "read_write_deny_write" ,<br>• "read_write_deny_all" ,<br>• "read_write_deny_delete" ,<br>• "read_write_deny_none" ,<br>• "read_write_deny_read_write" ,<br>• "read_write_deny_read_delete" ,<br>• "read_write_deny_write_delete" ,<br>• "read_delete_deny_read" ,<br>• "read_delete_deny_write" ,<br>• "read_delete_deny_all" ,<br>• "read_delete_deny_delete" ,<br>• "read_delete_deny_none" ,<br>• "read_delete_deny_read_write" ,<br>• "read_delete_deny_read_delete" ,<br>• "read_delete_deny_write_delete" ,<br>• "write_delete_deny_read" , |

| | | | |
|---|---|---|---|
| | | | • "write_delete_deny_write" ,<br>• "write_delete_deny_all" ,<br>• "write_delete_deny_delete" ,<br>• "write_delete_deny_none" ,<br>• "write_delete_deny_read_write" ,<br>• "write_delete_deny_read_delete" ,<br>• "write_delete_deny_write_delete" ,<br>• "all_deny_read" ,<br>• "all_deny_write" ,<br>• "all_deny_all" ,<br>• "all_deny_delete" ,<br>• "all_deny_none" ,<br>• "all_deny_read_write" ,<br>• "all_deny_read_delete" ,<br>• "all_deny_write_delete" ,<br>• "none_deny_read" ,<br>• "none_deny_write" ,<br>• "none_deny_all" ,<br>• "none_deny_delete" ,<br>• "none_deny_none" ,<br>• "none_deny_read_write" ,<br>• "none_deny_read_delete" ,<br>• "none_deny_write_delete" |
| **smb-connect-state** | | string<br>optional | The connect state for a lock. (SMB only). Attributes: non-creatable, non-modifiable Possible values:<br>• "connected" ,<br>• "disconnected" ,<br>• "reconnecting" ,<br>• "timedout" |
| **smb-expiration-time** | **[0..2^32-1]** | integer<br>optional | The time left until a lock expires after being disconnected. (SMB only). Attributes: non-creatable, non-modifiable |
| **smb-open-group-id** | | string<br>optional | A unique open group ID for a set of locks. (SMB only). Attributes: non-creatable, non-modifiable |
| **smb-open-type** | | string<br>optional | The type of open for a lock (SMB only). Attributes: non-creatable, non-modifiable Possible values:<br>• "none" ,<br>• "durable" ,<br>• "persistent" |
| **volume** | | string<br>optional | The volume containing the files that are locked. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string<br>optional | The vserver the lock is associated with. Attributes: key, non-creatable, non-modifiable |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex

characters. Note that a leading '0x' is not used.

[none]

# APIs in Category: **lun**


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lun-unset-attribute
lun-unset-device-id

# lun-alignment-get-iter

[top]

Iterate over a list of lun objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-** | | lun-align- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | info optional | present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | lun-align-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the lun object. All lun objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | lun-align-info[] optional | The list of attributes of lun objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more lun objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# lun-alignment-reset-statistics

[top]

Reset LUN Alignment Statistics

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | lun-path | Path of the LUN |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# lun-clear-persistent-reservation-info

[top]

Clear the SCSI-2 reservation or SCSI-3 persistent reservation information for a given LUN. Note: In Data ONTAP Cluster-Mode, the LUN must either be offline or not mapped to clear the persistent reservation information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the lun. The path should start with '/vol/'. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_VDISK** | |

| | |
|---|---|
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_VDISK_NOT_DISABLED** | |

| Vfiler-enabled |
|---|
| Yes |

# lun-clone-list-info

[top]

Lists all LUN clones with valid backing snapshots in the given snapshot.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | string | Name of the snapshot. |
| **volume** | | string | Name of the volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **lun-clone-list** | | lun-clone-lists-info[] | List of LUN clones with valid backing snapshots in the given snapshot. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVDISK_ERROR_NO_SUCH_VOLUME** | |
| **EVDISK_ERROR_NO_SUCH_SNAPSHOT** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| Yes |

# lun-clone-split-start

[top]

Start the cloning of the given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the clone to split from the underlying parent. |
| **space-efficient-split-disabled** | | boolean optional | By default 'false', space-efficient LUN clone splitting is allowed. This parameter, if set to 'true', disables space-efficient splitting for this specific operation. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_ENOMEM** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_CLONING_STARTED** | |

| Errno | Description |
|---|---|
| EVDISK_ERROR_NO_SUCH_ATTRIBUTE | |
| EVOLUMEBUSY | |

| Vfiler-enabled |
|---|
| Yes |

# lun-clone-split-status-list-info

[top]

Get the cloning status of LUN(s).

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| clone-status | | clone-status-info[] | List of cloning statuses. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |
| EVDISK_ERROR_NO_SUCH_ATTRIBUTE | |
| EVOLUMEBUSY | |

| Vfiler-enabled |
|---|
| Yes |

# lun-clone-split-stop

[top]

Stop the cloning of the given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | string | Path of the LUN to stop cloning. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EONTAPI_EROFS | |
| EVDISK_ERROR_NO_SUCH_VDISK | |
| EVDISK_ERROR_NO_SUCH_ATTRIBUTE | |
| EVOLUMEBUSY | |

| Vfiler-enabled |
|---|
| Yes |

[top]

# lun-clone-start

Start the cloning of the given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN to clone. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_ENOMEM** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_CLONING_STARTED** | |
| **EVDISK_ERROR_NO_SUCH_ATTRIBUTE** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-clone-status-list-info

[top]

Get the cloning status of LUN(s).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string optional | Path of the LUN. If path is specified, only the status of that clone is returned. If path is not specified, then all cloning status are returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **clone-status** | | clone-status-info[] | List of cloning status. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVDISK_ERROR_NO_SUCH_ATTRIBUTE** | |
| **EVDISK_ERROR_NO_SUCH_CLONE** | |
| **EVDISK_ERROR_CLONE_NOT_SPLITTING** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-clone-stop

[top]

Stop the cloning of the given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN to stop cloning. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_NO_SUCH_ATTRIBUTE** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-config-check-alua-conflicts-info

[top]

Returns a list of LUNs that have both FCP and iSCSI maps at the same time when ALUA is enabled on at least one of such FCP or iSCSI igroups. These conflicts must be resolved before any further maps (to those LUNs) can can take place.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **conflicting-luns** | | conflicting-luns-list[] optional | If a lun is mapped to both FCP and iSCSI igroups at at the same time with ALUA enabled on at least one of those igroups, it leads to a conflict. These conflicts need to be resolved before any further maps can take place to the conflicting lun. Conflicts can either be resolved by unmapping one or more mappings or by disabling ALUA on FCP or iSCSI or both the igroups whichever is applicable. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_INITGROUP;** | |

# lun-config-check-cfmode-info

[top]

Returns a list of configuration warnings related to initiator groups and the FCP cfmode setting

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fcp-cfmode** | | string optional | Current FCP cfmode setting. Possible values: dual_fabric, mixed, partner, standby, single_image |
| **invalid-cfmode-settings** | | invalid-cfmode-setting-info optional | Local and partner cfmode settings if they do not match. cfmodes need to match on both filers in the cluster or cluster failover will not work properly |
| **invalid-ostype-cfmode-settings** | | invalid-ostype-cfmode-setting-info[] optional | List of initiator groups with invalid OS types for the fcp-cfmode. Some host operating systems are only compatible with certain fcp-cfmodes |

| | | | |
|---|---|---|---|
| **invalid-use-partner-cfmode-settings** | | invalid-use-partner-cfmode-setting-info[] optional | List of initiator groups with invalid use_partner settings for the FCP cluster failover mode (fcp-cfmode) Incorrect settings can cause hosts to lose LUNs during takeover. |
| **invalid-use-partner-ostype-settings** | | invalid-use-partner-ostype-setting-info[] optional | List of initiator groups with invalid use_partner settings for the initiator group's OS type. Some host operating systems should only have certain use_partner settings to ensure proper behavior during failover. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVAL** | |

# lun-config-check-info

[top]

Returns a list of LUN/FCP configuration warnings. These warnings are not related to filer cluster configuration.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **alua-setting-mismatch-info** | | alua-setting-mismatch-initiator-group[] optional | list of initiator groups for which the ALUA (Asymmetric Logical Unit Access) settings do not match between local and partner filers. ALUA is a T10 standard that specifies the access characteristics (in terms of performance and supported SCSI commands) of a Logical Unit that can be accessed through more than one target port. ALUA is typically used by host multi-path software to recognize primary and secondary paths to a Logical Unit when more than one path are available to the Logical Unit. If the ALUA setting does not match between the local and partner filers, it would affect the host multi-path software's ability to distinguish primary and secondary paths. This could lead to incorrect system behaviour. |
| **alua-setting-mismatch-initiators** | | alua-setting-mismatch-initiator-info[] optional | List of initiators which are members of initiator groups of differing alua settings. |
| **fcp-down-hbas** | | fcp-down-hba-info[] optional | list of HBA names that have no link or are configured down. |
| **invalid-vsa-settings** | | invalid-vsa-setting-info[] optional | List of initiator groups with invalid Volume Set Addressing (VSA) settings |
| **mixed-ostype-initiators** | | mixed-ostype-initiator-info[] optional | List of initiators which are members of initiator groups of differing OS types. |
| **mixed-vsa-** | | mixed-vsa- | List of initiators which are members of initiator groups with differing Volume Set Addressing (VSA) settings. An initiator can only be a |

| | | | |
|---|---|---|---|
| **initiators** | | initiator-info[] optional | member of initiator groups which have the same VSA setting across all the initiator groups it is a member of. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVAL** | |

# lun-config-check-single-image-info

[top]

Returns a list of configuration warnings that pertain to problems specific to the 'single_image' FCP cfmode. These errors must be fixed prior to upgrading any filer cluster to run in 'single_image' mode.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **conflicting-initiators** | | conflicting-initiator-info[] optional | List of initiators which belong to initiator groups on the local filer which have different os type settings from the initiator groups on the partner. |
| **conflicting-maps** | | conflicting-map-info[] optional | Only one lun in the cluster can be mapped to an initiator at a given lun-id. If a lun on each filer is mapped to the same initiator at the same lun-id there will be a conflict. These conflicts need to be resolved before a filer can be upgraded to run in the 'single_image' FCP cfmode. A conflict can be resolved by unmapping one lun and remapping it to an unused lun-id. |
| **invalid-nodename-settings** | | invalid-nodename-setting-info optional | When running in the the single_image cfmode the FCP node name needs to be same on each filer in the cluster. If the node names are different the node names will be returned. If the cfmode is not set to single_image, then the node names will not be checked |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_PARTNER_NOT_REACHABLE** | |

# lun-config-check-wwpn-conflicts-info

[top]

Determine if duplicate World Wide Port Names (WWPNs) are present on a cluster pair.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **conflicting-wwpns** | | conflict-wwpn[] optional | If duplicate World Wide Port Names (WWPNs) are present on the HA pair, it leads to a conflict. This causes incorrect Asymmetric Logical Unit Access (ALUA) states to be advertised for all LUNs. To resolve the conflict use 'lun config set' command to set local.single_image.key and partner.single_image.key on both the nodes of the HA pair. |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |
| **EONTAPI_ENOMEM** | |

# lun-copy-cancel

[top]

Cancels an ongoing LUN copy operation prior to creation of the new LUN. This operation will fail if the LUN already exists at the destination path; in that case, use the lun-destroy API to delete the LUN at the destination path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-uuid** | | uuid | Specifies the universally unique ID (UUID) of the job that started this copy operation. |
| **lun-index** | | integer optional | Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN copy operations that involve only one LUN, the lun-index value of zero is always correct. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EOD_INVALID_ECV** | |
| **EOBJECTNOTFOUND** | |
| **EOD_CANT_CANCEL_OPERATION** | |

# lun-copy-get-iter

[top]

Iterate over a list of LUN copy job detail objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | lun-copy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | lun-copy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the LUN copy job detail object. All LUN copy job detail objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | lun-copy-info[] optional | The list of attributes of LUN copy job detail objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more LUN copy job detail objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# lun-copy-modify

[top]

Modifies the maximum throughput of an ongoing copy operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| job-uuid | | uuid | Specifies the universally unique ID (UUID) of the job that started this copy operation. |
| lun-index | | integer optional | Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN copy operations that involve only one LUN, the lun-index value of zero is always correct. |
| max-throughput | | size | Specifies the maximum amount of data, in bytes, that can be transferred per second in support of this operation. This mechanism can be used to throttle a transfer, to reduce its impact on the performance of the source and destination nodes. Default: zero, indicating no throttling. NOTE: The specified value will be rounded up to the nearest megabyte. |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |
| EOD_INVALID_ECV | |
| EOBJECTNOTFOUND | |

# lun-copy-pause

[top]

Pauses an ongoing LUN copy operation. Use the lun-copy-resume API to resume the copy operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| job-uuid | | uuid | Specifies the universally unique ID (UUID) of the job that started this copy operation. |
| lun-index | | integer optional | Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN copy operations that involve only one LUN, the lun-index value of zero is always correct. |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |
| EOD_INVALID_ECV | |
| EOBJECTNOTFOUND | |

[top]

# lun-copy-resume

Resumes a paused LUN copy operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-uuid** | | uuid | Specifies the universally unique ID (UUID) of the job that started this copy operation. |
| **lun-index** | | integer optional | Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN copy operations that involve only one LUN, the lun-index value of zero is always correct. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EOD_INVALID_ECV** | |
| **EOBJECTNOTFOUND** | |

# lun-copy-start

[top]

Starts copying a group of LUNs from one volume to another. The destination volume can be located on the same Vserver as the original volume or on a different Vserver. If source-vserver is not specified, the source Vserver defaults to the target Vserver, i.e., an intra-Vserver copy. Intra-Vserver copy can be initiated by both cluster and Vserver administrators. Inter-Vserver copy can be initiated by cluster administrators only. Note: A cluster administrator must first create a Vserver peer relationship using vserver-peer-create API before a Vserver administrator can copy over LUNs from another Vserver in the cluster. This restriction does not apply to cluster administrators. Cluster administrators can initiate inter-Vserver LUN copy operations without creating a Vserver peer relationship.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-vserver** | | vserver-name | Specifies the name of the Vserver that will host the new LUNs. |
| **max-throughput** | **[0..2^63-1]** | integer optional | Specifies the maximum amount of data, in bytes, that can be transferred per second in support of this operation. This mechanism can be used to throttle a transfer, to reduce its impact on the performance of the source and destination nodes. Default: zero, indicating no throttling. NOTE: The specified value will be rounded up to the nearest megabyte. |
| **paths** | | lun-path-pair[] | Specifies an array of source and destination path pairs. If more than one pair of paths is specified, multiple LUNs will be copied. All the source LUNs must be on the same volume. All the LUNs must be copied into a single volume. |
| **promote-early** | | boolean optional | Specifies that the destination needs to be promoted early. Default: false. If the destination is promoted early, the new LUN will be visible immediately. Snapshots of the volume containing the new LUN cannot be taken until the LUN copy operation reaches 'Moving Data' status. If the destination is promoted late, the new LUN will be visible only after it has been fully framed. The LUN copy job will not block snapshots of the volume containing the new LUN. |
| | | | Specifies the full path to the source reference LUN, of the form /vol/[/]/. If a reference LUN is specified, data for other LUNs being copied will be transferred as a difference from the reference LUN. |

| | | | |
|---|---|---|---|
| **reference-path** | | string optional | This might save bandwidth and destination storage if the specified source LUNs share blocks. If provided, this input must be the same as one of the source LUN paths. This input is not allowed if only one source LUN is specified. |
| **source-vserver** | | vserver-name optional | Specifies the name of the Vserver hosting the LUNs to be copied. Default: same as destination-vserver (intra-Vserver copy). |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **job-uuid** | | uuid | Specifies the universally unique ID (UUID) for the LUN copy job. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EOD_INVALID_ECV** | |
| **EOD_DEST_LUN_EXISTS** | |
| **EOD_DEST_LUNS_NOT_ON_SAME_VOLUME** | |
| **EOD_DEST_IS_FLEXCACHE** | |
| **EQTREE_DOES_NOT_EXIST** | |
| **EOP_DISALLOWED_VSERVER_ROOT** | |
| **EOD_COPY_DUP_DEST_PATH** | |
| **EOD_SRC_LUN_NOT_FOUND** | |
| **EOD_SRC_LUNS_NOT_ON_SAME_VOLUME** | |
| **EOD_SRC_LUN_IS_PE** | |
| **EOD_LUN_IN_NVFAILED_STATE** | |
| **EFLI_LUN_BOUND_TO_FLI_ERROR** | |
| **EOD_LUN_MAX_COUNT_VIOLATION** | |
| **EOD_REF_PATH_NOT_IN_SOURCE_PATHS** | |
| **EOD_COPY_DEST_IS_SNAPSHOT** | |
| **EOD_NO_VSERVER_PEERING** | |
| **EOD_VSERVER_PEERING_NO_LUN_COPY_APP** | |
| **EOD_VSERVER_PEERING_NOT_READY** | |
| **EOD_DEST_IN_CFT_PRECOMMIT** | |

# lun-create-by-size

[top]

Create a new lun of given size, with initially zero contents. The lun is created at the path given. No file should already exist at the given path. The directory specified in the path must be a qtree root directory. The size of the created lun could be larger than the size specified, in order to get an integral number of cylinders while reporting the geometry using SAN protocols.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **class** | | string optional | The class of the LUN. Possible values:<br>• "regular" - The LUN is for normal blocks access,<br>• "protocol_endpoint" - The LUN is a vvol protocol endpoint,<br>• "vvol" - The LUN is a vvol data LUN.<br><br>The default value is "regular". |

| | | | |
|---|---|---|---|
| **comment** | | string optional | A description for the LUN being created. The comment can be at most 254 characters. |
| **foreign-disk** | | string optional | Foreign Disk serial number. New size of the LUN will be of exact capacity as that of the Foreign Disk. For Foreign LUN Import, the LUN and Foreign Disk must be the exact same capacity. Either size or foreign-disk must be provided for Data ONTAP Cluster-mode. This field is available in Data ONTAP 8.3 and later. |
| **ostype** | | lun-os-type optional | The os type for the LUN. The default type if not specified is "image". It is strongly recommended for the caller of this API to avoid using the "image" type because it could result in misconfigured LUNs. For example, a lun with ostype "image" could suffer major performance penalties when a Windows host is trying to access it. |
| **path** | | string | Path of the LUN. |
| **prefix-size** | **[0..2^63-1]** | integer optional | The size of the prefix stream for this lun in bytes. Certain OS types store a small portion of the data corresponding to partition tables (or similar structures) in the prefix stream. This is part of the lun data and is transparent to hosts that access the LUN via block protocols. The default size is based on the OS type. Giving a value here overrides the default, but, it is strongly recommended to avoid changing this default size. The value in this field must be a multiple of 512 bytes. Note that this value has no effect when the lun-os-type is "image". This option is available in Data ONTAP 8.1 and later. |
| **qos-adaptive-policy-group** | | string optional | QoS adaptive policy group defines measurable Service Level Objectives (SLOs) that adjust based on the LUN's allocated space or used space. This field is available in Data ONTAP 9.4 and later |
| **qos-policy-group** | | string optional | QoS policy group defines measurable Service Level Objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a lun, the system will not monitor and control the traffic to it. This field is available in Data ONTAP 8.2 and later |
| **size** | **[0..2^63-1]** | integer optional | New size for the LUN in bytes. This field is required for Data ONTAP 7-Mode. Either size or foreign-disk must be provided for Data ONTAP Cluster-mode. |
| **space-allocation-enabled** | | boolean optional | The space allocation attribute enables support for the SCSI Thin Provisioning features defined in the Logical Block Provisioning section of the SCSI SBC-3 standard. Hosts and file systems that do not support SCSI Thin Provisioning should not enable space allocation. The default is false. |
| **space-reservation-enabled** | | boolean optional | Default is true. If it is desired to manage space usage manually instead, this can be set to "false" which will create a LUN without any space being reserved. |
| **use-exact-size** | | boolean optional | Use the exact size specified instead of rounding to best fit geometry. If true, size must be a multiple of 512. The default value is false. This field may not be specified in combination with foreign-disk. This field is available in Data ONTAP 9.2 and later. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **actual-size** | **[0..2^63-1]** | integer | The actual size of the LUN that was created, in bytes. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EOFFLINE** | |
| **EISDIR** | |
| **EONTAPI_EEXIST** | |
| | |

| |
|---|
| **ENAMETOOLONG** |
| **EONTAPI_ENOENT** |
| **EFTYPE** |
| **EONTAPI_EINVAL** |
| **EONTAPI_ENOSPC** |
| **EOP_DISALLOWED_VSERVER_ROOT** |
| **EVDISK_ERROR_NOT_QTREE_ROOT** |
| **EVDISK_ERROR_NO_SUCH_VOLUME** |
| **EVDISK_ERROR_NO_SUCH_DIRECTORY** |
| **EVDISK_ERROR_FILE_IS_SPC_RESERVED** |
| **EVDISK_ERROR_INVALID_SNAPSHOT_PATH** |
| **EVDISK_ERROR_NOT_IN_SAME_VOLUME** |
| **EVDISK_ERROR_SIZE_TOO_SMALL** |
| **EVDISK_ERROR_SIZE_TOO_LARGE** |
| **EVDISK_ERROR_VDISK_EXISTS** |
| **EVDISK_ERROR_VOLUME_SPARSE** |
| **EVDISK_ERROR_TOO_MANY_LUNS** |
| **EVDISK_SYNC_CAPB_MISMATCH** |
| **EVOLUMEBUSY** |
| **E_QOS_OBJECT_OVERLAP_ERROR** |
| **E_QOS_NO_SUCH_PG** |
| **E_QOS_TOO_MANY_USER_WIDS** |
| **E_QOS_VSERVERIZATION_VIOLATION** |
| **E_QOS_LUN_CREATE_MODIFY** |
| **E_QOS_LUN_PG_REMOVE** |
| **EFLI_ERROR_NO_SUCH_FOREIGN_DISK** |
| **EFLIHI_DISK_READ_ERROR** |
| **EFLIHI_INVALID_FIELD** |
| **EFLIHI_RESOURCE_LIMIT** |
| **EFLI_UNSUPPORTED_SECTOR_SIZE** |

| **Vfiler-enabled** |
|---|
| **Yes** |

# lun-create-clone

[top]

Create a LUN clone.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **parent-lun-path** | | string | Path of original LUN. |
| **parent-snap** | | string | LUN path of the backing snapshot. |
| **path** | | string | Path of the LUN clone. |
| **space-reservation-enabled** | | boolean optional | By default, the lun is space-reserved. If it is desired to manage space usage manually instead, this can be set to "false" which will create a LUN without any space being reserved. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EONTAPI_EROFS | |
| EONTAPI_ENOMEM | |
| EVDISK_ERROR_NO_SUCH_VDISK | |
| EVDISK_ERROR_CLONING_STARTED | |
| EVOLUMEBUSY | |
| EVDISK_ERROR_SOURCE_IS_VMALIGNED | |

| Vfiler-enabled |
|---|
| Yes |

# lun-create-from-file

[top]

Create a lun from an existing file. A new lun is created, at the given lun path (which must be at a qtree root). A hard link is created to the existing file. The file contents are not copied or changed. The file can be resized to a larger size, rounding up to a cylinder boundary. NOTE: LUNs created from files cannot be relocated.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **class** | | string optional | The class of the LUN. Possible values:<br>• "regular" - The LUN is for normal blocks access,<br>• "protocol_endpoint" - The LUN is a vvol protocol endpoint,<br>• "vvol" - The LUN is a vvol data LUN.<br><br>The default value is "regular". |
| **comment** | | string optional | A description for the LUN being created. The comment can be at most 254 characters. |
| **file-name** | | string | A fully qualified filer path to the file to create the LUN from. This must be in the same qtree as the LUN being created. The file must also be in the root of the volume or in a qtree/regular directory in the root of the volume or in a regular directory in a qtree. |
| **ostype** | | lun-os-type optional | The os type for the LUN. The default type if not specified is "image". It is strongly recommended for the caller of this API to avoid using the "image" type because it could result in misconfigured LUNs. For example, a lun with ostype "image" could suffer major performance penalties when a Windows host is trying to access it. |
| **path** | | string | Would be Path of the newly created LUN if successful. This Path must not exist already (i.e a file or dir with this same path). |
| **qos-adaptive-policy-group** | | string optional | QoS adaptive policy group defines measurable service level objectives (SLOs) that adjust based on the LUN's allocated space or used space. This field is available in Data ONTAP 9.4 and later |
| **qos-policy-group** | | string optional | QoS policy group defines measurable Service Level Objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a lun, the system will not monitor and control the traffic to it. This field is available in Data ONTAP 8.2 and later |
| **space-allocation-enabled** | | boolean optional | The space allocation attribute enables support for the SCSI Thin Provisioning features defined in the Logical Block Provisioning section of the SCSI SBC-3 standard. Hosts and file systems that do not support SCSI Thin Provisioning should not enable space |

| | | | |
|---|---|---|---|
| | | | allocation. The default is false. |
| **space-reservation-enabled** | | boolean optional | Default is true. If it is desired to manage space usage manually instead, this can be set to false which will create a LUN without any space being reserved. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **actual-size** | **[0..2^63-1]** | integer | The actual size of the LUN that was created, in bytes. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EOFFLINE** | |
| **EISDIR** | |
| **EONTAPI_EEXIST** | |
| **ENAMETOOLONG** | |
| **EONTAPI_ENOENT** | |
| **EFTYPE** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_ENOSPC** | |
| **EOP_DISALLOWED_VSERVER_ROOT** | |
| **EVDISK_ERROR_NOT_QTREE_ROOT** | |
| **EVDISK_ERROR_NO_SUCH_VOLUME** | |
| **EVDISK_ERROR_NO_SUCH_DIRECTORY** | |
| **EVDISK_ERROR_SOURCE_IS_VDISK** | |
| **EVDISK_ERROR_FILE_IS_SPC_RESERVED** | |
| **EVDISK_ERROR_INVALID_SNAPSHOT_PATH** | |
| **EVDISK_ERROR_NOT_IN_SAME_VOLUME** | |
| **EVDISK_ERROR_SIZE_TOO_SMALL** | |
| **EVDISK_ERROR_SIZE_TOO_LARGE** | |
| **EVDISK_ERROR_VDISK_EXISTS** | |
| **EVDISK_ERROR_VOLUME_SPARSE** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_SOURCE_IS_VMALIGNED** | |
| **EVDISK_ERROR_UNSUPPORTED_INPUT** | |
| **EVDISK_ERROR_TOO_MANY_LUNS** | |
| **E_QOS_OBJECT_OVERLAP_ERROR** | |
| **E_QOS_NO_SUCH_PG** | |
| **E_QOS_TOO_MANY_USER_WIDS** | |
| **E_QOS_VSERVERIZATION_VIOLATION** | |
| **E_QOS_LUN_CREATE_MODIFY** | |
| **E_QOS_LUN_PG_REMOVE** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-create-from-snapshot

[top]

Creates a LUN in the active file system. The lun has the same initial contents as the referenced snapshot copy of an existing lun. (Note that no copy of the data is made.) Future writes go into the new lun. Reads of unmodified data are satisfied from the snapshot location. Reads of modified data are satisfied by first attempting to find the required buffer in the new lun. If a buffer is not found (buffer corresponds to a hole), it is looked for in the snapshot copy instead.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN. |
| **snapshot-lun-path** | | string | LUN path in the snapshot to be created from. |
| **space-reservation-enabled** | | boolean optional | By default, the lun is space-reserved. If it is desired to manage space usage manually instead, this can be set to "false" which will create a LUN without any space being reserved. |
| **type** | | lun-os-type optional | The os type for the LUN. The default type if not specified is "image". It is strongly recommended for the caller of this API to avoid using the "image" type because it could result in misconfigured LUNs. For example, a lun with ostype "image" could suffer major performance penalties when a Windows host is trying to access it. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **actual-size** | **[0..2^63-1]** | integer | The actual size of the LUN that was created, in bytes. |

| Errno |
|---|
| **EINVALIDINPUTERROR** |
| **EOFFLINE** |
| **EISDIR** |
| **EONTAPI_EEXIST** |
| **ENAMETOOLONG** |
| **EONTAPI_ENOENT** |
| **EFTYPE** |
| **EONTAPI_EINVAL** |
| **EONTAPI_ENOSPC** |
| **EVDISK_ERROR_NOT_QTREE_ROOT** |
| **EVDISK_ERROR_NO_SUCH_VOLUME** |
| **EVDISK_ERROR_NO_SUCH_DIRECTORY** |
| **EVDISK_ERROR_SOURCE_IS_VDISK** |
| **EVDISK_ERROR_FILE_IS_SPC_RESERVED** |
| **EVDISK_ERROR_INVALID_SNAPSHOT_PATH** |
| **EVDISK_ERROR_NOT_IN_SAME_VOLUME** |
| **EVDISK_ERROR_SIZE_TOO_SMALL** |
| **EVDISK_ERROR_SIZE_TOO_LARGE** |
| **EVDISK_ERROR_VOLUME_SPARSE** |
| **EVOLUMEBUSY** |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-destroy

[top]

Destroy the specified LUN. This operation will fail if the LUN is currently mapped and is online. The force option can be used to destroy it regardless of being online or mapped.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destroy-application-lun** | | boolean optional | Required to delete a LUN that belongs to an application. If true, override checks that prevent a LUN from being destroyed while it is part of an application. The default if not specified is "false". This field is available in Data ONTAP 9.2 and later. |
| **destroy-fenced-lun** | | boolean optional | If "true", override checks that prevent a LUN from being destroyed while it is fenced. If "false", attempting to destroy a fenced LUN will fail. The default if not specified is "false". This field is available in Data ONTAP 8.2 and later. |
| **force** | | boolean optional | If "true", override checks that prevent a LUN from being destroyed if it is online and mapped. If "false", destroying an online and mapped LUN will fail. The default if not specified is "false". |
| **path** | | string | Path of the LUN. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_ENOENT** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_VDISK_EXPORTED** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_VOLUME_TRANSITIONING** | |
| **EVDISK_ERROR_LUN_IN_SYNC_DR_CG** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-generate-serial

[top]

Generate a LUN Serial Number for later use.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **serial-number** | | string | Serial Number |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# lun-get-attribute

[top]

Get a named attribute for a given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Attribute to get. |
| **path** | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **value** | | string | Value of the attribute. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVDISK_ERROR_NO_SUCH_ATTRIBUTE** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-get-attributes

[top]

Get named attributes for a given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | Filter for the requested attribute names. SMF wildcards are allowed. If not specified, all available attributes on the LUN will be returned. |
| **path** | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | lun-attribute-info[] optional | List of selected attribute name/value pairs. If there are not user attributes set on the LUN, or no attributes match the 'name' filter if specified, this field will not be returned. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |

# lun-get-comment

[top]

Get the optional descriptive comment for a LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **comment** | | string | Comment for given LUN. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_ENOMEM** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_NO_SUCH_ATTRIBUTE** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-get-geometry

[top]

Get SCSI disk geometry for a given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **bytes-per-sector** | **[0..2^31-1]** | integer | Sector size in bytes. |
| **cylinders** | **[0..2^31-1]** | integer optional | Number of cylinders in the LUN The size of the LUN can be calculated like this: cylinders tracks-per-cylinder sectors-per-track X bytes-per-sector ---------- size This field is not present for LUNs that do not report Cylinder-Head-Sector geometry. |
| **max-resize-size** | **[0..2^63-1]** | integer | The maximum size this LUN can be resized to in bytes. LUN resize for LUNs that report Cylinder-Head-Sector (CHS) geometry is limited by the lun cylinder size which can not be increased beyond 65535. This number is calculated using a cylinder count of 65535, in place of the LUNs actual cylinder size. LUNs that do not report CHS geometry may be resized to the maximum LUN size supported by the current Data ONTAP version. |
| **sectors-per-track** | **[0..2^31-1]** | integer optional | Number of sectors in a track. This field is not present for LUNs that do not report Cylinder-Head-Sector geometry. |
| **size** | **[0..2^63-1]** | integer | LUN size in bytes. |
| **tracks-per-cylinder** | **[0..2^31-1]** | integer optional | Number of tracks in a cylinder. This is also commonly referred to as the number of heads. This field is not present for LUNs that do not report Cylinder-Head-Sector geometry. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-get-inquiry-info

[top]

Get the SCSI INQUIRY response data for vendor id (vid), product id (pid), and firmware revision (rev) based on the igroup that the lun in question is mapped to.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | The initiator group for which the vid/pid/rev information is to be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **firmware-revision** | | string | SCSI INQUIRY response revision (padded with spaces to 4-characters). |
| **product-id** | | string | SCSI INQUIRY response product id (padded with spaces to 16-characters). |
| **vendor-id** | | string | SCSI INQUIRY response vendor id (padded with spaces to 8-characters). |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-get-iter

[top]

Iterate over a list of lun objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | lun-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **disallow-lldb** | | boolean optional | Disallow use of the LUN location database. When true, this will cause the system to scan every volume for LUNs rather than directing the search to only those volumes known to have LUNs. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | lun-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the lun object. All lun objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | lun-info[] optional | The list of attributes of lun objects. |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more lun objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |
| **volume-errors** | | volume-error[] optional | List of errors encountered while retrieving LUN inventory |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# lun-get-maxsize

[top]

Returns the maximum possible size in bytes of a lun on a given volume or qtree. The user can pass the path to a volume or qtree in which the lun is to be created. This returns the maximum size for different types of LUNs and the possible maximum size with or without snapshot reserves.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the volume or qtree. |
| **type** | | lun-os-type | OS type of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **with-complete-snapshot-reserve** | **[0..2^63-1]** | integer | Maximum possible size for LUN with snapshot reserve assuming 100% fractional reserve |
| **with-snapshot-reserve** | **[0..2^63-1]** | integer | Maximum possible size for LUN with snapshot reserve. |
| **without-snapshot-reserve** | **[0..2^63-1]** | integer | Maximum possible size for LUN without snapshot reserve. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_ENOENT** | |
| **EOP_DISALLOWED_VSERVER_ROOT** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-get-minsize

[top]

Returns the minimum possible size in bytes. This returns the minimum size for different types of LUNs (based on the specified OS type). Space reservation does not affect the minimum lun size, thus only a single minimum size is returned.

| Input Name | Range | Type | Description |
|---|---|---|---|

| type | | lun-os-type | OS type of the LUN. |
|---|---|---|---|

| Output Name | Range | Type | Description |
|---|---|---|---|
| min-size | [0..2^63-1] | integer | Minimum possible size for LUN. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |

# lun-get-occupied-size

[top]

Get the size occupied by the LUN in the active FS.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| occupied-size | [0..2^63-1] | integer | Size occupied by the LUN in the Active FS in bytes. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EONTAPI_ENOMEM | |
| EVDISK_ERROR_NO_SUCH_VDISK | |
| EONTAPI_ESTALE | |
| EVOLUMEBUSY | |

| Vfiler-enabled |
|---|
| Yes |

# lun-get-persistent-reservation-info

[top]

Get the persistent reservation information for a given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | string | Path of the lun. The path should start with '/vol/'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| persistent-reservation | | persistent-reservation-info[] optional | This is the persistent reservation information for a given I_T nexus if any exist for the given lun. The communication path and state between an initiator and a target is called an Initiator_Target Nexus, or I_T Nexus. The I_T Nexus is the owner of the persistent reservation information. There can be several I_T Nexus that have registered per lun. Each I_T Nexus can only register one time per lun. |

| Errno | Description |
|---|---|
| EVDISK_ERROR_NO_SUCH_VDISK | |

| | |
|---|---|
| **EONTAPI_ENOMEM** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| Yes |

# lun-get-select-attribute

[top]

Get the select attribute for the specified LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **creation-time** | | string | The time this lun was created, in human readable format. This field is deprecated in Data ONTAP 8.1. Instead, use creation-timestamp. |
| **creation-timestamp** | **[0..2^31-1]** | integer | The time this lun was created, in seconds since January 1, 1970. This field is available in Data ONTAP 8.1 and later. |
| **previous-serial** | | string optional | The serial number of the previous lun. If this lun is not a clone or copy, no previous-serial number exists. |
| **select-attribute** | | string | The select attribute for the lun. Possible values:<br>• "active" - this is an active lun,<br>• "copy" - this is a clone or copy of an active lun,<br>• "mirror" - this is a mirror of an active lun. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| Yes |

# lun-get-serial-number

[top]

Get the serial number for the specified LUN. Prior to Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and slash (/) and hyphen (-) characters. Starting Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and the characters /-#$%&*+<=>?[!]^~@ .

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **serial-number** | | string | Serial number for the LUN. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-get-space-reservation-info

[top]

Queries the space reservation settings for the named LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Name of the LUN to be queried. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean | Whether or not the LUN has space reservation enabled. |

| Errno | Description |
|---|---|
| **EFILENOTFOUND** | |
| **EINTERNALERROR** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-get-target-device-id

[top]

Returns the SCSI Target Device Id.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **lun-serial-id** | | string | Serial number of the lun. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **target-device-id** | | string | SCSI Target Device Id. This is defined by Network Appliance. Currently a string of numbers preceded by "naa.600A098". |

| Errno | Description |
|---|---|

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |

| Vfiler-enabled |
|---|
| Yes |

# lun-get-vdisk-attributes

[top]

Lookup a LUN path and storage system by serial number.

| Input Name | Range | Type | Description |
|---|---|---|---|
| serial-number | | string | Serial number for the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| filer-name | | string | In Data ONTAP 7-Mode, this is the name of the storage system or vfiler containing the LUN. In Data ONTAP Cluster-Mode, this is the name of the Vserver containing the LUN. |
| path | | string | Path for the specified LUN, for example: "/vol/vol0/lun1". |
| vdisk-snapshot-name | | string | Path to the backing snapshot file for the LUN, for example: "/vol/vol1/.snapshot/snapshot/lun". This field will be empty if the LUN is not backed by a snapshot file. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EONTAPI_EROFS | |
| ENOENT | |
| EVDISK_ERROR_NO_SUCH_VDISK | |
| EVOLUMEBUSY | |

| Vfiler-enabled |
|---|
| Yes |

# lun-has-scsi-reservations

[top]

Queries for all types of scsi reservations covering both iSCSI and FCP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | string | Path of the lun. The path should start with '/vol/'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| is-reservation-held | | boolean | 'true' if given LUN has a scsi-2 or scsi-3 style reservation held, 'false' otherwise. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| | |

| | |
|---|---|
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

# lun-import-create

[top]

Create a LUN import relationship with the purpose of importing foreign disk data into the LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **foreign-disk** | | string | Foreign Disk Serial Number |
| **path** | | lun-path | Path of the LUN |
| **vserver** | | string | Vserver containing the LUN |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EFLI_ERROR_NO_SUCH_FOREIGN_DISK** | |
| **EFLI_ERROR_DISK_NOT_MARKED_FOREIGN** | |
| **EFLI_FOREIGN_DISK_ALREADY_IN_IMPORT** | |
| **EFLI_LUN_ALREADY_IN_IMPORT** | |
| **EFLI_CAPACITY_MISMATCH** | |
| **EFLI_BLOCK_SIZE_MISMATCH** | |
| **EFLI_FOREIGN_DISK_NOT_ACCESSIBLE** | |
| **EFLI_FOREIGN_DISK_HAS_NO_LOCAL_PATH** | |
| **EFLI_FOREIGN_DISK_OPEN_FAILED** | |
| **EFLI_LUN_NOT_MAPPED** | |
| **EFLI_LUN_NOT_BOUND** | |
| **EFLI_FOREIGN_DISK_HAS_RESERVATIONS_ZAPI** | |
| **EFLI_LUN_SHOULD_BE_OFFLINE** | |
| **EFLI_NOT_REGULAR_LUN** | |
| **EFLI_SPACE_ALLOC_NOT_ALLOWED** | |
| **E_SAN_NOT_READY** | |

# lun-import-delete

[top]

Deletes the import relationship of the specified LUN or the specified foreign disk.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force flag. If set to true, the import relationship would be deleted even if import is in progress. Default: false |
| **foreign-** | | string | |

| | | | |
|---|---|---|---|
| **disk** | | optional | Foreign disk serial number |
| **path** | | lun-path optional | Path of the LUN |
| **vserver** | | string optional | Vserver containing the LUN |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EFLI_ERROR_NO_SUCH_FOREIGN_DISK** | |
| **EFLI_LUN_NOT_IN_IMPORT** | |
| **EFLI_FOREIGN_DISK_NOT_IN_IMPORT** | |
| **EFLI_IMPORT_IN_PROGRESS** | |
| **EFLI_IMPORT_VERIFY_IN_PROGRESS** | |
| **EFLI_FOREIGN_DISK_IMPORT_IN_PROGRESS** | |
| **EFLI_FOREIGN_DISK_IMPORT_VERIFY_IN_PROGRESS** | |
| **EFLI_DELETE_NO_LUN** | |
| **EFLI_DELETE_NO_LUN_FOREIGN_DISK** | |
| **E_SAN_NOT_READY** | |

# lun-import-get-iter

[top]

Iterate over a list of LUN objects that are in a relationship with a foreign disk.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | lun-import-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | lun-import-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Foreign LUN Import relationship object. All Foreign LUN Import relationship objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | lun-import-info[] optional | The list of attributes of Foreign LUN Import relationship objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Foreign LUN Import relationship objects to return. |
| **num-records** | **[0..2^32-** | integer | The number of records returned in this call. |

| | | | |
|---|---|---|---|
| | 1] | | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# lun-import-pause

[top]

Pause the import for the specified LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | lun-path | LUN Path |
| vserver | | string | Vserver Name |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVDISK_ERROR_NO_SUCH_VDISK | |
| EFLI_LUN_NOT_IN_IMPORT | |
| EFLI_IMPORT_NOT_STARTED | |
| EFLI_IMPORT_ALREADY_STARTED | |
| EFLI_IMPORT_COMPLETED | |
| EFLI_NOT_CURRENT_NODE | |
| E_SAN_NOT_READY | |

# lun-import-resume

[top]

Resume the import for the specified LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | lun-path | LUN Path |
| vserver | | string | Vserver Name |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVDISK_ERROR_NO_SUCH_VDISK | |
| EFLI_LUN_NOT_IN_IMPORT | |
| EFLI_IMPORT_NOT_PAUSED | |
| EFLI_RESUME_FAILED | |
| EFLI_NOT_CURRENT_NODE | |
| E_SAN_NOT_READY | |

# lun-import-start

[top]

Start the import for the specified LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | lun-path | LUN Path |
| **vserver** | | string | Vserver Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EFLI_LUN_NOT_IN_IMPORT** | |
| **EFLI_IMPORT_VERIFY_IN_PROGRESS** | |
| **EFLI_IMPORT_ALREADY_STARTED** | |
| **EFLI_IMPORT_IN_PAUSED_ZAPI** | |
| **EFLI_DST_NO_SPACE** | |
| **EFLI_DST_NOT_AVAILABLE** | |
| **EFLI_VERIFY_ACTIVE** | |
| **EFLI_NOT_CURRENT_NODE** | |
| **E_SAN_NOT_READY** | |

# lun-import-stop

[top]

Stop and abort the import for the specified LUN. All import checkpoint data will be lost.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | lun-path | LUN Path |
| **vserver** | | string | Vserver Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EFLI_LUN_NOT_IN_IMPORT** | |
| **EFLI_IMPORT_NOT_STARTED** | |
| **EFLI_IMPORT_ALREADY_STOPPED** | |
| **EFLI_NOT_READY** | |
| **EFLI_NOT_CURRENT_NODE** | |
| **E_SAN_NOT_READY** | |

# lun-import-throttle

[top]

Modify the max throughput limit for the specified import relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **max-throughput-limit** | | size | Maximum Throughput Limit(in bytes per sec) at which the given import will be throttled. |
| **path** | | lun-path | Path of the LUN |
| **vserver** | | string | Vserver containing the LUN |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EFLI_LUN_NOT_IN_IMPORT** | |
| **EFLI_NOT_CURRENT_NODE** | |
| **EFLI_THROTTLE_NOSUPPORT** | |
| **E_SAN_NOT_READY** | |

# lun-import-verify-start

[top]

Start the verification of the foreign disk and LUN data. The import admin/operational state must be stopped/stopped or started/completed. The verification does a block for block comparison of the LUN and foreign disk. If the verification detects a mismatch between the foreign disk and LUN then the verify will stop.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | lun-path | Path of the LUN |
| **vserver** | | string | Vserver containing the LUN |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EFLI_LUN_NOT_IN_IMPORT** | |
| **EFLI_IMPORT_VERIFY_ALREADY_STARTED** | |
| **EFLI_NOT_CURRENT_NODE** | |
| **EFLI_IMPORT_NOT_COMPLETE** | |
| **EFLI_LUN_ONLINE_VERIFY_FAIL** | |
| **E_SAN_NOT_READY** | |

# lun-import-verify-stop

[top]

Stop the verify for the specified LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | lun-path | Path of the LUN |
| **vserver** | | string | Vserver containing the LUN |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVDISK_ERROR_NO_SUCH_VDISK | |
| EFLI_LUN_NOT_IN_IMPORT | |
| EFLI_IMPORT_VERIFY_NOT_IN_PROGRESS | |
| EFLI_NOT_CURRENT_NODE | |
| E_SAN_NOT_READY | |

# lun-initiator-list-map-info

[top]

List all the LUNs mapped to an initiator

| Input Name | Range | Type | Description |
|---|---|---|---|
| initiator | | string | initiator to check |

| Output Name | Range | Type | Description |
|---|---|---|---|
| lun-maps | | lun-map-info[] optional | List of lun maps for the given initiator. |

| Errno | Description |
|---|---|
| EINVAL | |
| EAPIERROR | |

| Vfiler-enabled |
|---|
| Yes |

# lun-initiator-logged-in

[top]

Determine if an initiator is logged in via FCP or iSCSI.

| Input Name | Range | Type | Description |
|---|---|---|---|
| initiator | | string | Name of FCP or iSCSI initiator to check. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| is-logged-in | | boolean | true if initiator is logged into the filer, false otherwise. |

| Errno | Description |
|---|---|
| EINVAL | |
| EAPIERROR | |

| Vfiler-enabled |
|---|
| Yes |

# lun-list-info

[top]

Get the status (size, online/offline state, shared state, comment string, serial number, LUN mapping) of the given LUN, or all LUNs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **get-clone-backing-snapshot** | | boolean optional | If specified, the name of the backing snapshot for a LUN clone is returned. The default value is false. |
| **path** | | string optional | Path of LUN. If specified, only the information of that LUN is returned. This option can only be used if volume-name is not used. |
| **volume-name** | | string optional | Name of a volume. If specified, only the information of the LUNs in that volume is returned. This option can only be used if path is not specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **are-vols-busy** | | boolean | Indicates whether any volumes are moving. If true, the output of this command cannot be considered authoritative. Users needing authoritative data should retry until this output parameter is false. |
| **are-vols-onlining** | | boolean | Indicates whether any volumes are still in the process of onlining. If true, the output of this command cannot be considered authoritative. Users needing authoritative data should retry until this output parameter is false. |
| **luns** | | lun-info[] | Information of a list of LUNs. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **ENOSYS** | |
| **EONTAPI_ENOMEM** | |
| **EONTAPI_ESTALE** | |
| **EVDISK_ERROR_VOLUMES_ONLINING** | |
| **EVDISK_ERROR_NO_SUCH_VOLUME** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-map

[top]

Maps the LUN to all the initiators in the specified initiator group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **additional-reporting-node** | | node-name optional | Report the newly created LUN map from the specified node and its HA partner in addition to the current owning nodes of the LUN. This field is available in Data ONTAP 8.3 and later. |
| **force** | | boolean optional | Forcibly map the lun, disabling mapping conflict checks with the high-availability partner. If not specified all conflict checks are performed. In Data ONTAP Cluster-Mode, this field is accepted for backwards compatibility and is ignored. |
| **initiator-group** | | string | Initiator group to map to the given LUN. |
| **lun-id** | **[0..4095]** | integer optional | If the lun-id is not specified, the smallest number that can be used for the various initiators in the group is automatically picked. |
| **path** | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **lun-id-assigned** | **[0..4095]** | integer | LUN ID assigned for this map. If lun-id is not supplied, this will be an auto-assigned LUN ID, otherwise it will be the same as the supplied LUN ID if map is successful. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_ENOSPCAGGR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_INITGROUP_HAS_VDISK** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_NO_EXPORTED_VDISK_SHARE_WRITE** | |
| **EVDISK_ERROR_PARTNER_HAS_LUN** | |
| **EVDISK_ERROR_PARTNER_NOT_REACHABLE** | |
| **EVDISK_ERROR_LUN_HAS_ALUA_ENABLED_ISCSI_IGROUP** | |
| **EVDISK_ERROR_LUN_HAS_ALUA_ENABLED_FCP_IGROUP** | |
| **EVDISK_ERROR_LUN_HAS_ISCSI_IGROUP** | |
| **EVDISK_ERROR_LUN_HAS_FCP_IGROUP** | |
| **EVDISK_ERROR_LUN_HAS_ALUA_CONFLICTS** | |
| **EVDISK_ERROR_TOO_MANY_LUNS** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEOFFLINE** | |
| **E_SAN_MISSING_REQUIRED_LIFS** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-map-add-reporting-nodes

[top]

Add nodes to the list reporting the LUN map. If no specific action is provided, adds all the nodes in the current failover group for the LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **all** | | boolean optional | When specified and true, report the LUN from all eligible nodes. |

| | | | |
|---|---|---|---|
| **destination-aggregate** | | string optional | The name of an aggregate. When specified, adds the nodes appropriate for the aggregate in preparation for a mobility event that will change the LUN's containing aggregate to the value specified. |
| **destination-volume** | | string optional | The name of a volume. When specified, addds teh nodes appropriate for the volume in preparation for a mobility event that will change the LUN's containing volume to the value specified. |
| **igroup** | | string | The initiator group the LUN is mapped to. |
| **nodes** | | filer-id[] optional | The name of one or more nodes. When specified, add the specific nodes and HA partners to the map. |
| **path** | | string | The path of the LUN. |

| Errno | Description |
|---|---|
| **EAGGRDOESNOTEXIST** | |
| **EAPIUNSUPPORTEDVERSION** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EDISABLED** | |
| **EVDISK_ERROR_NO_SUCH_LUNMAP** | |
| **EVOLUMEDOESNOTEXIST** | |
| **E_SAN_NOT_READY** | |

# lun-map-get-iter

[top]

Iterate over a list of LUN map detail objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | lun-map-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | lun-map-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the LUN map detail object. All LUN map detail objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | lun-map-info[] optional | The list of attributes of LUN map detail objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more LUN map detail objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| | | | |
|---|---|---|---|
| **volume-errors** | | volume-error[] optional | List of errors encountered while retrieving LUN inventory |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# lun-map-list-info

[top]

Returns a list of initiator groups and their members (the initiators) mapped to the given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | LUN for which the initiator group list is requested. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **initiator-groups** | | initiator-group-info[] optional | List of initiator groups that are mapped to the given LUN. |

| Errno | Description |
|---|---|
| **EFILENOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-map-remove-reporting-nodes

[top]

Remove nodes from the list reporting the LUN map. If no specific action is provided, remove all nodes not in the current failover group for the LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **igroup** | | string | The initiator group the LUN is mapped to. |
| **nodes** | | filer-id[] optional | The name of one or more nodes. When specified, remove the specific nodes and HA partners from the map. |
| **path** | | string | The path of the LUN. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EDISABLED** | |
| **EVDISK_ERROR_NO_SUCH_LUNMAP** | |
| **E_SAN_NOT_READY** | |

# lun-move

[top]

Move (rename) a LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-path** | | string | New path of the LUN being moved to. |
| **path** | | string | Path of the LUN to be moved. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EISDIR** | |
| **EONTAPI_EEXIST** | |
| **EOFFLINE** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_NOT_QTREE_ROOT** | |
| **EVDISK_ERROR_NOT_IN_SAME_VOLUME** | |
| **EVDISK_ERROR_VDISK_EXISTS** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IN_SYNC_DR_CG** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-move-cancel

[top]

Cancels an ongoing LUN move operation prior to creation of the new LUN. This operation will fail if the LUN already exists at the destination path; in that case, allow the current move operation to complete and then move it back using the lun-move-start API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-uuid** | | uuid | Specifies the universally unique ID (UUID) of the job that started this move operation. |
| **lun-index** | | integer optional | Specifies an additional unique element identifying one LUN among many that could be possibly moved as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN move operations that involve only one LUN, the lun-index value of zero is always correct. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EOD_INVALID_ECV** | |

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EOD_CANT_CANCEL_OPERATION** | |

# lun-move-get-iter

[top]

Iterate over a list of LUN move job detail objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | lun-move-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | lun-move-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the LUN move job detail object. All LUN move job detail objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | lun-move-info[] optional | The list of attributes of LUN move job detail objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more LUN move job detail objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# lun-move-modify

[top]

Modifies the maximum throughput of an ongoing move operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-uuid** | | uuid | Specifies the universally unique ID (UUID) of the job that started this move operation. |
| **lun-index** | | integer optional | Specifies an additional unique element identifying one LUN among many that could be possibly moved as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN move operations that involve only one LUN, the lun-index value of zero is always correct. |
| | | | Specifies the maximum amount of data, in bytes, that can be transferred |

| | | | |
|---|---|---|---|
| **max-throughput** | | size | per second in support of this operation. This mechanism can be used to throttle a transfer, to reduce its impact on the performance of the source and destination nodes. Default: zero, indicating no throttling. NOTE: The specified value will be rounded up to the nearest megabyte. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EOD_INVALID_ECV** | |
| **EOBJECTNOTFOUND** | |

# lun-move-pause

[top]

Pauses an ongoing LUN move operation. Use the lun-move-resume API to resume the move operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-uuid** | | uuid | Specifies the universally unique ID (UUID) of the job that started this move operation. |
| **lun-index** | | integer optional | Specifies an additional unique element identifying one LUN among many that could be possibly moved as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN move operations that involve only one LUN, the lun-index value of zero is always correct. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EOD_INVALID_ECV** | |
| **EOBJECTNOTFOUND** | |

# lun-move-resume

[top]

Resumes a paused LUN move operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-uuid** | | uuid | Specifies the universally unique ID (UUID) of the job that started this move operation. |
| **lun-index** | | integer optional | Specifies an additional unique element identifying one LUN among many that could be possibly moved as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN move operations that involve only one LUN, the lun-index value of zero is always correct. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EOD_INVALID_ECV** | |
| **EOBJECTNOTFOUND** | |

# lun-move-start

[top]

Starts a LUN move operation to move one or more LUNs from one volume to another within a Vserver. The destination volume can be located on the same node as the source volume or on a different node. NOTE: LUNs created from files cannot be moved.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **max-throughput** | **[0..2^63-1]** | integer optional | Specifies the maximum amount of data, in bytes, that can be transferred per second in support of this operation. This mechanism can be used to throttle a transfer, to reduce its impact on the performance of the source and destination nodes. Default: zero, indicating no throttling. NOTE: The specified value will be rounded up to the nearest megabyte. |
| **paths** | | lun-path-pair[] | Specifies an array of source and destination path pairs. If more than one pair of paths is specified, multiple LUNs will be moved. All the source LUNs must be on the same volume. All the LUNs must be moved into a single volume. |
| **promote-late** | | boolean optional | Specifies that the destination needs to be promoted late. Default: false. If the destination is promoted early, the new LUN will be visible immediately. Snapshots of the volume containing the new LUN cannot be taken until the LUN move operation reaches 'Moving Data' status. If the destination is promoted late, the new LUN will be visible only after it has been fully framed. The LUN move job will not block snapshots of the volume containing the new LUN. |
| **reference-path** | | string optional | Specifies the full path to the source reference LUN, of the form /vol/[/]/. If a reference LUN is specified, data for other LUNs being moved will be transferred as a difference from the reference LUN. This might save bandwidth and destination storage if the specified source LUNs share blocks. If provided, this input must be the same as one of the source LUN paths. This input is not allowed if only one source LUN is specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **job-uuid** | | uuid | Specifies universally unique ID (UUID) for the LUN move job. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EOD_INVALID_ECV** | |
| **EOD_DEST_LUN_EXISTS** | |
| **EOD_DEST_LUNS_NOT_ON_SAME_VOLUME** | |
| **EOD_MOVE_DUP_DEST_PATH** | |
| **EOD_DEST_IS_FLEXCACHE** | |
| **EQTREE_DOES_NOT_EXIST** | |
| **EOP_DISALLOWED_VSERVER_ROOT** | |
| **EOD_SRC_LUN_NOT_FOUND** | |
| **EOD_SRC_LUNS_NOT_ON_SAME_VOLUME** | |
| **EOD_SRC_LUN_IS_PE** | |
| **EOD_LUN_IN_NVFAILED_STATE** | |
| **EFLI_LUN_BOUND_TO_FLI_ERROR** | |
| **EOD_LUN_MAX_COUNT_VIOLATION** | |

| | |
|---|---|
| **EOD_REF_PATH_NOT_IN_SOURCE_PATHS** | |
| **E_SAN_MISSING_REQUIRED_LIFS** | |
| **E_SAN_NOT_READY** | |
| **EOD_MOVE_DEST_IS_SNAPSHOT** | |
| **EOD_SRC_IS_DP** | |
| **EOD_SRC_IS_SNAPSHOT** | |
| **EOD_DEST_IN_CFT_PRECOMMIT** | |
| **E_SAN_NOT_READY** | |

# lun-offline

[top]

Disables block-protocol accesses to the LUN. Mappings, if any, configured for the lun are not altered. Note that unless explicitly offlined, a lun is online.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_VDISK_NOT_ENABLED** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IS_BUSY** | |
| **EFLI_LUN_BOUND_TO_FLI_ERROR** | |
| **EVDISK_ERROR_VOLUME_TRANSITIONING** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-online

[top]

Re-enables block-protocol accesses to the lun.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Forcibly online the lun, disabling mapping conflict checks with the high-availability partner. If not specified all conflict checks are performed. In Data ONTAP Cluster-Mode, this field is accepted for backwards compatibility and is ignored. |
| **path** | | string | Path of the LUN. |

| Errno | Description |
|---|---|
| | |

| | |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_VDISK_NOT_DISABLED** | |
| **EVDISK_ERROR_NO_EXPORTED_VDISK_SHARE_WRITE** | |
| **EVDISK_ERROR_PARTNER_HAS_LUN** | |
| **EVDISK_ERROR_PARTNER_NOT_REACHABLE** | |
| **EVDISK_ERROR_LUN_HAS_NO_SERIAL_NO** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IS_BUSY** | |
| **EVDISK_ERROR_VOLUME_TRANSITIONING** | |
| **EFLI_VERIFY_LUN_ONLINE_FAIL** | |
| **EFLI_CREATE_RESYNC_PENDING** | |
| **E_SAN_NOT_READY** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

# lun-os-type-list

[top]

Displays the supported values and descriptions for lun-os-type.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **ostypes** | | system-api-enum-value-info[] | Enumeration type name/value pair |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# lun-port-has-scsi-reservations

[top]

Queries for all types of scsi reservations covering both iSCSI and FCP for a given initiator name. Initiator name can be FCP portname in case of FCP or iSCSI node name for iSCSI.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the lun. The path should start with '/vol/'. |
| **portname** | | string | Initiator FCP portname or iSCSI node name. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-reservation-held** | | boolean | 'true' if given LUN has a scsi-2 or scsi-3 style reservation held, 'false' otherwise. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |

| | |
|---|---|
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |

| Vfiler-enabled |
|---|
| Yes |

# lun-reset-stats

[top]

Resets (zeroes) block-protocol access statistics for LUN(s).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string optional | Path of the LUN. If path is specified, the stats of that LUN will be reset. If path is not specified, stats of all LUNs are reset. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| Yes |

# lun-resize

[top]

Changes the size of the LUN. Note that client-side operations may be needed to ensure that client software recognizes the changed size. For Data ONTAP Cluster-Mode 8.3 and later, LUN resize is not allowed while the LUN is in import relationship with a Foreign LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Forcibly reduce the size. This is required for reducing the size of the LUN to avoid accidentally reducing the LUN size. |
| **path** | | string | Path of the LUN. |
| **size** | **[0..2^63-1]** | integer | New size for the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **actual-size** | **[0..2^63-1]** | integer | Actual new size. This may be different from the specified size due to the requested size not fitting on a cylinder boundary. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_SIZE_TOO_LARGE** | |
| **EVDISK_ERROR_RESIZE_TOO_LARGE** | |

| | |
|---|---|
| **EONTAPI_NOSPC** | |
| **EVDISK_ERROR_MUST_SPECIFY_F_FLAG** | |
| **EVDISK_ERROR_SIZE_TOO_SMALL** | |
| **EVDISK_ERROR_SIZE_UNCHANGED** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_VOLUME_UNPROCESSED** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IS_BUSY** | |
| **EFLI_LUN_BOUND_TO_FLI_ERROR** | |
| **EVDISK_ERROR_VOLUME_TRANSITIONING** | |
| **EVDISK_SYNC_CAPB_MISMATCH** | |
| **E_SAN_NOT_READY** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

# lun-restore-status

[top]

Get state of LUN restore.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-running** | | boolean | 'true' if file restore is currently running for this vdisk, 'false' otherwise. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

# lun-set-attribute

[top]

Set a named attribute for a given LUN. Attributes are arbitrary key/value pairs for application-defined use.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Application-defined attribute to set. In order to prevent conflicts between separate applications, it is recommended that applications prefix attribute |

| | | | |
|---|---|---|---|
| **name** | | string | names with their registered Internet domain name reversed component by component, and an application identifier. For example: "com.example.widgetapp.attribute". The following attributes are reserved by the system and may not be set: "custom", "cylinder_size", "dev_id", "enabled", "extent_size", "host_stamp", "path_last", "pserial", "pSerial", "serial", "snapshot", "snapshot_path_last", "type". In older versions of Data ONTAP, attempting to set a system-reserved attribute may adversely affect data integrity and availability of the storage system. Clients of this API must therefore take special care to not use any system-reserved attribute names. |
| **path** | | string | Path of the LUN. |
| **value** | | string | Value to set the attribute to. In Data ONTAP Cluster-mode, the combined size of "name" and "value" must not exceed 4092 bytes. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EONTAPI_EPERM** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_VOLUME_UNPROCESSED** | |
| **EVDISK_ERROR_ATTR_TOO_BIG** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IS_BUSY** | |
| **EONTAPI_EROFS** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-set-comment

[top]

Set the optional descriptive comment for a LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string | Comment to set for given LUN. |
| **path** | | string | Path of the LUN. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_ENOMEM** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_NO_SUCH_ATTRIBUTE** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_VOLUME_UNPROCESSED** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-set-device-id

[top]

Set a SCSI peripheral device identifying information value on a LUN. In Data ONTAP 7-Mode, the value set will be returned in response to the vendor unique SCSI command GET DEV ID. In Data ONTAP Cluster-Mode, the value set will be returned in response to the SCSI command REPORT IDENTIFYING INFORMATION for the appropriate INFORMATION TYPE:

- 0000000b - Peripheral Device Identifying Information, a binary string 1 to 64 bytes long. In addition, if the Peripheral Device Identifying Information is between 00000001h (1d) and 0000270Fh (9999d), it will be returned in response to the vendor unique SCSI command GET DEV ID.
- 0000010b - Peripheral Device Text Identifying Information, a UTF-8 string 1 to 255 bytes long.

Either or both peripheral device identifying information values may be set or cleared independently.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **device-id** | | string | SCSI Peripheral Device Identifying Information. In Data ONTAP 7-Mode or if device-id-type is "legacy", the value must be an integer in the range [1..9999]. If device-id-type is "binary", the value must be a 2 to 64 byte value encoded as a hexadecimal string, for example "0000270F". If device-id-type is "text", the value is a free-form UTF-8 string between 1 and 255 bytes in length. |
| **device-id-type** | | string optional | Indicate which peripheral device identifying information value to change. Possible values:<br>• "legacy" - Set the Peripheral Device Identifying Information for REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000000b) appropriate for the the vendor unique SCSI command GET DEV ID and in the format compatible with Data ONTAP 7-Mode,<br>• "binary" - Set the Peripheral Device Identifying Information for REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000000b). This format allows setting all 64 bytes of the identifying information,<br>• "text" - Set the Peripheral Device Text Identifying Information for REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000010b).<br>The default value is "legacy". |
| **path** | | string | Path of the LUN. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **VDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_VDISK_NOT_DISABLED** | |
| **EVDISK_ERROR_INVALID_DEVICE_ID** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_VOLUME_UNPROCESSED** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **E_SAN_NOT_READY** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IS_BUSY** | |

| Vfiler-enabled |
|---|

| Yes |
|---|

# lun-set-qos-policy-group

[top]

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | lun-path | Path of the LUN |
| **qos-adaptive-policy-group** | | string optional | QoS Adaptive Policy Group for the LUN. Setting this value to 'none' removes the LUN from an adaptive policy group. |
| **qos-policy-group** | | string optional | QoS Policy Group for the LUN. Setting this value to 'none' removes the lun from a policy group. |

| Errno | Description |
|---|---|
| **E_QOS_OBJECT_OVERLAP_ERROR** | |
| **E_QOS_NO_SUCH_PG** | |
| **E_QOS_TOO_MANY_USER_WIDS** | |
| **E_QOS_GENERAP_OP_ERROR** | |
| **E_QOS_VSERVERIZATION_VIOLATION** | |
| **E_QOS_LUN_CREATE_MODIFY** | |
| **E_QOS_LUN_PG_REMOVE** | |

# lun-set-select-attribute

[top]

Set the select attribute for the specified LUN. The select attribute is used by multi-pathing software to discriminate between LUNs when mirrored or cloned copies of a vdisk are mapped to the same host.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN. |
| **select-value** | | string | Sets the select attribute for the lun. Possible values:<br>• "active" - this is an active lun,<br>• "copy" - this is a clone or copy of an active lun,<br>• "mirror" - this is a mirror of an active lun. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_VOLUME_UNPROCESSED** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
| --- |
| Yes |

# lun-set-serial-number

[top]

Set the serial number for the specified LUN. The lun must first be made offline before changing the serial number. Prior to Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and slash (/) and hyphen (-) characters. Starting Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and the characters /-#$%&*+<=>?[!]^~@ . The caller must ensure the provided serial number is globally unique and not assigned to any other LUN on this or any other ONTAP cluster.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **path** | | string | Path of the LUN. |
| **serial-number** | | string | Serial number for the LUN. The caller must ensure the serial number is globally unique. |

| Errno | Description |
| --- | --- |
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_VDISK_NOT_DISABLED** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_VOLUME_UNPROCESSED** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IS_BUSY** | |

| Vfiler-enabled |
| --- |
| Yes |

# lun-set-share

[top]

Enables file system protocol-based access to a lun. By default, all accesses are disallowed. Note that file permissions and ACL entries still apply.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **path** | | string | Path of the LUN. |
| **share-type** | | string | Possible values: all, none, read, write |

| Errno | Description |
| --- | --- |
| **EINVALIDINPUTERROR** | |
| **VDISK_ERROR_NO_SUCH_VDISK** | |
| **VDISK_ERROR_NO_EXPORTED_VDISK_SHARE_WRITE** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
| --- |
| Yes |

# lun-set-space-alloc

[top]

Modify the attributes of lun object.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **enable** | | boolean | LUN space allocation setting |
| **path** | | lun-path | Path of the LUN |

| Errno | Description |
| --- | --- |
| **E_SAN_NOT_READY** | |

# lun-set-space-reservation-info

[top]

Sets the space reservation settings for the named LUN.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **enable** | | boolean | Enable or disable space reservation on this LUN. |
| **path** | | string | Path to the LUN for which the space reservations need to be set. |

| Errno | Description |
| --- | --- |
| **EFILENOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ESETSPCRESERROR** | |
| **EONTAPI_ENOSPC** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVDISK_ERROR_VOLUME_UNPROCESSED** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IS_BUSY** | |
| **EONTAPI_EROFS** | |

| Vfiler-enabled |
| --- |
| Yes |

# lun-snap-usage-list-info

[top]

Lists all LUNs backed by data in the specified snapshot. It also lists the corresponding snapshots in

which these LUNs exist.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | string | Name of the snapshot. |
| **volume** | | string | Name of the volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **lun-snap-usage-luns** | | lun-snap-usage-lun-info[] | List of LUNs backed by data in the specified snapshot. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVDISK_ERROR_NO_SUCH_VOLUME** | |
| **EVDISK_ERROR_NO_SUCH_SNAPSHOT** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-start

[top]

Starts block-protocol accesses to the lun.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN. The path should start with '/vol/' (for example, "/vol/vol0/lun1"). |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_ENOENT** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_VDISK_NOT_STOPPED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-stats-get-iter

[top]

Iterate over a list of lun objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | lun- | Specify the attributes that should be returned. If not present, all |

| | | | |
|---|---|---|---|
| **desired-attributes** | | stats-info optional | attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | lun-stats-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the lun object. All lun objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | lun-stats-info[] optional | The list of attributes of lun objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more lun objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# lun-stats-list-info

[top]

Get block-protocol access statistics (in bytes) for LUN(s).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string optional | Path of the LUN. If path is specified, only the stats of that LUN is returned. If path is not specified, stats of all LUNs are returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **lun-stats** | | lun-stats-info[] | List of LUN stats. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

[top]

# lun-unmap

Reverses the effect of lun-map on the specified LUN for the specified group. For Data ONTAP Cluster-Mode 8.3 and later, if LUN is in import relationship, the last LUN map can not be deleted.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group** | | string | Initiator group to unmap from. |
| **path** | | string | Path of the LUN. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_NO_EXPORTED_VDISK_SHARE_WRITE** | |
| **EVDISK_ERROR_NO_SUCH_EXPORT** | |
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEOFFLINE** | |
| **EFLI_LUN_BOUND_TO_FLI_ERROR** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-unset-attribute

[top]

Clear a named attribute for a given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of attribute to unset. The following attributes are reserved by the system and may not be unset: "custom", "cylinder_size", "dev_id", "enabled", "extent_size", "host_stamp", "path_last", "pserial", "pSerial", "serial", "snapshot", "snapshot_path_last", "type". In older versions of Data ONTAP, attempting to unset a system-reserved attribute may adversely affect data integrity and availability of the storage system. Clients of this API must therefore take special care to not use any system-reserved attribute names. |
| **path** | | string | Path of the LUN. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EONTAPI_EPERM** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_NO_SUCH_ATTRIBUTE** | |
| **EVDISK_ERROR_VOLUME_UNPROCESSED** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **E_SAN_NOT_READY** | |

| | |
|---|---|
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IS_BUSY** | |

| Vfiler-enabled |
|---|
| Yes |

# lun-unset-device-id

[top]

Remove a SCSI peripheral device identifying information value from a LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **device-id-type** | | string optional | Indicate which peripheral device identifying information to remove. Possible values:<br>• "binary" - Remove the Peripheral Device Identifying Information returned in response to the SCSI commands REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000000b) and GET DEV ID,<br>• "text" - Remove the Peripheral Device Text Identifying Information returned in response to the SCSI command REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000010b).<br>The default value is "binary". |
| **path** | | string | Path of the LUN. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **VDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_VDISK_NOT_DISABLED** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_VOLUME_UNPROCESSED** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **E_SAN_NOT_READY** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IS_BUSY** | |

| Vfiler-enabled |
|---|
| Yes |

# Element definition: **alua-setting-mismatch-initiator-group**

[top]

Information about an initiator group that has an ALUA (Asymmetric Logical Unit Access) setting mismatch on local and partner filers.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | name of the initiator group. |
| **local-alua-is-** | | boolean | true if ALUA (Asymmetric Logical Unit Access) is enabled for |

| | | | |
|---|---|---|---|
| **enabled** | | | initiator-group-name on the local filer. |
| **partner-alua-is-enabled** | | boolean | true if ALUA (Asymmetric Logical Unit Access) is enabled for initiator-group-name |

# Element definition: **alua-setting-mismatch-initiator-info**

[top]

Information about an initiator that is a member of igroups that have an alua setting mismatch. Also contains partner alua mismatch issues.

| Name | Range | Type | Description |
|---|---|---|---|
| **alua-is-enabled** | | boolean | true if ALUA (Asymmetric Logical Unit Access) is enabled for initiator-group-name. |
| **initiator-group-name** | | string | name of the initiator group name that the initiator belongs to. |
| **initiator-name** | | string | name of the initiator. |

# Element definition: **clone-status-info**

[top]

Status of a cloning.

| Name | Range | Type | Description |
|---|---|---|---|
| **blocks-completed** | | integer | Number of blocks completed. |
| **blocks-total** | | integer | Total blocks to clone. The percentage complete is (completed * 100) / total |
| **path** | | string | LUN path being cloned. |

# Element definition: **conflict-wwpn**

[top]

WWPN that has the conflict.

[none]

# Element definition: **conflicting-initiator-info**

[top]

Fibre channel initiator that belongs to igroups on the local filer which have a different OS type than the initiator groups that this initiator belongs to on the partner filer. This conflict can produce unexpected host behavior and must be fixed.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-local-os-type** | | initiator-group-os-type | OS type of the initiator on the local filer |

| | | | |
|---|---|---|---|
| **initiator-name** | | string | Fibre channel initiator node name that has a different OS type on the local filer than the partner filer. |
| **initiator-partner-os-type** | | initiator-group-os-type | OS type of the initiator on the partner filer |

# Element definition: **conflicting-luns-list**

[top]

List of the conflicting LUNs.

| Name | Range | Type | Description |
|---|---|---|---|
| **conflict-lun-path** | | string | Path of the lun that has the conflict. The format is: /vol// or /vol/// |

# Element definition: **conflicting-map-info**

[top]

lun mapping conflict.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-name** | | string | Fibre channel initiator node name that has a lun mapped from both filers in the cluster using the same LUN-id. |
| **lun-id** | | integer | lun-id used in mappings to the initiator from both filers in the cluster. |

# Element definition: **fcp-down-hba-info**

[top]

Information about a down FCP HBA

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter** | | string | Which FC adapter. |
| **state** | | string | Description of HBAs state. Possible values: STARTUP UNINITIALIZED INITIALIZING FIRMWARE LINK NOT CONNECTED WAITING FOR LINK UP ONLINE LINK DISCONNECTED RESETTING OFFLINE OFFLINED BY USER/SYSTEM Unknown state |

# Element definition: **filer-id**

[top]

Filer UUID

[none]

# Element definition: **initiator-group-info**

[top]

Information about an initiator group.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-alua-enabled** | | boolean | Boolean value to indicate if this initiator group has ALUA (Asymmetric Logical Unit Access) features enabled for luns mapped to this initiator group. |
| **initiator-group-delete-on-unmap** | | boolean optional | Boolean value to indicate if this initiator group will be automatically deleted when unmapped from a LUN if it is no longer part of any other LUN maps. This field is available in Data ONTAP 9.2 and later. |
| **initiator-group-name** | | string | Name of this initiator group. |
| **initiator-group-os-type** | | initiator-group-os-type | OS type of the initiator group |
| **initiator-group-portset-name** | | string optional | Name of the portset that is bound to the initiator group, if any. |
| **initiator-group-report-scsi-name-enabled** | | boolean optional | Boolean value to indicate whether to report or hide SCSI Name String (8h) Descriptor to initiator's INQUIRY VPD 0x83 page command. This field is available in Data ONTAP 8.1.0 and later. |
| **initiator-group-throttle-borrow** | | boolean | Boolean value to indicate that the igroups throttle reserve may be exceeded if the igroup attempts to use more than it has reserved. |
| **initiator-group-throttle-reserve** | | integer | Percentage of filer SCSI command blocks reserved for this initiator group's exclusive usage. |
| **initiator-group-type** | | string | Type of the initiators in this group. Possible values: "iscsi", "fcp", "mixed". |
| **initiator-group-use-partner** | | boolean optional | Boolean value to indicate if this initiator group is configured for its luns to require the use of host multi-pathing software for correct high-availability failover operation. In Data ONTAP 7-Mode, this value is optional and is only returned for FCP initiator groups on an storage system in an HA pair. In Data ONTAP Cluster-Mode, this field will always be 'true'. |
| **initiator-group-uuid** | | string optional | This value is Universally-unique identifier (UUID) of this initiator group.<br><br>The UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hexadecimal characters, the second through fourth groupings have four hexadecimal characters each, and the fifth and final grouping has 12 hexadecimal characters. Note that a leading '0x' is not used.<br><br>This field is available in Data ONTAP 7-mode 7.3.6, 8.0.2, 8.1.0 and later for the igroup-list-info API. This field is available in Data ONTAP Cluster-Mode 8.1.0 and later for the igroup-get-iter and lun-map-list-info APIs. |

| | | | |
|---|---|---|---|
| | | | Here is an example of an actual UUID:<br><br>35d6ca90-c759-11df-8b6d-00a098132c6c |
| **initiator-group-vsa-enabled** | | boolean | Boolean value to indicate if this initiator group has Volume Set Addressing (VSA) enabled or disabled. |
| **initiators** | | initiator-info[] optional | List of initiators belonging to this group. |
| **lun-id** | **[0..4095]** | integer optional | LUN identifier to which the LUN is mapped at the host. This value is optional and is only returned for the lun-map-list-info api. |
| **vserver** | | string optional | Name of the vserver hosting this initiator group |

# Element definition: **invalid-cfmode-setting-info**

[top]

local and partner cfmode settings

| Name | Range | Type | Description |
|---|---|---|---|
| **local-fcp-cfmode** | | string | cfmode setting of the local filer Possible values: dual_fabric, mixed, partner, standby, single_image |
| **partner-fcp-cfmode** | | string | cfmode setting of the partner filer Possible values: dual_fabric, mixed, partner, standby, single_image |

# Element definition: **invalid-nodename-setting-info**

[top]

Information about different FCP node names

| Name | Range | Type | Description |
|---|---|---|---|
| **local-fcp-node-name** | | string | FCP node name for the local filer |
| **partner-fcp-node-name** | | string | FCP node name for the partner filer |

# Element definition: **invalid-ostype-cfmode-setting-info**

[top]

Information about an invalid initiator group OS type and cfmode combination

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of this initiator group. |
| **initiator-group-os-type** | | initiator-group-os-type | OS type of the initiator group |

# Element definition: **invalid-use-partner-cfmode-setting-info**

[top]

Information about an invalid initiator group use_partner and cfmode

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of this initiator group. |
| **is-use-partner-enabled** | | boolean | If true this initiator group's members are allowed to use the partner port. |

# Element definition: **invalid-use-partner-ostype-setting-info**

[top]

Information about an invalid initiator group OS type and use_partner combination

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of this initiator group. |
| **initiator-group-os-type** | | initiator-group-os-type | OS type of the initiator group |
| **is-use-partner-enabled** | | boolean | If true this initiator group's members are allowed to use the partner port. |

# Element definition: **invalid-vsa-setting-info**

[top]

Information about an initiator group with an invalid Volume Set Addressing (VSA) setting for its OS type. Only 'hpux' initiator groups should have VSA enabled. All other initiator groups should have it disabled. Incorrect settings can cause hosts to not be able to access some or all of their LUNs.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of this initiator group. |
| **initiator-group-os-type** | | initiator-group-os-type | OS type of the initiator group |
| **is-vsa-enabled** | | boolean | If true, members of this initiator group will use VSA on the filer. |

# Element definition: **lun-align-info**

[top]

LUN alignment Info of a LUN When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **alignment** | | alignment-state optional | Alignment of the LUN. Possible values: aligned, misaligned, partial-writes, indeterminate. Attributes: non-creatable, non-modifiable Possible values:<br>• "aligned" - All or most of the IO to the LUN is aligned to the underlying file,<br>• "misaligned" - A significant amount of IO to the LUN is not aligned to the underlying file,<br>• "partial_writes" - A significant amount of IO to the LUN is partial,<br>• "indeterminate" - There is not enough IO to determine the LUN's alignment state |
| **multiprotocol-type** | | lun-os-type optional | The ostype for the LUN. Caller should specify a non-default ostype Attributes: non-creatable, non-modifiable Possible values:<br>• "vmware" - The LUN will be used to store a VMware Virtual Machine File System (VMFS) containing Virtual Machine Disk Files (VMDKs).,<br>• "hyper_v" - The LUN will be used to store Hyper-V VHDs (Virtual Hard Disks).,<br>• "windows_2008" - The LUN will be used to store a Windows filesystem with a Master Boot Record (MBR) partition table on Windows 2008 or later.,<br>• "windows_gpt" - The LUN will be used to store a Windows filesystem with a GUID Partition Table (GPT).,<br>• "windows" - The LUN will be used to store a Windows filesystem with a Master Boot Record (MBR) partition table.,<br>• "linux" - The LUN will be used to store a Linux filesystem with no partition table.,<br>• "xen" - The LUN will be used to provide storage for XenServer.,<br>• "solaris" - The LUN will be used to store a Solaris filesystem in a single slice partition.,<br>• "solaris_efi" - The LUN will be used to store a Solaris filesystem with an EFI partition table.,<br>• "hpux" - The LUN will be used to store an HP-UX filesystem.,<br>• "aix" - The LUN will be used to store an AIX filesystem.,<br>• "netware" - The LUN will be used to store a Netware filesystem.,<br>• "openvms" - The LUN will be used to store an OpenVMS filesystem.,<br>• "image" - The default type indicating no assumptions will be made about the data stored in the LUN. |
| **partition-count** | **[0..2^32-1]** | integer optional | Number of partitions on the LUN. Attributes: non-creatable, non-modifiable |
| **partition-** | | partition-scheme | Partition scheme on the LUN. Possible values: mbr and gpt Attributes: non-creatable, non-modifiable Possible values:<br>• "mbr" - Master Boot Record Partition Table Scheme,<br>• "gpt" - GUID Partition Table Scheme, |

| | | | |
|---|---|---|---|
| **scheme** | | optional | • "unknown" - Unrecognized partition scheme or an unformatted LUN,<br>• "sun_vtoc" - Sun VTOC Partition Table Scheme,<br>• "aix" - IBM AIX Disk Label |
| **partition-table** | | partition-list-entry[] optional | Partition entries on the LUN. |
| **path** | | lun-path optional | Path of the LUN Attributes: key, non-creatable, non-modifiable |
| **read-alignment-histogram** | | read-histogram-entry[] optional | Histogram of read operations of size 4k in percentage value. |
| **read-partial-blocks** | **[0..2^32-1]** | integer optional | Total number of read operations of non 4k size in percentage value. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver hosting the LUN Attributes: key, non-creatable, non-modifiable |
| **write-alignment-histogram** | | write-histogram-entry[] optional | Histogram of write operations of size 4k in percentage value. |
| **write-partial-blocks** | **[0..2^32-1]** | integer optional | Total number of write operations of non 4k size in percentage value. Attributes: non-creatable, non-modifiable |

# Element definition: **lun-attribute-info**

[top]

LUN attribute name / value pair

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the attribute. |
| **value** | | string | Value of the attribute. |

# Element definition: **lun-clone-lists-info**

[top]

Details of the LUN clone in the specified snapshot.

| Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN clone. |

# Element definition: **lun-copy-info**

[top]

Information about a LUN copy job When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cutover-time** | | time-interval optional | Specifies time, in seconds, between the start of\" the LUN copy job and when the new LUN was ready for I/O. Attributes: non-creatable, non-modifiable |
| **destination-path** | | lun-path optional | Specifies the full path to the new LUN, of the form /vol/[/]/. Example: /vol/dest_vol/dest_lun. Attributes: non-creatable, non-modifiable |
| **destination-vserver** | | string optional | Specifies the name of the Vserver that will host the new LUN. Attributes: non-creatable, non-modifiable |
| **elapsed-time** | | time-interval optional | Specifies elapsed time, in seconds, since the start of the LUN copy job. Attributes: non-creatable, non-modifiable |
| **is-destination-ready** | | boolean optional | Indicates if the destination ready to be mapped (in case of a regular LUN) or bound (in case of a VVOL): true if the lun is ready, false if the lun is not ready. Attributes: non-creatable, non-modifiable |
| **is-promoted-early** | | boolean optional | Specifies if the destination LUN has been promoted early. Attributes: non-creatable, non-modifiable |
| **is-snapshot-fenced** | | boolean optional | Indicates if the volume containing the new LUN is ready for snapshot creation: true if the volume containing the new LUN is not ready for snapshot creation, false if the volume is ready for snapshot creation. Attributes: non-creatable, non-modifiable |
| **job-status** | | sfod-scanner-status optional | Specifies the current status of the LUN copy transfer. Attributes: non-creatable, non-modifiable Possible values:<br>• "preparing" - Preparing,<br>• "allocation_map" - Allocating,<br>• "data" - Moving Data,<br>• "destroying" - Destroying,<br>• "paused_manual" - Manually Paused,<br>• "paused_error" - Paused by Error,<br>• "complete" - Complete,<br>• "destroyed" - Destroyed,<br>• "terminated_manual" - Manually Terminated |
| **job-uuid** | | uuid optional | Specifies the universal unique ID (UUID) of the job that started this copy operation. Attributes: key, non-creatable, non-modifiable |
| **last-failure-reason** | | string optional | Specifies the most recent error message from the LUN copy job. Attributes: non-creatable, non-modifiable |
| **lun-index** | **[0..2^32-1]** | integer optional | Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. Attributes: key, non-creatable, non-modifiable |
| **max-throughput** | | size optional | Specifies the rate limit for the data transfer, in bytes per second. Attributes: non-creatable, non-modifiable |
| **progress-percent** | **[0..100]** | integer optional | Specifies the amount of data, as a percentage of total data, that has been copied over to the new LUN. Attributes: non-creatable, non-modifiable |
| **scanner-progress** | | size optional | Specifies the amount of data, in bytes, that has been copied over to the new LUN. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **scanner-total** | | size optional | Specifies the total amount of data, in bytes, that will be copied over to the new LUN. Attributes: non-creatable, non-modifiable |
| **source-path** | | lun-path optional | Specifies the full path to the LUN to be copied, of the form /vol/[/]/. Example: /vol/src_vol/src_lun. Attributes: non-creatable, non-modifiable |
| **source-snapshot-instance-uuid** | | string optional | Specifies the universal unique ID (UUID) of the physical data layout of the source Snapshot volume. This value corresponds to snapshot-instance-uuid element of the snapshot-info structure. If the value is not specified it indicates that the LUN is not being copied from a Snapshot volume. Attributes: non-creatable, non-modifiable |
| **source-vserver** | | string optional | Specifies the name of the Vserver hosting the LUN to be copied. Attributes: non-creatable, non-modifiable |

# Element definition: **lun-import-info**

[top]

Information of a Foreign LUN Import relationship When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **administrative-status** | | fli-admin-state-enum optional | Administrative status of the import operation Attributes: non-creatable, non-modifiable Possible values:<br>• "stopped" ,<br>• "started" ,<br>• "paused" |
| **compared-blocks** | **[0..2^64-1]** | integer optional | Number of compared blocks. This element will be returned only when import verification is in progress. Attributes: non-creatable, non-modifiable |
| **current-throughput** | | size optional | Current Throughput (per sec) Attributes: non-creatable, non-modifiable |
| **estimated-remaining-duration** | | timeticks optional | Estimated Remaining Duration Attributes: non-creatable, non-modifiable |
| **failure-reason** | | string optional | Failure Reason Attributes: non-creatable, non-modifiable |
| **foreign-disk** | | string optional | Foreign Disk Serial Number Attributes: key, required-for-create, non-modifiable |
| **import-current-node** | | string optional | Import Current Node. The current node where import is running and where foreign disk I/Os are serviced. During takeover or giveback the import-current-node can change. Attributes: non-creatable, non-modifiable |
| **import-home-node** | | string optional | Import Home Node Attributes: non-creatable, non-modifiable |
| **imported-blocks** | **[0..2^64-1]** | integer optional | Blocks Imported Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **max-throughput-limit** | | size optional | Maximum Throughput Limit (per sec) Attributes: non-creatable, non-modifiable |
| **operation-in-progress** | | fli-operation-enum optional | Current operation in progress Attributes: non-creatable, non-modifiable Possible values:<br>• "import" ,<br>• "verify" |
| **operational-status** | | fli-operational-state-enum optional | Operational status of the import operation Attributes: non-creatable, non-modifiable Possible values:<br>• "in_progress" ,<br>• "failed" ,<br>• "completed" ,<br>• "stopped" ,<br>• "paused" |
| **path** | | lun-path optional | Path of the LUN Attributes: required-for-create, non-modifiable |
| **percent-complete** | **[0..2^32-1]** | integer optional | Percent Complete Attributes: non-creatable, non-modifiable |
| **qos-policy-group** | | string optional | QoS Policy Group Attributes: non-creatable, non-modifiable |
| **total-blocks** | **[0..2^64-1]** | integer optional | Total Blocks Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver containing the LUN Attributes: key, non-creatable, non-modifiable |

# Element definition: **lun-info**

[top]

Information of a LUN.

| Name | Range | Type | Description |
|---|---|---|---|
| **alignment** | | string optional | Alignment of the LUN. Possible values: "aligned", "misaligned", "partial_writes" or "indeterminate". |
| **application** | | string optional | The name of the LUN's application. This field is available in Data ONTAP 9.2 and later when the LUN is provisioned for use with an application. |
| **application-uuid** | | string optional | The unique identifier for the LUN's application. This field is available in Data ONTAP 9.2 and later when the LUN is provisioned for use with an application. |
| **backing-snapshot** | | string optional | Path to the backing snapshot file for a LUN, if there is one. Only returned if it has one. Note: This element is not returned for LUNs which are in snapshots. |
| **block-size** | **[0..2^31-1]** | integer optional | Disk block size of the LUN in bytes. This field is unavailable while the LUN is fenced for a restore operation. |
| **class** | | string optional | The class of the LUN. Possible values:<br>• "regular" - The LUN is intended for normal blocks access,<br>• "protocol_endpoint" - The LUN is a VMware vvol protocol endpoint,<br>• "vvol" - The LUN is a VMware vvol data LUN. |

| | | | |
|---|---|---|---|
| **clone-backing-snapshot** | | string optional | |
| **comment** | | string optional | User-specified comment for the LUN. This field is unavailable when the LUN is in a snapshot or while the LUN fenced for a restore operation. |
| **creation-timestamp** | **[0..2^31-1]** | integer optional | The time this LUN was created, in seconds since January 1, 1970. This field is unavailable when the LUN is in a snapshot or while the LUN fenced for a restore operation. |
| **device-binary-id** | | string optional | SCSI Peripheral Device Identifying Information returned in response to the SCSI command REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000000b). Value is encoded as a hexadecimal string, representing 1 to 64 bytes. Only present if a Peripheral Device Identifying Information value has been set on the LUN. |
| **device-id** | **[1..9999]** | integer optional | SCSI Peripheral Device Identifying Information returned in response to the vendor unique SCSI command GET DEV ID. Only present if a Peripheral Device Identifying Information value appropriate for GET DEV ID has been set on the LUN. |
| **device-text-id** | | string optional | SCSI Peripheral Device Text Identifying Information returned in response to the SCSI command REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000010b). Value is a free-form UTF-8 string between 1 and 255 bytes in length. Only present if a Peripheral Device Text Identifying Information value has been set on the LUN. |
| **is-clone** | | boolean optional | "true" if the lun is a clone "false" otherwise. |
| **is-clone-autodelete-enabled** | | boolean optional | "true" if the lun clone is allowed to be deleted by autodelete in try/disrupt mode. autodelete will be allowed to delete the lun clone in try/disrupt mode if configured. "false" otherwise. The lun clone will not be deleted by autodelete in try/disrupt mode if configured. |
| **is-inconsistent-import** | | boolean optional | "true" if the lun contains a partial import of a foreign disk, "false" otherwise. |
| **is-restore-inaccessible** | | boolean optional | If true, the LUN is fenced for I/O and management operations due to an ongoing restore operation. If false, the LUN is available for normal operations. |
| **is-space-alloc-enabled** | | boolean optional | Whether or not the LUN has space allocation enabled. This field is unavailable when the LUN is in a snapshot or while fenced for a restore operation. The space allocation attribute enables support for the SCSI Thin Provisioning features defined in the Logical Block Provisioning section of the SCSI SBC-3 standard. |
| **is-space-reservation-enabled** | | boolean optional | Whether or not the LUN has space reservation enabled. This field is unavailable when the LUN is in a snapshot or while fenced for a restore operation |
| **mapped** | | boolean optional | Whether or not the LUN is mapped to any initiators. "true" if mapped, "false" otherwise. This field is not applicable to LUNs where the class attribute is set to 'vvol'. |
| **multiprotocol-type** | | lun-os-type optional | OS type of the LUN This field is unavailable while the LUN is fenced for a restore operation. |
| **node** | | node-name optional | Node hosting the LUN. This field is available in Data ONTAP 8.3 and later. |
| **online** | | boolean | "true" if the LUN is online, "false" if the LUN is offline. In Data ONTAP 8.3 and later, the 'state' field may be used to distinguish between specific access states. |

| | | | |
|---|---|---|---|
| **path** | | string | Path of the LUN. |
| **prefix-size** | **[0..2^63-1]** | integer optional | Size of the prefix stream for this LUN in bytes. This is either the default value for the OS type of the LUN or value specified in lun-create-by-size API. This field is unavailable while the LUN is fenced for a restore operation. This field is available in Data ONTAP 8.1 and later. |
| **qos-adaptive-policy-group** | | string optional | QoS adaptive policy group defines measurable service level objectives (SLOs) that adjust based on the LUN's allocated space or used space. This field is available in Data ONTAP 9.4 and later. |
| **qos-policy-group** | | string optional | QoS policy group defines measurable Service Level Objectives (SLOs) that apply to the storage objects with which the policy group is associated. This field is only present if the LUN is assigned to a QoS policy This field is available in Data ONTAP 8.2 and later. |
| **qtree** | | string | Name of the qtree containing the LUN. |
| **read-only** | | boolean optional | "true" if the LUN is read only, "false" if read/write. This field is unavailable while the LUN is fenced for a restore operation. |
| **serial-7-mode** | | string optional | The serial number of the LUN used by Data ONTAP 7-Mode prior to transitioning the LUN. This field is available in Data ONTAP 8.3 and later. |
| **serial-number** | | string optional | Serial number of the LUN. Prior to Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and slash (/) and hyphen (-) characters. Starting Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and the characters /-#$%&*+<=>?[!]^~@ . This field is unavailable when the LUN is in a snapshot. |
| **share-state** | | string | Share state of the LUN. Possible values: "all", "none", read", "unknown", "write". In the very rare case that the share state can not be determined, "unknown" is returned. |
| **size** | **[0..2^63-1]** | integer optional | Size of this LUN in bytes in the active FS. This field is unavailable while the LUN is fenced for a restore operation. |
| **size-used** | **[0..2^63-1]** | integer optional | Number of bytes used by this LUN. This field is unavailable while the LUN is fenced for a restore operation. |
| **staging** | | boolean | "true" if the LUN is a temporary staging LUN, "false" otherwise. |
| **state** | | string optional | The access state of the LUN. Possible values:<br>• "online" - LUN is online,<br>• "offline" - LUN is administratively offline or a more detailed offline reason is not available,<br>• "foreign_lun_error" - LUN has been automatically taken offline due to a media error on the associated foreign LUN,<br>• "nvfail" - LUN has been automatically taken offline due to an NVRAM failure,<br>• "space_error" - LUN has been automatically taken offline due to insufficient space.<br><br>This field is available in Data ONTAP 8.3 and later. |
| **suffix-size** | **[0..2^63-1]** | integer optional | Size of the suffix stream for this LUN in bytes. This value is determined by the OS type of the LUN at creation time. This field is unavailable while the LUN is fenced for a restore operation. This field is available in Data ONTAP 8.1 and later. |
| **uuid** | | string optional | Universal unique identifier (UUID) for the LUN. This field is unavailable when the LUN is in a snapshot. |
| **volume** | | string | Name of the volume containing the LUN. |
| **vserver** | | string optional | Vserver containing the LUN. |

# Element definition: **lun-map-info**

[top]

Information about a lun mapping

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group** | | string | Initiator group used to map the lun to the requested initiator. |
| **initiator-group-uuid** | | string | The Universally-unique identifier (UUID) of the initiator group. |
| **lun-id** | **[0..4095]** | integer | Logical Unit Number which the lun is mapped to for the requested initiator. |
| **lun-uuid** | | string | The Universally-unique identifier (UUID) of the LUN. |
| **node** | | node-name | The owning node of the LUN. |
| **path** | | string | Path of the LUN which is mapped to the requested initiator. |
| **reporting-nodes** | | node-name[] optional | The list of nodes reporting the LUN map to SCSI initiators. If not provided, the map is reported on all applicable LIFs on all nodes. |
| **vserver** | | string optional | Vserver containing the initiator group |

# Element definition: **lun-move-info**

[top]

LUN Move Status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cutover-time** | | time-interval optional | Specifies time, in seconds, between the start of\" the LUN move job and when the new LUN was ready for I/O. Attributes: non-creatable, non-modifiable |
| **destination-path** | | lun-path optional | Specifies the full path to the new LUN, of the form /vol//[]/. Example: /vol/dest_vol/dest_lun. Attributes: non-creatable, non-modifiable |
| **elapsed-time** | | time-interval optional | Specifies elapsed time, in seconds, since the start of the LUN move job. Attributes: non-creatable, non-modifiable |
| **is-destination-ready** | | boolean optional | Indicates if the destination ready to be mapped (in case of a regular LUN) or bound (in case of a VVOL): true if the lun is ready, false if the lun is not ready. Attributes: non-creatable, non-modifiable |
| **is-promoted-** | | boolean | Specifies if the destination LUN has been promoted late. Attributes: |

| | | | |
|---|---|---|---|
| **late** | | optional | non-creatable, non-modifiable |
| **is-snapshot-fenced** | | boolean optional | Indicates if the volume containing the new LUN is ready for snapshot creation: true if the volume containing the new LUN is not ready for snapshot creation, false if the volume is ready for snapshot creation. Attributes: non-creatable, non-modifiable |
| **job-status** | | sfod-scanner-status optional | Specifies the current status of the LUN move job. Attributes: non-creatable, non-modifiable Possible values:<br>• "preparing" - Preparing,<br>• "allocation_map" - Allocating,<br>• "data" - Moving Data,<br>• "destroying" - Destroying,<br>• "paused_manual" - Manually Paused,<br>• "paused_error" - Paused by Error,<br>• "complete" - Complete,<br>• "destroyed" - Destroyed,<br>• "terminated_manual" - Manually Terminated |
| **job-uuid** | | uuid optional | Specifies the universal unique ID (UUID) of the job that started this move operation. Attributes: key, non-creatable, non-modifiable |
| **last-failure-reason** | | string optional | Specifies the most recent error message from the LUN move job. Attributes: non-creatable, non-modifiable |
| **lun-index** | **[0..2^32-1]** | integer optional | Specifies ann additional unique element identifying one LUN among many that could be possibly move as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. Attributes: key, non-creatable, non-modifiable |
| **max-throughput** | | size optional | Specifies the rate limit for the data transfer, in bytes per second. Attributes: non-creatable, non-modifiable |
| **progress-percent** | **[0..100]** | integer optional | Specifies the amount of data, as a percentage of total data, that has been moved over to the new LUN. Attributes: non-creatable, non-modifiable |
| **scanner-progress** | | size optional | Specifies the amount of data, in bytes, that has been moved over to the new LUN. Attributes: non-creatable, non-modifiable |
| **scanner-total** | | size optional | Specifies the total amount of data, in bytes, that will be moved over to the new LUN. Attributes: non-creatable, non-modifiable |
| **source-path** | | lun-path optional | Specifies the full path to the LUN to be moved, of the form /vol/[/]/. Example: /vol/src_vol/src_lun. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Specifies the name of the Vserver containing the source and destination volumes. Attributes: non-creatable, non-modifiable |

# Element definition: **lun-os-type**

[top]

The image type of the lun. This value determines the proper alignment settings for the desired host filesystem layout. Possible values:

- "aix" The LUN will be used to store an AIX filesystem,
- "hpux" The LUN will be used to store an HP-UX filesystem,
- "hyper_v" The LUN will be used to store Hyper-V VHDs (Virtual Hard Disks),
- "image" The default type indicating no assumptions will be made about the data stored in the LUN,
- "linux" The LUN will be used to store a Linux filesystem with no partition table,
- "netware" The LUN will be used to store a Netware filesystem,
- "openvms" The LUN will be used to store an OpenVMS filesystem,

- "solaris" The LUN will be used to store a Solaris filesystem in a single slice partition,
- "solaris_efi" The LUN will be used to store a Solaris filesystem with an EFI partition table,
- "vmware" The LUN will be used to store a VMware Virtual Machine File System (VMFS) containing Virtual Machine Disk Files (VMDKs),
- "windows" The LUN will be used to store a Windows filesystem with a Master Boot Record (MBR) partition table.
- "windows_2008" The LUN will be used to store a Windows filesystem with a Master Boot Record (MBR) partition table on Windows 2008 or later,
- "windows_gpt" The LUN will be used to store a Windows filesystem with a GUID Partition Table (GPT),
- "xen" The LUN will be used to provide storage for XenServer.

[none]

# Element definition: **lun-path**

[top]

LUN Path

[none]

# Element definition: **lun-path-pair**

[top]

A pair of source and destination LUN paths

| Name | Range | Type | Description |
|---|---|---|---|
| **destination-path** | | string | Specifies the full path to the new LUN, of the form /vol/[/]/. Example: /vol/dest_vol/dest_lun. |
| **source-path** | | string | Specifies the full path to the source LUN, of the form /vol/[/]/. Example: /vol/src_vol/src_lun. |

# Element definition: **lun-snap-usage-lun-info**

[top]

Details of the LUN backed by specified snapshot.

| Name | Range | Type | Description |
|---|---|---|---|
| **backing-store** | | string | Path of the LUN serving as the backing store. |
| **path** | | string | Path of the LUN. |
| **snapshot** | | string | Name of the snapshot in which the LUN exists. |

# Element definition: **lun-stats-info**

[top]

Stats for a LUN.

| Name | Range | Type | Description |
|---|---|---|---|
| **block-size** | | integer optional | Disk block size for this LUN in bytes. This attribute is unavailable when the LUN is fenced for a restore operation. |
| **last-zeroed** | **[0..2^64-1]** | integer optional | Total number of seconds since the statistics for this lun were last zeroed. |
| **other-ops** | **[0..2^64-1]** | integer | Total number of other SCSI ops executed. |
| **path** | | string | path of the LUN. (for example, "/vol/vol0/lun1") |
| **read-blocks** | **[0..2^64-1]** | integer optional | Number of disk blocks read. This attribute is unavailable when the LUN is fenced for a restore operation. |
| **read-ops** | **[0..2^64-1]** | integer | Total number of SCSI read ops executed. |
| **scsi-errors** | **[0..2^64-1]** | integer | Total number of SCSI errors. |
| **vserver** | | string optional | Vserver containing the lun |
| **write-blocks** | **[0..2^64-1]** | integer optional | Number of disk blocks written. This attribute is unavailable when the LUN is fenced for a restore operation. |
| **write-ops** | **[0..2^64-1]** | integer | Total number of SCSI write ops executed. |

# Element definition: **mixed-ostype-initiator-info**

[top]

Information about an initiator which is a member of initiator groups of differing OS types. An initiator can only be a member of initiator groups which have the same OS type across all the initiator groups it is a member of.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name-1** | | string | Name of this initiator group. |
| **initiator-group-name-2** | | string | Name of this initiator group. |
| **initiator-group-os-type-1** | | initiator-group-os-type | OS type of the initiator group |
| **initiator-group-os-type-2** | | initiator-group-os-type | OS type of the initiator group |
| **initiator-name** | | string | Name of the initiator. |

# Element definition: **mixed-vsa-initiator-info**

[top]

Information about an initiator which is a member of initiator groups with differing Volume Set Addressing (VSA) settings. This will cause unexpected problems with the initiator.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name-1** | | string | Name of the first initiator group that the initiator is a member of. |
| **initiator-group-name-2** | | string | Name of the second initiator group that the initiator is a member of. |
| **initiator-name** | | string | Name of the initiator. |
| **is-vsa-enabled-1** | | boolean | If true, members of the first initiator group, identified by initiator-group-name-1, will use VSA on the filer. |

| | | | |
|---|---|---|---|
| **is-vsa-enabled-2** | | boolean | If true, members of the second initiator group, identified by initiator-group-name-2, will use VSA on the filer. |

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **persistent-reservation-info**

[top]

Information about the persistent reservation

| Name | Range | Type | Description |
|---|---|---|---|
| **fcp-pr-nexus** | | fcp-pr-nexus optional | This is the I_T_Nexus info for an FCP type reservation. |
| **iscsi-pr-nexus** | | iscsi-pr-nexus optional | This is the I_T_Nexus info for an iSCSI type reservation. |
| **reservation-key** | | string optional | Value of persistent reservation key that is registered for the given lun. |
| **reservation-type** | | string | Type of persistent reservation. Possible values: "fcp", "iscsi". |
| **reservation-type-code** | | string optional | Type of persistent reservation held by the I_T_Nexus, if any. Please refer to the SCSI Primary Command (SPC) specification for full details on reservation types. Possible values:<br>• "read shared",<br>• "write exclusive",<br>• "exclusive access",<br>• "write exclusive registrants only",<br>• "exclusive access registrants only",<br>• "write exclusive all registrants",<br>• "exclusive access all registrants". |
| **scsi-revision** | | string | The SCSI specification revision for the reservation. Possible values: "scsi2", "scsi3". |

## Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **system-api-enum-value-info**

[top]

Enumeration type name/value pair When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | Description of the enumeration value Attributes: non-creatable, non-modifiable |
| **value** | | string optional | Name of the enumeration value Attributes: key, non-creatable, non-modifiable |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **volume-error**

[top]

The error code of a given volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **errno** | | integer optional | The error code of the snapshot operation for a given volume. It is returned only when an error is found. |
| **name** | | volume-name | Name of a volume. |
| **reason** | | string optional | Description of the error. It is returned only when an error is found. |
| **vserver** | | string optional | Virtual server containing the volume. |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

## Element definition: **alignment-state** [top]

aligned|misaligned|partial-writes|indeterminate Possible values:

- "aligned" - All or most of the IO to the LUN is aligned to the underlying file,
- "misaligned" - A significant amount of IO to the LUN is not aligned to the underlying file,
- "partial_writes" - A significant amount of IO to the LUN is partial,
- "indeterminate" - There is not enough IO to determine the LUN's alignment state

[none]

## Element definition: **fcp-pr-nexus** [top]

Information about FCP nexus owning the persistent reservation These two components identify the relationship between the FCP initiator and the target.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-port** | | string | FCP initiator port part of I_T_Nexus owning the persistent reservation key. |
| **target-port** | | string optional | FCP target port part of I_T_Nexus owning the persistent reservation key. |
| **third-party-initiator-port** | | string optional | The FCP port name (WWPN) of the third-party initiator the reservation is being held for. For use in SCSI-2 only. |

## Element definition: **fli-admin-state-enum** [top]

stopped|started|paused Possible values:

- "stopped" ,
- "started" ,
- "paused"

[none]

## Element definition: **fli-operation-enum** [top]

import|verify Possible values:

- "import" ,

- "verify"

[none]

## Element definition: **fli-operational-state-enum**

[top]

in_progress|failed|completed|stopped|paused Possible values:

- "in_progress" ,
- "failed" ,
- "completed" ,
- "stopped" ,
- "paused"

[none]

## Element definition: **initiator-group-os-type**

[top]

The operating system of the initiator group. This value modifies the finer details of SCSI protocol interaction for initiators in the group. Possible values:

- "aix" The initiators belong to an AIX host,
- "default" The initiators belong to an unknown host type,
- "hpux" The initiators belong to an HP-UX host,
- "hyper_v" The initiators belong to a Hyper-V parent host,
- "linux" The initiators belong to a Linux host,
- "netware" The initiators belong to a NetWare host,
- "openvms" The initiators belong to an OpenVMS host,
- "solaris" The initiators belong to a Solaris host,
- "vmware" The initiators belong to a VMware ESX host,
- "windows" The initiators belong to a Windows host,
- "xen" The initiators belong to a Xen hypervisor host.

[none]

## Element definition: **initiator-info**

[top]

Information about one initiator.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-name** | | string | Name of the initiator. |

## Element definition: **iscsi-pr-nexus**

[top]

Information about iSCSI nexus owning the persistent reservation These three components identify the relationship between the iSCSI initiator and the target.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string | Name of initiator holding the reservation i.e. iqn.1987-06.com.initvendor1:appsrv.sn.2346. |
| **isid** | | string | The Initiator Session ID for the persistent reservation owner. The ISID is a numeric Initiator Session ID assigned by the initiator which acts as part of the initiators identity. |
| **third-party-initiator-name** | | string optional | The name of the third-party initiator the reservation is being held for. For use in SCSI-2 only. i.e. iqn.1987-06.com.initvendor1:appsrv.sn.2346. |
| **tpgroup-tag** | **[0..2^16-1]** | integer optional | The target portal group tag of the persistent reservation owner. |
| **tpgtag** | | string optional | The target portal group tag of the persistent reservation owner. For historical reasons, the value is represented as a 4-byte hexadecimal number in little-endian byte order. |

# Element definition: **partition-list-entry**

[top]

Partition entries on the LUN.

| Name | Range | Type | Description |
|---|---|---|---|
| **partition-offset** | **[0..2^64-1]** | integer optional | Partition start offset. Attributes: non-creatable, non-modifiable |
| **partition-type** | | string optional | Type of the partition in the partition table. Attributes: non-creatable, non-modifiable |

# Element definition: **partition-scheme**

[top]

aix|gpt|mbr|sun-vtoc|unknown Possible values:

- "mbr" - Master Boot Record Partition Table Scheme,
- "gpt" - GUID Partition Table Scheme,
- "unknown" - Unrecognized partition scheme or an unformatted LUN,
- "sun_vtoc" - Sun VTOC Partition Table Scheme,
- "aix" - IBM AIX Disk Label

[none]

# Element definition: **read-histogram-entry**

[top]

Histogram of read operations of size 4k in percentage value.

| | | | |
|---|---|---|---|

| Name | Range | Type | Description |
|---|---|---|---|
| **bin-number** | **[0..2^32-1]** | integer optional | Histogram bin number Attributes: non-creatable, non-modifiable |
| **bin-value** | **[0..2^32-1]** | integer optional | Read histogram bin percentage value. Attributes: non-creatable, non-modifiable |

# Element definition: **sfod-scanner-status**

[top]

Preparing|Allocation-Map|Data|Destroying|Paused-Manual|Paused-Error|Complete|Destroyed|Terminated-Manual Possible values:

- "preparing" - Preparing,
- "allocation_map" - Allocating,
- "data" - Moving Data,
- "destroying" - Destroying,
- "paused_manual" - Manually Paused,
- "paused_error" - Paused by Error,
- "complete" - Complete,
- "destroyed" - Destroyed,
- "terminated_manual" - Manually Terminated

[none]

# Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

# Element definition: **timeticks**

[top]

Time, in seconds Range : [0..2^32-1].

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **write-histogram-entry**

[top]

Histogram of write operations of size 4k in percentage value.

| Name | Range | Type | Description |
|---|---|---|---|
| **bin-number** | **[0..2^32-1]** | integer optional | Histogram bin number Attributes: non-creatable, non-modifiable |
| **bin-value** | **[0..2^32-1]** | integer optional | Write histogram bin percentage value. Attributes: non-creatable, non-modifiable |

# APIs in Category: **metrocluster**


metrocluster-check-aggregate-eligibility-get
metrocluster-check-aggregate-eligibility-get-iter
metrocluster-check-aggregate-get-iter
metrocluster-check-capture-status-get
metrocluster-check-cluster-get-iter
metrocluster-check-config-replication-get
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metrocluster-check-lif-repair-placement
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metrocluster-config-replication-cluster-storage-configuration-get
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metrocluster-is-configured
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metrocluster-operation-statistics-get-iter
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metrocluster-show-lif-placement-failures-get-iter
metrocluster-switchback
metrocluster-switchover
metrocluster-unconfigure
metrocluster-vserver-get-iter
metrocluster-vserver-resync


## metrocluster-check-aggregate-eligibility-get

[top]

This API returns information regarding the eligibility of aggregates to host configuration replication volumes used for the replication of metrocluster configuration data.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | aggr-name | The aggregate being evaluated for config-replication volume hosting eligibility. |
| **desired-attributes** | | metrocluster-check-aggregate-eligibility-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | metrocluster-check-aggregate-eligibility-info | The attributes of the metrocluster-check-aggregate-eligibility. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# metrocluster-check-aggregate-eligibility-get-iter

[top]

This API returns information regarding the eligibility of aggregates to host configuration replication volumes used for the replication of metrocluster configuration data.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-check-aggregate-eligibility-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-check-aggregate-eligibility-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-check-aggregate-eligibility object. All metrocluster-check-aggregate-eligibility objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-check-aggregate-eligibility-info[] optional | The list of attributes of metrocluster-check-aggregate-eligibility objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster-check-aggregate-eligibility objects to return. |
| **num-records** | **[0..2^32-** | integer | The number of records returned in this call. |

| | | | |
|---|---|---|---|
| | 1] | | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# metrocluster-check-aggregate-get-iter

[top]

Iterate over a list of metrocluster-check-aggregate-info objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | metrocluster-check-aggregate-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | metrocluster-check-aggregate-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | metrocluster-check-aggregate-info[] optional | The list of attributes of metrocluster objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# metrocluster-check-capture-status-get

[top]

This API returns information regarding the capture status of replicated metrocluster configuration data.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | metrocluster-check-capture- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is |

| | | | |
|---|---|---|---|
| | | status-info optional | available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | metrocluster-check-capture-status-info | The attributes of the metrocluster-check-capture-status. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# metrocluster-check-cluster-get-iter

[top]

Iterate over a list of metrocluster-check-cluster-info objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-check-cluster-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-check-cluster-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-check-cluster-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-check-config-replication-get

[top]

Obtain the results of the MetroCluster config replication checks.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-check-config-replication-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | metrocluster-check-config-replication-info | The attributes of the metrocluster. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# metrocluster-check-get-iter

[top]

Iterate over a list of metrocluster-check-info objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-check-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-check-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-check-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-check-lif-repair-placement

[top]

The MetroCluster-check-lif-repair-placement API verifies LIF placement in the destination cluster for the sync-source Vserver LIF in a MetroCluster setup.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **lif** | | string optional | sync-source Vserver LIF |
| **vserver** | | string | sync-source Vserver in the MetroCluster configuration |

| Errno | Description |
|---|---|
| **EMCC_LIF_REPAIR_STREAM_ERROR** | |
| **EMCC_CHECK_SUGGEST_VSERVER_ON_REMOTE_CLUSTER** | |

# metrocluster-check-lif-update-vserver-name

[top]

The MetroCluster-check-lif-update-vserver-name API updates the Vserver name for failed LIF placement entries for Vserver LIFs after the Vserver has been renamed in a MetroCluster setup.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **all** | | boolean optional | all Vservers that have been renamed |
| **vserver-uuid** | | string optional | Vserver UUID |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# metrocluster-check-node-get-iter

[top]

Iterate over a list of metrocluster-check-node-info objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-check-node-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-check-node-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-check-node-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-check-run

[top]

The metrocluster-check-run API starts a check on the metrocluster configuration. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **skip-dr-simulation** | | boolean optional | If this is set to true, switchover and switchback simulations are skipped. |
| **start-on-node-and-skip-node-version-checks** | | string optional | Specify which Node Job Starts On and Skip Node Version Checks |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer optional | Check Job Id |
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EMCC_CHECK_INTERNAL_ERROR_WITH_REASON** | |
| **EMCC_CLEAR_CHECK_RESULTS_FAIL** | |
| **EMCC_CLUSTER_PEER_UNAVAILABLE** | |
| **EMCC_CONFIGURE_NOT_DONE** | |
| **EMCC_FIJI_POINT** | |
| **EMCC_PEER_CHECK_FAIL** | |
| **EMCC_UNASSIGN_INTERNAL_ERROR** | |

# metrocluster-check-volume-get-iter

[top]

Iterate over a list of metrocluster-check-volume objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-check-volume-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-check-volume-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-check-volume-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-config-diff-get

[top]

Provides the differences in attributes of a specified configuration instance between two clusters in DR relationship for MetroCluster. This helps in verifying if the configuration of interest is replicated correctly from source cluster to destination cluster. If the source configuration matches that of destination, EOBJECTNOTFOUND is returned, indicating that the difference is nil. This API can be invoked on the source cluster or destination cluster. Note: The configuration objects replicated as part of MetroCluster and their keys can potentially change from release to release. If a program has opted to use those as inputs for selection, it may have to be adjusted for updated versions of Data ONTAP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | config-cluster-diff-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination-cluster-uuid** | | uuid | External UUID of destination cluster |
| **instance** | [0..2^32- | integer | The count of object instance |

| | | | |
|---|---|---|---|
| | 1] | | |
| **keys** | | key-value-pair[] | List of key:value pairs of the specific configuration instance compared - for example, volume:vol1 |
| **object** | | string | The Cluster-Domain configuration object being compared - for example, aggrView |
| **source-cluster-uuid** | | uuid | External UUID of source cluster |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | config-cluster-diff-info | The attributes of the metrocluster. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |

# metrocluster-config-diff-get-iter

[top]

Provides the differences in configuration between two clusters in DR relationship for MetroCluster. If an object is not specified, the differences for all replicated objects are shown. If the source configuration matches that of destination, EOBJECTNOTFOUND is returned, indicating that the difference is nil. This API can be invoked on the source cluster or destination cluster. Note: The configuration objects replicated as part of MetroCluster and their keys can potentially change from release to release. If a program has opted to use those as inputs for selection, it may have to be adjusted for updated versions of Data ONTAP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | config-cluster-diff-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | config-cluster-diff-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | config-cluster-diff-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string | Tag for the next call. Not present when there are no more |

| | | | |
|---|---|---|---|
| | | optional | metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |

# metrocluster-config-replication-cluster-storage-configuration-get

[top]

The metrocluster-config-replication-cluster-storage-configuration-get API returns information regarding the configuration of the cluster-wide storage associated with cross-cluster replication of metrocluster configuration data.

On Data ONTAP 8.3, metrocluster cannot be enabled simultaneously with Async Vserver DR. For this reason this command will return an error if Async Vserver DR is currently enabled on the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-cr-storage-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | metrocluster-cr-storage-info | The attributes of the metrocluster. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# metrocluster-config-replication-cluster-storage-configuration-modify

[top]

The metrocluster-config-replication-cluster-storage-configuration-modify API modifies nformation regarding the configuration of the cluster-wide storage associated with cross-cluster replication of metrocluster configuration data.

If input is not provided for a particular value, then the item is not modified in the storage configuration.

On Data ONTAP 8.3, metrocluster cannot be enabled simultaneously with Async Vserver DR. For this reason this command will return an error if Async Vserver DR is currently enabled on the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disallowed-aggregates** | | aggr-name[] optional | Specifies the list of aggregates that are disallowed for use by the metrocluster configuration replication. An admin may modify this value to exclude aggregates. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# metrocluster-config-replication-resync-status-get

[top]

Get MetroCluster configuration replication synchronization information

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | metrocluster-config-replication-resync-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | metrocluster-config-replication-resync-status-info | The attributes of the metrocluster. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# metrocluster-configure

[top]

The metrocluster-configure API configures a node and its DR partner to mirror NVRAM and be configured to participate in a DR switchover. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| node-name | | string optional | Name of the node |
| refresh | | boolean optional | This optional parameter, if set to true, causes the node to refresh the configuration of its partners and to discard the previous configuration. This is defaulted to false |
| start-on-node-and-skip-node-version-checks | | string optional | Specify which Node Job Starts On and Skip Node Version Checks |

| Output Name | Range | Type | Description |
|---|---|---|---|
| result-error-code | [0..2^32-1] | integer optional | Error code, if the operation caused an error. |
| result-error-message | | string optional | Error description, if the operation caused an error. |

| | | | |
|---|---|---|---|
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EMCC_NODE_NOT_IN_CLUSTER** | |

# metrocluster-create-periodic-job

[top]

The create-periodic-job API creates the periodic check job.

| Errno | Description |
|---|---|
| **EMCC_CHECK_INTERNAL_ERROR_WITH_REASON** | |
| **EMCC_CONFIGURE_NOT_DONE** | |
| **EMCC_FIJI_POINT** | |
| **EMCC_UNASSIGN_INTERNAL_ERROR** | |

# metrocluster-delete-periodic-job

[top]

The delete-periodic-job API deletes the periodic check job.

| Errno | Description |
|---|---|
| **EMCC_CHECK_INTERNAL_ERROR_WITH_REASON** | |
| **EMCC_CONFIGURE_NOT_DONE** | |
| **EMCC_FIJI_POINT** | |
| **EMCC_UNASSIGN_INTERNAL_ERROR** | |

# metrocluster-disable-periodic-check

[top]

The metrocluster-disable-periodic-check API disables periodic check on the metrocluster configuration.

| Errno | Description |
|---|---|
| **EMCC_CHECK_INTERNAL_ERROR_WITH_REASON** | |
| **EMCC_CONFIGURE_NOT_DONE** | |
| **EMCC_FIJI_POINT** | |
| **EMCC_UNASSIGN_INTERNAL_ERROR** | |

# metrocluster-enable-periodic-check

[top]

The enable-periodic-check API enables periodic check on the metrocluster configuration.

| Errno | Description |
|---|---|
| **EMCC_CHECK_INTERNAL_ERROR_WITH_REASON** | |
| **EMCC_CONFIGURE_NOT_DONE** | |
| **EMCC_FIJI_POINT** | |
| **EMCC_UNASSIGN_INTERNAL_ERROR** | |

# metrocluster-get

[top]

Get MetroCluster configuration information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | metrocluster-info | The attributes of the metrocluster. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# metrocluster-heal

[top]

The metrocluster-heal API heals aggregates and partner roots in preparation for a DR switchback. Healing of aggregates and partner roots is done in two phases by the admin. DR partner nodes must be powered off and remote disk shelves must be powered on before calling this API. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **healing-phase** | | string | Specifies the healing phase. The first phase heals aggregates by resyncing mirrored plexes and replaying the nvlogs of non-mirrored aggregates. The second phase heals the root aggregates of partner nodes. Possible values:<br>• "aggregates" ,<br>• "root_aggregates" |
| **start-on-node-and-skip-node-** | | string | Specify which Node Job Starts On and Skip Node Version Checks |

| | | | |
|---|---|---|---|
| **version-checks** | | optional | |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EMCC_LOCAL_CLUSTER_NOT_CONFIGURED** | |
| **EMCC_HEAL_AGGRS_BYPASS_INVALID_DRC_STATE** | |
| **EMCC_HEAL_AGGRS_INVALID_DRC_STATE** | |
| **EMCC_HEAL_ROOTS_INVALID_DRC_STATE** | |

# metrocluster-interconnect-adapter-get-iter

[top]

Iterate over a list of metrocluster-interconnect-adapter objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-interconnect-adapter optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-interconnect-adapter optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster interconnect adapter object. All metrocluster interconnect adapter objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-interconnect-adapter[] optional | The list of attributes of metrocluster interconnect adapter objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster interconnect adapter objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

| | |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# metrocluster-interconnect-ipfo-get-iter

[top]

Iterate over a list of metrocluster-interconnect-ipfo objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-interconnect-ipfo optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-interconnect-ipfo optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster interconnect ipfo object. All metrocluster interconnect ipfo objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-interconnect-ipfo[] optional | The list of attributes of metrocluster interconnect ipfo objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster interconnect ipfo objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# metrocluster-interconnect-mirror-get-iter

[top]

Iterate over a list of metrocluster-interconnect-mirror objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-interconnect-mirror | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is |

| | | | |
|---|---|---|---|
| | | optional | available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-interconnect-mirror optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster interconnect mirror object. All metrocluster interconnect mirror objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-interconnect-mirror[] optional | The list of attributes of metrocluster interconnect mirror objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster interconnect mirror objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# metrocluster-interconnect-mirror-multipath-get-iter

[top]

Iterate over a list of metrocluster-interconnect-mirror-multipath objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-interconnect-mirror-multipath optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-interconnect-mirror-multipath optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster interconnect mirror multipath object. All metrocluster interconnect mirror multipath objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | metrocluster- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | interconnect-mirror-multipath[] optional | The list of attributes of metrocluster interconnect mirror multipath objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster interconnect mirror multipath objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# metrocluster-interconnect-remotecluster-get-iter

[top]

Get MetroCluster Interconnect Remote Cluster Reachable

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-interconnect-remotecluster-reachable optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-interconnect-remotecluster-reachable optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-interconnect-remotecluster-reachable[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-is-configured

[top]

The metrocluster-is-configured API returns a value indicating if the cluster is configured for MetroCluster.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-mcc-config** | | boolean | Is MetroCluster Configured |

| Errno | Description |
|---|---|
| **EOK** | |
| **EMCC_UNABLE_TO_DETERMINE_METROCLUSTER_CONFIGURATION** | |

# metrocluster-node-get-iter

[top]

Iterate over a list of metrocluster-node-info objects belonging to MetroCluster nodes

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-node-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-node-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-node-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-operation-get-iter

[top]

Iterate over a list of MetroCluster operations and their details

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-operation-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-operation-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-operation-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-operation-statistics-get-iter

[top]

Iterate over a list of Metrocluster operation statistics.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-operation-statistics-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-operation-statistics-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-** | | metrocluster-operation- | |

| | | | |
|---|---|---|---|
| **list** | | statistics-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-progress-table-get-iter

[top]

Iterate over a list of metrocluster-progress-table-info objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-progress-table-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-progress-table-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-progress-table-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-show-lif-placement-failures-get-iter

[top]

Iterate over a list of LIF placement failures in a MetroCluster setup.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **desired-attributes** | | metrocluster-show-lif-placement-failures optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-show-lif-placement-failures optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-show-lif-placement-failures[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-switchback

[top]

The metrocluster-switchback API initiates the switchback of storage and client access from nodes in the DR site to their home nodes. The home nodes and storage shelves must be powered on and reachable by nodes in the DR site. The metrocluster heal-aggregates and metrocluster heal-roots APIs must have successfully completed before running the metrocluster-switchback API. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **override-cluster-stream-resync-errors** | | boolean optional | If this optional parameter is set to true, the system overrides errors during the cluster stream resync phase that might prevent the switchback operation. This is defaulted to false |
| **override-vetoes** | | boolean optional | If this optional parameter is set to true, the system overrides subsystem vetoes that might prevent the switchback operation. This is defaulted to false |
| **override-vserver-stream-resync-errors** | | boolean optional | If this optional parameter is set to true, the system overrides errors during the vserver stream resync phase that might prevent the switchback operation. This is defaulted to false |
| **simulate** | | boolean | If this optional parameter is set to true, the system runs a simulation of the switchback operation to make sure all the |

| | | | |
|---|---|---|---|
| | | optional | prerequisites for the operation are met. This is defaulted to false. |
| **start-on-node-and-skip-node-version-checks** | | string optional | Specify which Node Job Starts On and Skip Node Version Checks |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer optional | Switchback Job Id |
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EMCC_CONFIGURE_NOT_DONE** | |
| **EMCC_FIJI_POINT** | |
| **EMCC_HA_CONFIGURE_NOT_DONE** | |
| **EMCC_INTERNAL_ERROR** | |
| **EMCC_INTERNAL_ERROR_WITH_REASON** | |
| **EMCC_INVALID_RELATIONSHIP_TYPE** | |
| **EMCC_LOCAL_CLUSTER_NOT_CONFIGURED** | |
| **EMCC_NODE_NOT_IN_CLUSTER** | |
| **EMCC_UNASSIGN_INTERNAL_ERROR** | |
| **EMCC_SB_INVALID_DRC_STATE** | |
| **EMCC_SB_NODE_NOT_CONFIGURED** | |
| **EMCC_SB_NOT_ALLOWED_ON_DISASTER_CLUSTER** | |
| **EMCC_SB_NSO_PRIMARY_HEALTH_CHECK_FAILED** | |
| **EMCC_SB_RECOVERY_STATE_UNKNOWN** | |

# metrocluster-switchover

[top]

The metrocluster-switchover API initiates the switchover of storage and client access from a disaster stricken site to the DR site. Nodes in the disaster stricken site must be powered off and unreachable by nodes in the DR site before initiating the switchover operation. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **automatic** | | boolean optional | This is a hidden option. It is used when Automatic USO is done programatically in 2-node MCC configurations. |
| **controller-replacement** | | boolean optional | If this optional parameter is used, the nodes in the DR site will be halted. |
| | | | If set to true, all volumes being switched over will have their in- |

| | | | |
|---|---|---|---|
| **force-nvfail-all** | | boolean optional | nvfailed-state set to true by the switchover API. Also the force-nvfail-on-dr option will be set to true on the volumes that are not already enabled. The default value is false. |
| **forced-on-disaster** | | boolean optional | This option is used when all the nodes on the disaster stricken site are powered off and unreachable. In absence of this parameter, the command implies a planned switchover operation |
| **override-vetoes** | | boolean optional | If this optional parameter is used, the system overrides subsystem vetoes that might prevent the switchover operation |
| **retry-failed-nodes** | | string[] optional | This optional parameter is available at the advanced privilege level. When a list of nodes is specified by name or UUID, the switchover API is directed to those nodes only. The option is used to make the list of nodes redo a previously failed switchover operation. By default all eligible nodes are switched over |
| **simulate** | | boolean optional | If this optional parameter is set to true, the system runs a simulation of the negotiated switchover operation to make sure all the prerequisites for the operation are met. This is defaulted to false. |
| **start-on-node-and-skip-node-version-checks** | | string optional | Specify which Node Job Starts On and Skip Node Version Checks |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer optional | Switchover Job Id |
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EMCC_CONFIGURE_NOT_DONE** | |
| **EMCC_FIJI_POINT** | |
| **EMCC_INTERNAL_ERROR** | |
| **EMCC_INTERNAL_NODE_ERROR** | |
| **EMCC_LOCAL_CLUSTER_NOT_CONFIGURED** | |
| **EMCC_NODE_NOT_IN_CLUSTER** | |
| **EMCC_NOT_MCC_CONFIG** | |
| **EMCC_SO_INVALID_PARAMS** | |
| **EMCC_UNASSIGN_INTERNAL_ERROR** | |
| **EMCC_NSO_FAILED_DOWN_NODES** | |
| **EMCC_SB_NSO_PRIMARY_HEALTH_CHECK_FAILED** | |
| **EMCC_SB_NSO_PRIMARY_NODES_NOT_HEALTHY** | |
| **EMCC_SO_DRC_NOT_IN_PARTIAL_STATE** | |
| **EMCC_SO_INVALID_DRC_STATE** | |
| **EMCC_SO_LOC_NODE_NOT_IN_QUORUM** | |
| **EMCC_SO_NODE_INVALID_DRC_STATE** | |
| **EMCC_SO_NO_NODES_CAPABLE** | |

# metrocluster-unconfigure

[top]

The metrocluster-unconfigure API wipes the configuration from nodes in a DR group which are in the local cluster where the API is issued. This includes all the nodes in the specified DR group in that local cluster. Nodes in the DR group are disallowed from participating in the metrocluster switchover after the configuration has been wiped. This API is used to tear down a metrocluster setup. The tear down of a node is completed when the hardware that activates the node for metrocluster, such as an FC-VI adapter, is removed or deactivated. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **dr-group-id** | **[0..2^32-1]** | integer optional | Identifier for the DR group |
| **start-on-node-and-skip-node-version-checks** | | string optional | Specify which Node Job Starts On and Skip Node Version Checks |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EMCC_CONFIGURE_NOT_DONE** | |
| **EMCC_DR_PARTNERS_CONFIG_NOT_DONE** | |
| **EMCC_FIJI_POINT** | |
| **EMCC_INTERNAL_ERROR** | |
| **EMCC_INTERNAL_NODE_ERROR** | |
| **EMCC_INVALID_DR_GROUP_ID** | |
| **EMCC_LOCAL_CLUSTER_NOT_CONFIGURED** | |
| **EMCC_NODE_NOT_IN_CLUSTER** | |
| **EMCC_UNASSIGN_INTERNAL_ERROR** | |
| **EMCC_UNASSIGN_NODE_ALREADY_DONE** | |
| **EMCC_UNASSIGN_NODE_INTERNAL_ERROR** | |
| **EMCC_UNASSIGN_PEER_CLUSTER_UNCONFIGURED** | |
| **EMCC_UNASSIGN_PEER_CLUSTER_WARNING** | |

# metrocluster-vserver-get-iter

[top]

Iterate over a list of metrocluster objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-vserver-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-vserver-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-vserver-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-vserver-resync

[top]

Resynchronize Vserver with its partner Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-name** | | cluster-name | Name of the Cluster which contains the Vserver |
| **source-vserver** | | string | Vserver in the MetroCluster relationship |

| Errno | Description |
|---|---|
| **ERESYNCFAILEDRETRY** | |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

# Element definition: **config-cluster-diff-info**

[top]

Check for configuration differences between replicated cluster-domain tables When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **attribute-diff-list** | | config-cluster-attribute-info[] optional | The list of attributes that differ |
| **destination-cluster-name** | | string optional | Name of destination cluster Attributes: non-creatable, non-modifiable |
| **destination-cluster-uuid** | | uuid optional | External UUID of destination cluster Attributes: key, non-creatable, non-modifiable |
| **instance** | **[0..2^32-1]** | integer optional | The count of object instance Attributes: key, non-creatable, non-modifiable |
| **keys** | | key-value-pair[] optional | List of key:value pairs of the specific configuration instance compared - for example, volume:vol1 Attributes: key, non-creatable, non-modifiable |
| **object** | | string optional | The Cluster-Domain configuration object being compared - for example, aggrView Attributes: key, non-creatable, non-modifiable |
| **skip-excluded-fields** | | boolean optional | Specifies whether to compare configuration attributes which are not explicitly replicated. Default is true. Attributes: non-creatable, non-modifiable |
| **source-cluster-name** | | string optional | Name of source cluster Attributes: non-creatable, non-modifiable |
| **source-cluster-uuid** | | uuid optional | External UUID of source cluster Attributes: key, non-creatable, non-modifiable |

# Element definition: **key-value-pair**

[top]

Key value pair in the format key:value

[none]

# Element definition: **metrocluster-check-aggregate-eligibility-info** [top]

MetroCluster Config-Replication Aggregate Eligibility Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | aggr-name optional | The aggregate being evaluated for config-replication volume hosting eligibility. Attributes: key, non-creatable, non-modifiable |
| **comment** | | string optional | If the aggregate is not eligible to host additional config-replication volumes, this comment indicates the reason. Attributes: non-creatable, non-modifiable |
| **hosted-configuration-replication-volumes** | | volume-name[] optional | The volumes used for config-replication that are currently hosted by this aggregate. Attributes: non-creatable, non-modifiable |
| **is-eligible-to-host-additional-volumes** | | boolean optional | Whether or not this aggregate is eligible to host more config-replication volumes. Attributes: non-creatable, non-modifiable |

# Element definition: **metrocluster-check-aggregate-info** [top]

MetroCluster check aggregate info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-info** | | string[] optional | Additional information/Recovery steps in case the check find a configuration error. Attributes: non-creatable, non-modifiable |
| **aggregate** | | string optional | Name of the aggregate that was checked. Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **check** | | string optional | Name of the check that was checked.<br><br>Possible values:<br><br>• 'mirrored'<br>• 'disk_pool_allocation'<br><br>Attributes: key, non-creatable, non-modifiable Possible values:<br><br>• "mirroring_status" - Mirroring status,<br>• "disk_pool_allocation" - Disk pool allocation,<br>• "ownership_state" - Check for left-behind aggregates,<br>• "fabricpool_mirror_status" - FabricPool Mirror status |
| **cluster-name** | | string optional | Name of the cluster the aggregate belongs to. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Name of the node that the aggregate belonged to. Attributes: key, non-creatable, non-modifiable |
| **result** | | string optional | Result of the check.<br><br>Possible values:<br><br>• 'ok',<br>• 'warning'<br><br>Attributes: non-creatable, non-modifiable Possible values:<br><br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| **timestamp** | **[0..2^31-1]** | integer optional | Time at which these results were generated. Attributes: key, non-creatable, non-modifiable |

# Element definition: **metrocluster-check-capture-status-info**

[top]

MetroCluster Config-Replication Capture in Progress Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-capture-in-progress** | | boolean optional | Whether or not a configuration change is actively being captured. Attributes: non-creatable, non-modifiable |

# Element definition: **metrocluster-check-cluster-info**

[top]

MetroCluster check cluster info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-info** | | string optional | Additional information/Recovery steps in case the check find a configuration error. Attributes: non-creatable, non-modifiable |
| **check** | | string optional | Name of the check that was checked.<br><br>Possible values:<br><br>• 'negotiated_switchover_ready'<br>• 'switchback_ready'<br>• 'job_schedules'<br>• 'licenses'<br>• 'onboard_key_management'<br>• 'external_key_management'<br><br>Attributes: key, non-creatable, non-modifiable Possible values:<br><br>• "none" - No DR OP-ready check is performed,<br>• "negotiated_switchover_ready" - Check if the cluster is ready for a negotiated switchover operation,<br>• "switchback_ready" - Check if the cluster is ready for a switchback operation,<br>• "job_schedules" - Check if the job schedules between the local and the remote cluster are consistent,<br>• "licenses" - Check if the licenses between the local and the remote cluster are consistent,<br>• "periodic_check_enabled" - Check if the periodic MetroCluster Check job is enabled,<br>• "onboard_key_management" - Check if onboard key management hierarchies are consistent,<br>• "external_key_management" - Check if external key management configurations are consistent |
| **cluster-name** | | string optional | Name of the cluster the aggregate belongs to. Attributes: non-creatable, non-modifiable |
| **result** | | string optional | Result of the check.<br><br>Possible values:<br><br>• 'ok',<br>• 'warning'<br>• 'not-applicable'<br><br>Attributes: non-creatable, non-modifiable Possible values:<br><br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| | | | |

| | | | |
|---|---|---|---|
| **timestamp** | **[0..2^31-1]** | integer optional | Time at which these results were generated. Attributes: key, non-creatable, non-modifiable |

# Element definition: **metrocluster-check-config-replication-info**

[top]

Results of the MetroCluster config replication checks When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster-recovery-steps** | | string optional | Recovery steps in case the check finds a problem with configuration replication Cluster streams. Attributes: non-creatable, non-modifiable |
| **cluster-streams** | | string optional | Verifies that MetroCluster configuration replication Cluster streams are healthy. Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| **heartbeat-recovery-steps** | | string optional | Recovery steps in case the check finds a problem with the remote heartbeat. Attributes: non-creatable, non-modifiable |
| **is-enabled** | | boolean optional | Verifies that MetroCluster configuration replication is enabled on the cluster. Attributes: non-creatable, non-modifiable |
| **is-running** | | boolean optional | Verifies that MetroCluster configuration replication is running on the cluster. Attributes: non-creatable, non-modifiable |
| **last-heartbeat-received** | | datetime optional | The timestamp of the last MetroCluster configuration replication hearbeat received from the remote cluster. Attributes: non-creatable, non-modifiable |
| **last-heartbeat-sent** | | datetime optional | The timestamp of the last MetroCluster configuration replication heartbeat sent to the remote cluster. Attributes: non-creatable, non-modifiable |
| **recovery-steps** | | string optional | Recovery steps in case the check finds config replication is not enabled or is enabled but not running. Attributes: non-creatable, non-modifiable |
| **remote-heartbeat** | | string optional | Verifies that the MetroCluster configuration replication heartbeat with the remote cluster is healthy. Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| | | | The location of MetroCluster configuration replication storage. |

| | | | |
|---|---|---|---|
| **storage-in-use** | | string optional | Examples:<br>• Node Local on node-123<br>• Cluster-wide Volume: MDV_CRS_1bc7134a5ddf11e3b63f123478563412_A<br>• Unavailable<br><br>Attributes: non-creatable, non-modifiable |
| **storage-non-healthy-reason** | | string optional | The underlying root cause for non-healthy MetroCluster configuration replication storage. Attributes: non-creatable, non-modifiable |
| **storage-recovery-steps** | | string optional | Recovery steps in case the check finds a problem with configuration replication storage. Attributes: non-creatable, non-modifiable |
| **storage-status** | | string optional | Verifies that MetroCluster configuration replication storage is healthy. Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| **vserver-recovery-steps** | | string optional | Recovery steps in case the check finds a problem with configuration replication Vserver streams. Attributes: non-creatable, non-modifiable |
| **vserver-streams** | | string optional | Verifies that MetroCluster configuration replication Vserver streams are healthy. Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |

# Element definition: **metrocluster-check-info**

[top]

MetroCluster check info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-info** | | string optional | Additional information/Recovery steps Attributes: non-creatable, non-modifiable |
| | | | Name of the component that was checked.<br><br>Possible values:<br>• 'nodes',<br>• 'aggregates', |

| | | | |
|---|---|---|---|
| **component** | | string optional | • 'clusters'<br><br>Attributes: key, non-creatable, non-modifiable Possible values:<br><br>• "nodes" - Checks For Nodes In MetroCluster,<br>• "lifs" - Checks For LIFs in MetroCluster,<br>• "config_replication" - Checks For Config Replication In MetroCluster,<br>• "aggregates" - Checks For Aggregates In MetroCluster,<br>• "clusters" - Checks For Clusters DR-ready Status,<br>• "connections" - Checks For Connections In MetroCluster Over IP,<br>• "volumes" - Checks For Volumes In MetroCluster |
| **result** | | string optional | Result of the check.<br><br>Possible values:<br><br>• 'ok',<br>• 'warning'<br><br>Attributes: non-creatable, non-modifiable Possible values:<br><br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| **timestamp** | **[0..2^31-1]** | integer optional | Time at which these results were generated. Attributes: key, non-creatable, non-modifiable |

# Element definition: **metrocluster-check-node-info**

[top]

MetroCluster check node info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-info** | | string optional | Additional information/Recovery steps in case the check finds a configuration error. Attributes: non-creatable, non-modifiable |
| | | | Name of the check that was checked.<br><br>Possible values:<br><br>• 'reachable'<br>• 'metrocluster_ready',<br>• 'ha_partner_in_same_cluster',<br>• 'ha_mirroring',<br>• 'symmetric_ha_relationship',<br>• 'dr_partner_in_peer_cluster'<br>• 'dr_mirroring' |

| | | | |
|---|---|---|---|
| **check** | | string optional | 'symmetric_dr_relationship'<br>• 'dr_auxiliary_in_peer_cluster'<br>• 'symmetric_dr_auxiliary_relationship'<br><br>Attributes: key, non-creatable, non-modifiable Possible values:<br><br>• "node_reachable" - Is the node reachable,<br>• "metrocluster_ready" - Ready for MetroCluster configuration,<br>• "local_ha_partner" - HA partner in same cluster,<br>• "ha_mirroring_on" - HA mirroring,<br>• "ha_mirroring_op_state" - HA mirroring operational state,<br>• "symmetric_ha_relationship" - Symmetric HA relationship,<br>• "remote_dr_partner" - DR partner in peer cluster,<br>• "dr_mirroring_on" - DR Mirroring,<br>• "dr_mirroring_op_state" - DR Mirroring operational state,<br>• "symmetric_dr_relationship" - Symmetric DR relationship,<br>• "remote_dr_auxiliary_partner" - DR Auxiliary in peer cluster,<br>• "symmetric_dr_auxiliary_relationship" - Symmetric DR Auxiliary relationship,<br>• "storage_failover_enabled" - Is storage failover enabled,<br>• "has_intercluster_lif" - Check if the node has an intercluster LIF,<br>• "node_object_limit" - Is node object limit option turned on,<br>• "automatic_uso" - Is automatic USO enabled |
| **cluster-name** | | string optional | Name of the cluster the node belongs to. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Name of the node that was checked. Attributes: key, non-creatable, non-modifiable |
| **result** | | string optional | Result of the check.<br><br>Possible values:<br><br>• 'ok',<br>• 'warning'<br><br>Attributes: non-creatable, non-modifiable Possible values:<br><br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| **timestamp** | **[0..2^31-1]** | integer optional | Time at which these results were generated. Attributes: key, non-creatable, non-modifiable |

# Element definition: **metrocluster-check-volume-info**

[top]

MetroCluster check volume info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-info** | | string[] optional | Additional information/Recovery steps when the check finds a configuration error. Attributes: non-creatable, non-modifiable |
| **check** | | string optional | Name of the check that was checked.<br><br>Possible values:<br><br>• 'unmirrored_flexgroups'<br>• 'mixed_flexgroups'<br><br>Attributes: key, non-creatable, non-modifiable Possible values:<br><br>• "unmirrored_flexgroups" - Check to see if any FlexGroups reside on unmirrored aggregates,<br>• "mixed_flexgroups" - Check to see if any FlexGroups reside on a mix of mirrored and unmirrored aggregates |
| **result** | | string optional | Result of the check.<br><br>Possible values:<br><br>• 'ok',<br>• 'warning'<br>• 'not-applicable'<br><br>Attributes: non-creatable, non-modifiable Possible values:<br><br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| **timestamp** | **[0..2^31-1]** | integer optional | Time at which these results were generated. Attributes: key, non-creatable, non-modifiable |
| **volume** | | string optional | Volume which these results were generated. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver which these results were generated. Attributes: key, non-creatable, non-modifiable |

# Element definition: **metrocluster-config-replication-resync-status-info** [top]

MetroCluster configuration replication synchronization status info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **inbound-completion-percentage** | **[0..2^64-1]** | integer optional | Inbound Completion Percentage Attributes: non-creatable, non-modifiable |
| | | | Inbound Synchronization State |

| | | | |
|---|---|---|---|
| **inbound-sync-state** | | string optional | Possible values:<br>• 'messaging',<br>• 'complete',<br>• 'failed'<br><br>Attributes: non-creatable, non-modifiable |
| **local-cluster-name** | | string optional | Local Cluster Name Attributes: non-creatable, non-modifiable |
| **outbound-completion-percentage** | **[0..2^64-1]** | integer optional | Outbound Completion Percentage Attributes: non-creatable, non-modifiable |
| **outbound-sync-state** | | string optional | Outbound Synchronization State<br><br>Possible values:<br>• 'messaging',<br>• 'complete',<br>• 'failed'<br><br>Attributes: non-creatable, non-modifiable |
| **remote-cluster-name** | | string optional | Remote Cluster Name Attributes: non-creatable, non-modifiable |

# Element definition: **metrocluster-cr-storage-info**

[top]

MetroCluster Config-Replication Cluster Storage Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **disallowed-aggregates** | | aggr-name[] optional | Specifies the list of aggregates that are disallowed for use by the metrocluster configuration replication. An admin may modify this value to exclude aggregates. Attributes: non-creatable, modifiable |
| **use-mirrored-aggregate** | | boolean optional | Specifies whether mirrored aggregates are currently in use by metrocluster configuration replication. Attributes: non-creatable, non-modifiable |

# Element definition: **metrocluster-info**

[top]

MetroCluster configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **configuration-type** | | string optional | MetroCluster configuration type Attributes: non-creatable, non-modifiable Possible values:<br>• "invalid" - Invalid topology,<br>• "stretch" - Stretch topology,<br>• "fabric" - Fabric topology,<br>• "two_node_fabric" - Two-node fabric topology,<br>• "ip_fabric" - IP fabric topology,<br>• "ip_two_node_fabric" - Two-node IP fabric topology,<br>• "mixed_fabric" - FC-IP fabric topology |
| **local-allow-forced-auso** | | boolean optional | Allow Forced AUSO on Local Cluster Attributes: non-creatable, non-modifiable |
| **local-auso-failure-domain** | | string optional | AUSO Failure Domain on Local Cluster Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Automatic USO trigger criteria could not be determined,<br>• "not_reachable" - Cluster is not reachable,<br>• "auso_on_cluster_disaster" - Automatic USO will be triggered only if all remote are down,<br>• "auso_on_dr_group_disaster" - Automatic USO will be triggered if any HA pair in the remote cluster is down,<br>• "auso_disabled" - Automatic USO will not be triggered |
| **local-cluster-name** | | string optional | Name of the Local Cluster Attributes: non-creatable, non-modifiable |
| **local-configuration-state** | | string optional | State of the Local Cluster Configuration Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Mode could not be determined,<br>• "not_reachable" - Cluster is not reachable,<br>• "not_configured" - Configuration has not been done,<br>• "configuration_error" - MetroCluster is not ready for use. Error in configuration.,<br>• "partially_configured" - MetroCluster is partially configured, some nodes are not configured.,<br>• "configured" - MetroCluster is completely configured |
| **local-mode** | | string optional | Mode of Operation of Local Cluster Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - State could not be determined,<br>• "not_reachable" - Cluster is not reachable,<br>• "not_configured" - Configuration has not been done,<br>• "normal" - Cluster is in normal mode,<br>• "switchover" - Cluster is in switchover mode,<br>• "waiting_for_switchback" - Cluster is waiting for switchback,<br>• "partial_switchover" - Cluster is in partial switchover mode,<br>• "partial_switchback" - Cluster is in partial switchback mode |
| **local-periodic-** | | boolean | Is Periodic Check Enabled on Local Cluster Attributes: non- |

| | | | |
|---|---|---|---|
| **check-enabled** | | optional | creatable, non-modifiable |
| **remote-allow-forced-auso** | | boolean optional | Allow Forced AUSO on Remote Cluster Attributes: non-creatable, non-modifiable |
| **remote-auso-failure-domain** | | string optional | AUSO Failure Domain on Remote Cluster Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Automatic USO trigger criteria could not be determined,<br>• "not_reachable" - Cluster is not reachable,<br>• "auso_on_cluster_disaster" - Automatic USO will be triggered only if all remote are down,<br>• "auso_on_dr_group_disaster" - Automatic USO will be triggered if any HA pair in the remote cluster is down,<br>• "auso_disabled" - Automatic USO will not be triggered |
| **remote-cluster-name** | | string optional | Name of the Remote Cluster Attributes: non-creatable, non-modifiable |
| **remote-configuration-state** | | string optional | State of the Remote Cluster Configuration Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Mode could not be determined,<br>• "not_reachable" - Cluster is not reachable,<br>• "not_configured" - Configuration has not been done,<br>• "configuration_error" - MetroCluster is not ready for use. Error in configuration.,<br>• "partially_configured" - MetroCluster is partially configured, some nodes are not configured.,<br>• "configured" - MetroCluster is completely configured |
| **remote-mode** | | string optional | Mode of Operation of Remote Cluster Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - State could not be determined,<br>• "not_reachable" - Cluster is not reachable,<br>• "not_configured" - Configuration has not been done,<br>• "normal" - Cluster is in normal mode,<br>• "switchover" - Cluster is in switchover mode,<br>• "waiting_for_switchback" - Cluster is waiting for switchback,<br>• "partial_switchover" - Cluster is in partial switchover mode,<br>• "partial_switchback" - Cluster is in partial switchback mode |
| **remote-periodic-check-enabled** | | boolean optional | Is Periodic Check Enabled on Remote Cluster Attributes: non-creatable, non-modifiable |

# Element definition: **metrocluster-interconnect-adapter**

[top]

Metrocluster interconnect adapter. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string optional | Name of the interconnect adapter. For example: cxgb3_0, fcvi_device_0. Attributes: key, non-creatable, non-modifiable |
| **adapter-type** | | string optional | Type of adapter.<br><br>Possible Values:<br><br>• 'IB',<br>• 'iWARP',<br>• 'FC-VI',<br>• 'M-VIA'<br><br>Attributes: non-creatable, non-modifiable |
| **firmware-version** | | string optional | Firmware version of the adapter. For example: 7.7.209, 113.01.00. Attributes: non-creatable, non-modifiable |
| **ip-address** | | string optional | IP address of the adapter. For example: 1.0.12.2. Attributes: non-creatable, non-modifiable |
| **is-ood-enabled** | | boolean optional | Is Out-of-Order delivery enabled for the adapter port? Attributes: non-creatable, non-modifiable |
| **link-speed** | | string optional | Link speed (in Gbps) configured for the adapter port.<br><br>Possible Values:<br><br>• '1G',<br>• '2G',<br>• '4G',<br>• '8G',<br>• '16G'<br><br>Attributes: non-creatable, non-modifiable |
| **link-speed-neg-type** | | string optional | Type of negotiation done for adapter port speed.<br><br>Possible Values:<br><br>• 'Manual',<br>• 'Auto'<br><br>Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Name of the node. Attributes: key, non-creatable, non-modifiable |
| **physical-link-status** | | string optional | Physical link status of the adapter port.<br><br>Possible Values:<br><br>• 'Up',<br>• 'Down'<br><br>Attributes: non-creatable, non-modifiable |
| **port-name** | | string optional | Name of the adapter port. For example: c0a, 1a. Attributes: key, non-creatable, non-modifiable |
| **port-wwn** | | string optional | World Wide Name of the adapter. For example: 21:00:00:24:ff:48:ea:d0. Attributes: non-creatable, non-modifiable |
| **remote-adapter-list** | | metrocluster-interconnect-remote-adapter[] optional | Information about remote metrocluster interconnect adapter. |

| | | | |
|---|---|---|---|
| **switch-model** | | string optional | Model of the switch connected to this adapter port. Attributes: non-creatable, non-modifiable |
| **switch-name** | | string optional | Name of the switch connected to this adapter port. Attributes: non-creatable, non-modifiable |
| **switch-port-name** | | string optional | Name of the switch port connected to this adapter port. Attributes: non-creatable, non-modifiable |
| **switch-port-wwn** | | string optional | World Wide Name of the switch port connected to this adapter port. For example: 20:0d:00:27:f8:47:9e:25. Attributes: non-creatable, non-modifiable |
| **switch-status** | | string optional | Status of the switch connected to this adapter port.<br>• 'Up',<br>• 'Down'<br><br>Attributes: non-creatable, non-modifiable |
| **switch-vendor** | | string optional | Vendor of the switch connected to this adapter port. Attributes: non-creatable, non-modifiable |
| **switch-wwn** | | string optional | World wide name of the switch connected to this adapter port. For example: 10:00:00:27:f8:47:9e:25. Attributes: non-creatable, non-modifiable |

# Element definition: **metrocluster-interconnect-ipfo**

[top]

Metrocluster interconnect ipfo. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | IPFO status of a node. Attributes: non-creatable, modifiable |
| **is-timeout-trigger-enabled** | | boolean optional | Timeout trigger status of a node. Attributes: non-creatable, modifiable |
| **node-name** | | node-name optional | Name of the node. Attributes: key, non-creatable, non-modifiable |
| **timeout-trigger-value** | **[0..2^32-1]** | integer optional | Timeout based trigger in msecs. Attributes: non-creatable, modifiable |

# Element definition: **metrocluster-interconnect-mirror**

[top]

Object for cross-cluster NVRAM mirroring between two nodes in DR partnership. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s

description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string optional | Name of the adapter. For example: cxgb3_0, fcvi_device_0. Attributes: non-creatable, non-modifiable |
| **adapter-type** | | string optional | Type of adapter.<br><br>Possible Values:<br><br>• 'IB',<br>• 'iWARP',<br>• 'FC-VI',<br>• 'M-VIA'<br><br>Attributes: non-creatable, non-modifiable |
| **mirroring-admin-status** | | string optional | Administrative status of NVRAM mirror. Attributes: non-creatable, non-modifiable Possible values:<br><br>• "enabled" ,<br>• "disabled" |
| **mirroring-oper-status** | | string optional | Operational status of NVRAM mirror. Attributes: non-creatable, non-modifiable Possible values:<br><br>• "unknown" ,<br>• "online" ,<br>• "offline" |
| **node-name** | | string optional | Name of the node. Attributes: key, non-creatable, non-modifiable |
| **partner-name** | | string optional | Name of the partner node. Attributes: non-creatable, non-modifiable |
| **partner-type** | | string optional | Type of partner. Attributes: key, non-creatable, non-modifiable Possible values:<br><br>• "ha" - High Availability Partner,<br>• "dr" - Disaster Recovery Partner,<br>• "aux" - Disaster Recovery Auxiliary Partner |
| **physical-link-status** | | string optional | Physical link status of adapter port.<br><br>Possible values:<br><br>• 'Up',<br>• 'Down'<br><br>Attributes: non-creatable, non-modifiable |

## Element definition: **metrocluster-interconnect-mirror-multipath**

[top]

Metrocluster interconnect mirror multipath. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **multipath-policy** | | metroclusterinterconnectmppolicy optional | Multipath policy of the mirror. Attributes: non-creatable, modifiable Possible values:<br>• "no_mp" - No Multipath,<br>• "static_map" - Static Map,<br>• "dynamic_map" - Dynamic Map,<br>• "round_robin" - Round Robin |
| **node-name** | | node-name optional | Name of the node. Attributes: key, non-creatable, non-modifiable |

# Element definition: **metrocluster-interconnect-remotecluster-reachable** [top]

MetroCluster Interconnect Remote Cluster Reachable When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-remote-cluster-reachable** | | boolean optional | Is the remote cluster visible through an interconnect Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Node Attributes: key, non-creatable, non-modifiable |
| **node-uuid** | | string optional | Node's UUID Attributes: non-creatable, non-modifiable |

# Element definition: **metrocluster-node-info** [top]

MetroCluster node configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-configuration-info** | | string optional | Specifies additional configuration information Attributes: non-creatable, non-modifiable |
| **allow-auto-forced-switchover** | | boolean optional | Specifies if automatic forced switchover is allowed Attributes: non-creatable, non-modifiable |
| **automatic-uso** | | boolean optional | Specifies if automatic unsigned switchover is enabled Attributes: non-creatable, non-modifiable |
| **cluster-name** | | string optional | Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **configuration-state** | | string optional | Specifies the state of the node's configuration.<br><br>Possible values:<br><br>• 'node-unreachable',<br>• 'configured',<br>• 'not-configured'<br><br>Attributes: non-creatable, non-modifiable |
| **dr-auxiliary-cluster-uuid** | | string optional | UUID of the cluster the DR auxiliary partner belongs to Attributes: non-creatable, non-modifiable |
| **dr-auxiliary-partner-node-name** | | string optional | Name of the DR auxiliary partner Attributes: non-creatable, non-modifiable |
| **dr-auxiliary-partner-uuid** | | string optional | UUID of the DR auxiliary partner Attributes: non-creatable, non-modifiable |
| **dr-auxiliary-systemid** | **[0..2^32-1]** | integer optional | System Id of the DR auxiliary partner Attributes: non-creatable, non-modifiable |
| **dr-cluster-name** | | string optional | Name of the DR cluster Attributes: non-creatable, non-modifiable |
| **dr-group-id** | **[0..2^32-1]** | integer optional | Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable |
| **dr-mirroring-state** | | string optional | Specifies the state of the node<br><br>Possible values:<br><br>• '-',<br>• 'enabled',<br>• 'disabled',<br><br>Attributes: non-creatable, non-modifiable |
| **dr-operation-duration** | **[0..2^64-1]** | integer optional | Specifies the time taken to complete the last DR operation in seconds Attributes: non-creatable, non-modifiable |
| **dr-operation-state** | | string optional | State of the DR operation.<br><br>Possible values:<br><br>• 'normal',<br>• 'switchover_in progress',<br>• 'switchover_failed',<br>• 'switchover_completed',<br>• 'heal_aggrs_in progress',<br>• 'heal_aggrs_failed',<br>• 'heal_aggrs_completed', |

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|---|---|---|---|
| | | | • 'heal_roots_in progress',<br>• 'heal_roots_failed',<br>• 'heal_roots_completed',<br>• 'switchback_in_progress',<br>• 'switchback_failed'<br><br>Attributes: non-creatable, non-modifiable |
| **dr-partner-cluster-uuid** | | string optional | UUID of the cluster the DR partner belongs to Attributes: non-creatable, non-modifiable |
| **dr-partner-node-name** | | string optional | Name of the DR partner Attributes: non-creatable, non-modifiable |
| **dr-partner-systemid** | **[0..2^32-1]** | integer optional | System Id of the DR partner Attributes: non-creatable, non-modifiable |
| **dr-partner-uuid** | | string optional | UUID of the DR partner Attributes: non-creatable, non-modifiable |
| **force-node-object-limit** | | boolean optional | Specifies if the node object limits are enforced Attributes: non-creatable, non-modifiable |
| **ha-partner-cluster-uuid** | | string optional | UUID of the cluster the HA partner belongs to Attributes: non-creatable, non-modifiable |
| **ha-partner-node-name** | | string optional | Name of the HA partner Attributes: non-creatable, non-modifiable |
| **ha-partner-systemid** | **[0..2^32-1]** | integer optional | System Id of the HA partner Attributes: non-creatable, non-modifiable |
| **ha-partner-uuid** | | string optional | UUID of the HA partner Attributes: non-creatable, non-modifiable |
| **mccip-node** | | boolean optional | Specifies if the node HAOSC setting is mccip Attributes: non-creatable, non-modifiable |
| **node-cluster-uuid** | | string optional | UUID of the cluster the node belongs to Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Name of the node Attributes: key, non-creatable, non-modifiable |
| **node-systemid** | **[0..2^32-1]** | integer optional | System Id of the node Attributes: non-creatable, non-modifiable |
| **node-uuid** | | string optional | UUID of the node Attributes: non-creatable, non-modifiable |

# Element definition: **metrocluster-operation-info**

[top]

MetroCluster operation history info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-info** | | string optional | Additional information for the job Attributes: non-creatable, non-modifiable |
| **cluster-** | | string | Name of the cluster the node belongs to Attributes: non-creatable, |

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|---|---|---|---|
| **name** | | optional | non-modifiable |
| **command-line** | | string optional | Command Line With Options Specified Attributes: non-creatable, non-modifiable |
| **end-time** | **[0..2^31-1]** | integer optional | Time when the operation ended. The value is the number of seconds elapsed since Jan 1, 1970. Attributes: non-creatable, non-modifiable |
| **error-list** | | string[] optional | List of errors encountered during the operation Attributes: non-creatable, non-modifiable |
| **job-id** | **[0..2^64-1]** | integer optional | Identifier for the job Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Name of the node Attributes: non-creatable, non-modifiable |
| **operation** | | string optional | Name of the operation.<br><br>Possible values:<br><br>• 'configure',<br>• 'modify',<br>• 'switchover',<br>• 'switchback',<br>• 'heal_aggregates',<br>• 'heal_root_aggregates',<br>• 'switchback_continuation_agent',<br>• 'unconfigure',<br>• 'unconfigure_continuation_agent',<br>• 'switchover-simulate',<br>• 'switchback-simulate',<br>• 'check',<br>• 'dr-group-create',<br>• 'dr-group-delete',<br>• 'connect',<br>• 'disconnect',<br>• 'interface-create',<br>• 'interface-delete',<br>• 'interface-modify'<br><br>Attributes: non-creatable, non-modifiable Possible values:<br><br>• "unknown" - Unknown operation,<br>• "configure" - MetroCluster configure operation,<br>• "modify" - MetroCluster modify operation,<br>• "switchover" - MetroCluster switchover operation,<br>• "heal_aggregates" - MetroCluster heal aggregates operation,<br>• "heal_root_aggregates" - MetroCluster heal root aggregates operation,<br>• "switchback" - MetroCluster switchback operation,<br>• "switchback_continuation_agent" - MetroCluster switchback continuation agent,<br>• "unconfigure" - MetroCluster unconfigure operation,<br>• "unconfigure_continuation_agent" - MetroCluster unconfigure continuation agent,<br>• "switchover_simulate" - MetroCluster switchover simulation operation,<br>• "switchback_simulate" - MetroCluster switchback simulation operation,<br>• "check" - MetroCluster check operation,<br>• "ip_setup" - MetroCluster IP setup operation,<br>• "ip_teardown" - MetroCluster IP teardown operation,<br>• "dr_group_create" - MetroCluster configuration-setting DR Group create operation,<br>• "dr_group_delete" - MetroCluster configuration-setting DR Group |

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|---|---|---|---|
| | | | delete operation,<br>• "connect" - MetroCluster configuration-setting connect operation,<br>• "disconnect" - MetroCluster configuration-setting disconnect operation,<br>• "interface_create" - MetroCluster configuration-setting interface create operation,<br>• "interface_delete" - MetroCluster configuration-setting interface delete operation,<br>• "interface_modify" - MetroCluster configuration-setting interface modify operation,<br>• "heal_aggr_auto" - MetroCluster automatic heal aggregates operation,<br>• "heal_root_aggr_auto" - MetroCluster automatic heal root aggregates operation,<br>• "remove_dr_group" - MetroCluster remove DR group operation |
| **operation-uuid** | | string optional | Unique identifier for the operation Attributes: key, non-creatable, non-modifiable |
| **start-time** | **[0..2^31-1]** | integer optional | Time when the operation started. The value is the number of seconds elapsed since Jan 1, 1970. Attributes: non-creatable, non-modifiable |
| **state** | | string optional | State of the operation.<br><br>Possible values:<br><br>• 'unknown',<br>• 'in_progress',<br>• 'partially_successful',<br>• 'completed_with_manual_recovery_needed',<br>• 'completed_with_warnings',<br>• 'successful',<br>• 'failed'<br><br>Attributes: non-creatable, non-modifiable Possible values:<br><br>• "unknown" - Could not determine the state of the operation,<br>• "in_progress" - The operation is in progress,<br>• "partially_successful" - The operation has ended and it was partially successful,<br>• "successful" - The operation has ended and it was successful,<br>• "failed" - The operation has ended and it failed,<br>• "completed_with_manual_recovery_needed" - The operation has ended but some steps need to be manually run,<br>• "completed_with_warnings" - The operation has ended and it was successful but there were some warnings during the operation |

# Element definition: **metrocluster-operation-statistics-info**

[top]

Metrocluster opertaion statistics info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **failed** | **[0..2^64-1]** | integer optional | Number of failed instances of each operation Attributes: non-creatable, non-modifiable |
| **operation** | | string optional | Name of the operation.<br><br>Possible values:<br><br>• 'configure',<br>• 'modify',<br>• 'switchover',<br>• 'switchback',<br>• 'heal_aggregates',<br>• 'heal_root_aggregates',<br>• 'switchback_continuation_agent',<br>• 'unconfigure',<br>• 'unconfigure_continuation_agent',<br>• 'switchover-simulate',<br>• 'switchback-simulate',<br>• 'check',<br>• 'dr-group-create',<br>• 'dr-group-delete',<br>• 'connect',<br>• 'disconnect',<br>• 'interface-create',<br>• 'interface-delete',<br>• 'interface-modify'<br><br>Attributes: key, non-creatable, non-modifiable Possible values:<br><br>• "unknown" - Unknown operation,<br>• "configure" - MetroCluster configure operation,<br>• "modify" - MetroCluster modify operation,<br>• "switchover" - MetroCluster switchover operation,<br>• "heal_aggregates" - MetroCluster heal aggregates operation,<br>• "heal_root_aggregates" - MetroCluster heal root aggregates operation,<br>• "switchback" - MetroCluster switchback operation,<br>• "switchback_continuation_agent" - MetroCluster switchback continuation agent,<br>• "unconfigure" - MetroCluster unconfigure operation,<br>• "unconfigure_continuation_agent" - MetroCluster unconfigure continuation agent,<br>• "switchover_simulate" - MetroCluster switchover simulation operation,<br>• "switchback_simulate" - MetroCluster switchback simulation operation,<br>• "check" - MetroCluster check operation,<br>• "ip_setup" - MetroCluster IP setup operation,<br>• "ip_teardown" - MetroCluster IP teardown operation,<br>• "dr_group_create" - MetroCluster configuration-setting DR Group create operation,<br>• "dr_group_delete" - MetroCluster configuration-setting DR Group delete operation,<br>• "connect" - MetroCluster configuration-setting connect operation,<br>• "disconnect" - MetroCluster configuration-setting disconnect operation, |

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|---|---|---|---|
| | | | "interface_create" - MetroCluster configuration-setting interface create operation,<br>• "interface_delete" - MetroCluster configuration-setting interface delete operation,<br>• "interface_modify" - MetroCluster configuration-setting interface modify operation,<br>• "heal_aggr_auto" - MetroCluster automatic heal aggregates operation,<br>• "heal_root_aggr_auto" - MetroCluster automatic heal root aggregates operation,<br>• "remove_dr_group" - MetroCluster remove DR group operation |
| **succeeded** | **[0..2^64-1]** | integer optional | Number of successful instances of each operation Attributes: non-creatable, non-modifiable |
| **total-instances** | **[0..2^64-1]** | integer optional | Total number of instances of each operation Attributes: non-creatable, non-modifiable |

# Element definition: **metrocluster-progress-table-info**

[top]

MetroCluster progress table info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **duration** | **[0..2^64-1]** | integer optional | Time spent by this subsystem processing this operation in seconds Attributes: non-creatable, non-modifiable |
| **entry-name** | | string optional | Name of the subsystem Attributes: non-creatable, non-modifiable |
| **index** | **[0..2^32-1]** | integer optional | Resource Table Index Attributes: key, non-creatable, non-modifiable |
| **node-name** | | string optional | Node Attributes: key, non-creatable, non-modifiable |
| **state** | | string optional | State of the subsystem.<br><br>Possible values:<br><br>• 'switchover_in_progress',<br>• 'switchover_failed_or_incomplete_for_some_nodes',<br>• 'switchover_completed_successfully',<br>• 'healing_phase_roots_in_progress',<br>• 'healing_phase_roots_failed_or_incomplete_for_some_nodes',<br>• 'healing_phase_roots_completed_successfully',<br>• 'healing_phase_aggregates_in_progress',<br>• 'healing_phase_aggregates_failed_or_incomplete_for_some_nodes',<br>• 'healing_phase_aggregates_completed_successfully',<br>• 'switchback_in_progress',<br>• 'switchback_failed_or_incomplete_for_some_nodes' |

# Element definition: **metrocluster-show-lif-placement-failures**

[top]

Display LIF placement failures in MetroCluster setup When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **data-protocol** | | string[] optional | Data Protocol of the sync source Vserver LIF Attributes: non-creatable, non-modifiable Possible values:<br>• "nfs" - Used for NFS connections,<br>• "cifs" - Used for CIFS connections,<br>• "iscsi" - Used for iSCSI connections,<br>• "fcp" - Used for Fibre Channel connections,<br>• "fcache" - Used for 7-mode FlexCache connections,<br>• "none" - Used for management. Does not serve any file protocols.,<br>• "http" - Used for HTTP connections,<br>• "fc_nvme" - Used for NVMe/FC connections,<br>• "s3" - Used for S3 connections,<br>• "nvme_roce" - Used for NVMe/RoCE connections,<br>• "nvme_tcp" - Used for NVMe/TCP connections |
| **lif-placement-failure** | | string optional | LIF Placement Failures in MetroCluster setup<br><br>LIF Placement failures:<br>• 'Port hosting the sync source vserver FC LIF in the source cluster is not connected to any fabric',<br>• 'MetroCluster DR Node is offline',<br>• 'No ports found on MetroCluster DR node connected to fabric with fabric name ',<br>• 'No ports found on MetroCluster DR node of CNA adapter-type',<br>• 'No ports found on MetroCluster DR node of FC adapter-type',<br>• 'No ports found on MetroCluster DR node connected to the required subnet '<br><br>Attributes: non-creatable, non-modifiable |
| **sync-source-vserver** | | string optional | sync-source Vserver Name Attributes: key, non-creatable, non-modifiable |
| **sync-source-vserver-lif** | | string optional | sync-source Vserver LIF Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **metrocluster-vserver-info**

[top]

Metroclsuter Vserver Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | cluster-name optional | Cluster name Attributes: key, non-creatable, non-modifiable |
| **configuration-state** | | vs-mcc-config-state optional | This describes the configuration state of the MetroCluster setup. It can have three possible values: healthy, unhealthy, degraded. The configuration-state is described as healthy when both the local and remote streams are up and there are no failed operations in the stream. If either the local stream's or the remote stream's operation state is not up, the configuration-state is unhealthy. If there is a failed operation in the stream, the configuration-state is degraded. Attributes: non-creatable, non-modifiable Possible values:<br>• "healthy" ,<br>• "unhealthy" ,<br>• "degraded" ,<br>• "pending_setup" ,<br>• "syncing" ,<br>• "replication_paused" ,<br>• "pending_switchback" |
| **failed-reason** | | string optional | Failed Replication Reason Attributes: non-creatable, non-modifiable |
| **failed-row** | | string optional | This field appears in the output only if the failed operation is configuration_apply. This specifies the row for which the apply has failed. Attributes: non-creatable, non-modifiable |
| **partner-vserver** | | string optional | Partner Vserver in the MetroCluster relationship Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver in the MetroCluster relationship Attributes: key, non-creatable, non-modifiable |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

# Element definition: **config-cluster-attribute-info**

[top]

The name of attribute and its values at source and destination

| Name | Range | Type | Description |
|---|---|---|---|
| **attribute** | | string optional | Attribute of the configuration compared - for example, volume-style in case of volumes. Attributes: non-creatable, non-modifiable |
| **destination-cluster-value** | | string optional | Value of the configuration attribute at destination cluster Attributes: non-creatable, non-modifiable |
| **source-cluster-value** | | string optional | Value of the configuration attribute at source cluster Attributes: non-creatable, non-modifiable |

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **metrocluster-interconnect-remote-adapter**

[top]

Information about remote metrocluster interconnect adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **remote-adapter-name** | | string optional | Name of the remote adapter connected to this adapter port. For example: cxgb3_0, fcvi_device_0. Attributes: non-creatable, non-modifiable |
| **remote-adapter-port-id** | **[0..2^32-1]** | integer optional | ID of the remote adapter port connected to this adapter port. Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **remote-adapter-port-name** | | node-name optional | Remote Adapter Port Name Attributes: non-creatable, non-modifiable |
| **remote-adapter-port-wwn** | | string optional | World Wide Name of the remote adapter connected to this adapter port. For example: 21:00:00:24:ff:48:ff:47. Attributes: non-creatable, non-modifiable |
| **remote-partner-node-name** | | node-name optional | Name of the remote partner node hosting the remote adapter. Attributes: non-creatable, non-modifiable |

# Element definition: **metroclusterinterconnectmppolicy**

[top]

no-mp|static-map|dynamic-map|round-robin Possible values:

- "no_mp" - No Multipath,
- "static_map" - Static Map,
- "dynamic_map" - Dynamic Map,
- "round_robin" - Round Robin

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **vs-mcc-config-state**

[top]

healthy|unhealthy|degraded|pending-setup|syncing|replication-paused|pending-switchback Possible values:

- "healthy" ,
- "unhealthy" ,
- "degraded" ,
- "pending_setup" ,
- "syncing" ,
- "replication_paused" ,
- "pending_switchback"

[none]

# APIs in Category: **metrocluster-check-connection**

| | |
|---|---|
| metrocluster-check-connection-get-iter | These APIs check the connections for nodes in a MetroCluster over IP configuration |

## metrocluster-check-connection-get-iter

[top]

Iterate over a list of metrocluster-check-connection-info objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-check-connection-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-check-connection-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-check-connection object. All metrocluster-check-connection objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-check-connection-info[] optional | The list of attributes of metrocluster-check-connection objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster-check-connection objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **metrocluster-check-connection-info**

[top]

MetroCluster check connection info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **check-mtu-size-error-info** | | string optional | Check connection MTU size error information Attributes: non-creatable, non-modifiable |
| **check-ping-error-info** | | string optional | Check connection ping error information Attributes: non-creatable, non-modifiable |
| **check-result** | | string optional | Check connection result Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| **check-storage-error-info** | | string optional | Check connection storage error information Attributes: non-creatable, non-modifiable |
| **cluster** | | string optional | Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **cluster-uuid** | | string optional | UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **config-error-info** | | string optional | Connection configuration error information Attributes: non-creatable, non-modifiable |
| **config-state** | | string optional | Connection configuration state<br><br>Possible values:<br>• 'disconnected',<br>• 'completed',<br>• 'connect-check',<br>• 'connect-nvlog',<br>• 'connect-storage',<br>• 'disconnect-storage',<br>• 'disconnect-nvlog',<br>• 'connect-prepare',<br>• 'connect-update'<br><br>Attributes: non-creatable, non-modifiable |
| **destination-address** | | string optional | IP address for the port on the partner node Attributes: non-creatable, non-modifiable |
| **dr-group-id** | **[0..2^32-1]** | integer optional | Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable |
| **home-port** | | string optional | Name of the port on the node Attributes: key, non-creatable, non-modifiable |
| **node** | | string optional | Name of the node Attributes: key, non-creatable, non-modifiable |
| **node-uuid** | | string optional | UUID of the node Attributes: key, non-creatable, non-modifiable |
| **partner-cluster-uuid** | | string optional | UUID of the cluster the partner node belongs to Attributes: non-creatable, non-modifiable |
| **partner-node** | | string optional | Name of the partner node Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **partner-node-uuid** | | string optional | UUID of the partner node Attributes: non-creatable, non-modifiable |
| **partner-type** | | string optional | Relationship type of the node with the partner node Attributes: non-creatable, non-modifiable |
| **relationship-type** | | string optional | Relationship type of the node with the partner node Attributes: key, non-creatable, non-modifiable Possible values:<br>• "self" ,<br>• "ha" ,<br>• "dr_primary" ,<br>• "dr_auxiliary" ,<br>• "unknown" |
| **source-address** | | string optional | IP address for the port on the node Attributes: non-creatable, non-modifiable |

# APIs in Category: **metrocluster-configuration-settings**

| | |
|---|---|
| metrocluster-configuration-settings-get-iter | These APIs manage the configuration settings for a MetroCluster over IP setup |

## metrocluster-configuration-settings-get-iter

[top]

Iterate over a list of metrocluster-configuration-settings-info objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-configuration-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-configuration-settings-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-configuration-settings object. All metrocluster-configuration-settings objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-configuration-settings-info[] optional | The list of attributes of metrocluster-configuration-settings objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster-configuration-settings objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## Element definition: **metrocluster-configuration-settings-info**

[top]

MetroCluster configuration settings info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | string optional | Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **cluster-uuid** | | string optional | UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **config-error-info** | | string optional | Configuration error information Attributes: non-creatable, non-modifiable |
| **configuration-status** | | string optional | Configuration status Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Name of the node Attributes: key, non-creatable, non-modifiable |

# APIs in Category: **metrocluster-connection**


metrocluster-connection-connect-async
metrocluster-connection-disconnect-async
metrocluster-connection-get-iter


These APIs manage the connections between source and destination network interfaces for MetroCluster over IP setup

## metrocluster-connection-connect-async

[top]

Configure the connections that mirror the NV logs and access remote storage between partner nodes in MetroCluster sertup A job will be spawned to operate on the metrocluster-connection and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## metrocluster-connection-disconnect-async

[top]

Tear down the connections that mirror the NV logs and access remote storage between partner nodes in MetroCluster setup A job will be spawned to operate on the metrocluster-connection and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **dr-group-id** | **[0..2^32-1]** | integer | DR Group ID |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |

| | | | |
|---|---|---|---|
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# metrocluster-connection-get-iter

[top]

Iterate over a list of metrocluster-connection-info objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-connection-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-connection-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-connection object. All metrocluster-connection objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-connection-info[] optional | The list of attributes of metrocluster-connection objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster-connection objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **metrocluster-connection-info**

[top]

MetroCluster Connection configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | string optional | Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **cluster-uuid** | | string optional | UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **config-error-info** | | string optional | Connection configuration error information Attributes: non-creatable, non-modifiable |
| **config-state** | | string optional | Connection configuration state<br><br>Possible values:<br><br>• 'disconnected',<br>• 'completed',<br>• 'connect-check',<br>• 'connect-nvlog',<br>• 'connect-storage',<br>• 'disconnect-storage',<br>• 'disconnect-nvlog',<br>• 'connect-prepare',<br>• 'connect-update'<br><br>Attributes: non-creatable, non-modifiable |
| **destination-address** | | string optional | IP address for the port on the partner node Attributes: non-creatable, non-modifiable |
| **dr-group-id** | **[0..2^32-1]** | integer optional | Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable |
| **home-port** | | string optional | Name of the port on the node Attributes: key, non-creatable, non-modifiable |
| **node** | | string optional | Name of the node Attributes: key, non-creatable, non-modifiable |
| **node-uuid** | | string optional | UUID of the node Attributes: key, non-creatable, non-modifiable |
| **partner-cluster-uuid** | | string optional | UUID of the cluster the partner node belongs to Attributes: non-creatable, non-modifiable |
| **partner-node** | | string optional | Name of the partner node Attributes: non-creatable, non-modifiable |
| **partner-node-uuid** | | string optional | UUID of the partner node Attributes: non-creatable, non-modifiable |
| **partner-type** | | string optional | Relationship type of the node with the partner node Attributes: non-creatable, non-modifiable |
| **relationship-type** | | string optional | Relationship type of the node with the partner node Attributes: key, non-creatable, non-modifiable Possible values:<br><br>• "self" ,<br>• "ha" ,<br>• "dr_primary" ,<br>• "dr_auxiliary" ,<br>• "unknown" |
| **source-address** | | string optional | IP address for the port on the node Attributes: non-creatable, non-modifiable |

# APIs in Category: **metrocluster-dr-group**


metrocluster-dr-group-create
metrocluster-dr-group-delete
metrocluster-dr-group-get-iter


These APIs manage the DR groups for a MetroCluster over IP setup

## metrocluster-dr-group-create

[top]

Create MetroCluster DR group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **local-node** | | string | Local Node Name |
| **partner-cluster** | | string | Partner Cluster Name |
| **remote-node** | | string | Remote Node Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## metrocluster-dr-group-delete

[top]

Delete MetroCluster DR group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **dr-group-id** | **[0..2^32-1]** | integer | Dr group Id |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## metrocluster-dr-group-get-iter

[top]

Iterate over a list of metrocluster-dr-group-info objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-dr-group-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is |

| | | | |
|---|---|---|---|
| | | optional | available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-dr-group-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-dr-group object. All metrocluster-dr-group objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-dr-group-info[] optional | The list of attributes of metrocluster-dr-group objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster-dr-group objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **metrocluster-dr-group-info**

[top]

MetroCluster DR group configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | string optional | Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **cluster-uuid** | | string optional | UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **dr-group-id** | **[0..2^32-1]** | integer optional | Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable |
| **dr-partner-node** | | string optional | Name of the DR partner node Attributes: non-creatable, non-modifiable |
| **dr-partner-node-uuid** | | string optional | UUID of the DR partner node Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Name of the node Attributes: key, non-creatable, non-modifiable |
| **node-uuid** | | string | UUID of the node Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| | | optional | |

# APIs in Category: **metrocluster-interface**


metrocluster-interface-create
metrocluster-interface-delete
metrocluster-interface-get-iter


These APIs manage the logical interface for a MetroCluster over IP setup

## metrocluster-interface-create

[top]

Create a MetroCluster Interface

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | string | Network Address |
| **cluster-name** | | string | Cluster Name |
| **home-node** | | string | Home Node |
| **home-port** | | string | Home Port |
| **netmask** | | string | Netmask |
| **vlan-id** | **[0..2^32-1]** | integer optional | Virtual LAN ID |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## metrocluster-interface-delete

[top]

Delete a MetroCluster Interface

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-name** | | string | Cluster Name |
| **home-node** | | string | Home Node |
| **home-port** | | string | Home Port |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## metrocluster-interface-get-iter

[top]

Iterate over a list of metrocluster-interface-info objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-interface-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-interface-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-interface object. All metrocluster-interface objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-interface-info[] optional | The list of attributes of metrocluster-interface objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster-interface objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **metrocluster-interface-info**

[top]

MetroCluster Interface configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | string optional | IP address Attributes: non-creatable, non-modifiable |
| **cluster** | | string optional | Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **cluster-uuid** | | string optional | UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **config-** | | string | Interface configuration error information Attributes: non-creatable, |

| | | | |
|---|---|---|---|
| **error-info** | | optional | non-modifiable |
| **config-state** | | string optional | Interface configuration state<br><br>Possible values:<br><br>• 'create-interface',<br>• 'delete-interface',<br>• 'setup-storage',<br>• 'teardown-storage'<br>• 'completed',<br>• 'prepare-connection',<br>• 'disconnect-connection'<br><br>Attributes: non-creatable, non-modifiable |
| **dr-group-id** | **[0..2^32-1]** | integer optional | Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable |
| **gateway** | | string optional | Gateway Attributes: non-creatable, non-modifiable |
| **home-port** | | string optional | Name of the port on the node Attributes: key, non-creatable, non-modifiable |
| **netmask** | | string optional | Netmask Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Name of the node Attributes: key, non-creatable, non-modifiable |
| **node-uuid** | | string optional | UUID of the node Attributes: key, non-creatable, non-modifiable |
| **vlan-id** | **[0..2^32-1]** | integer optional | Interface virtual LAN identifier Attributes: non-creatable, non-modifiable |

# APIs in Category: **name-mapping**


name-mapping-create
name-mapping-delete
name-mapping-get-iter
name-mapping-insert
name-mapping-modify
name-mapping-refresh-hostname
name-mapping-swap
name-mapping-unix-group-add-user
name-mapping-unix-group-create
name-mapping-unix-group-delete-user
name-mapping-unix-group-destroy
name-mapping-unix-group-get
name-mapping-unix-group-get-iter
name-mapping-unix-group-modify
name-mapping-unix-user-create
name-mapping-unix-user-destroy
name-mapping-unix-user-get
name-mapping-unix-user-get-iter
name-mapping-unix-user-modify


This set of APIs are used to manage name mappings between Kerberos users, Windows users and UNIX users. name-mapping-unix-user APIs are used to manage local UNIX users. name-mapping-unix-group APIs are used to manage local UNIX groups. When a NFS client wishes to access a file having NTFS style permission, name-mapping rule is applied to determine the Windows User that maps to the NFS Client user under consideration. When a CIFS client wishes to access a file having UNIX style permission name-mapping rule is applied to determine the UNIX user that maps to the CIFS user under consideration. When neither NIS nor LDAP is configured, credentials for the mapped UNIX user is obtained from the local database created using name-mapping-unix-user and name-mapping-unix-group APIs.

## name-mapping-create

[top]

Create a new name mapping for a Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-and-mask optional | IP address is an optional parameter which is used to match the client IP address while searching for a pattern that can be used as a replacement. |
| | | name- | Direction in which the name mapping is applied. Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name |

| | | | |
|---|---|---|---|
| **direction** | | mapping-direction | mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **hostname** | | string optional | Hostname is an optional parameter which is used to match the client IP address with the list of IP addresses from mentioned hostname. |
| **pattern** | | string | Pattern to use to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. |
| **position** | **[1..2147483647]** | integer | Position of an existing name mapping in the list of name mappings for this Vserver. |
| **replacement** | | string | The name that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. |
| **return-record** | | boolean optional | If set to true, returns the name-mapping on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | name-mapping-info optional | The name-mapping created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# name-mapping-delete

[top]

Delete an existing name mapping entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | name-mapping-direction | Direction in which the name mapping is applied. Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |

| | | | |
|---|---|---|---|
| **position** | **[1..2147483647]** | integer | Position of an existing name mapping in the list of name mappings for this Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# name-mapping-get-iter

[top]

Retrieve the list of name mappings in the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-mapping-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | name-mapping-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the name-mapping object. All name-mapping objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | name-mapping-info[] optional | The list of attributes of name-mapping objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more name-mapping objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# name-mapping-insert

[top]

Insert a name mapping into the table at a specified position.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-and-mask optional | This optional parameter specifies the IP address which can be used to match the client IP address with the pattern. |

| | | | |
|---|---|---|---|
| **direction** | | name-mapping-direction | Direction in which the name mapping is applied. Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **hostname** | | string optional | This optional parameter specifies the Hostname which can be used to match the client IP address with the list of IP addresses corresspoding to the provided hostname. |
| **pattern** | | string | Pattern to use to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. |
| **position** | **[1..2147483647]** | integer | Position within the set of name mappings that this new mapping will take. If a mapping already exists at this position, it will be moved to the next position in the list. |
| **replacement** | | string | The name that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# name-mapping-modify

[top]

Modify an existing name mapping entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-and-mask optional | IP address is an optional parameter which is used to match the client IP address while searching for a pattern that can be used as a replacement. |
| **direction** | | name-mapping-direction | Direction in which the name mapping is applied. Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name |

| | | | |
|---|---|---|---|
| | | | mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **hostname** | | string optional | Hostname is an optional parameter which is used to match the client IP address with the list of IP addresses from mentioned hostname. |
| **pattern** | | string optional | Pattern to use to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. |
| **position** | **[1..2147483647]** | integer | Position of an existing name mapping in the list of name mappings for this Vserver. |
| **replacement** | | string optional | The name that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# name-mapping-refresh-hostname

[top]

Resolve The IP addresses for the configured Hostname.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | name-mapping-direction optional | Name Mapping Direction Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **hostname** | | string optional | Hostname |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

[top]

# name-mapping-swap

Swap the position of one name mapping with another. The position is the place in the sequence of name mappings in which the mappings are applied.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | string | Direction in which the name mapping is applied. |
| **position** | **[1..2147483647]** | integer | Position of an existing name mapping in the list of name mappings for this Vserver. |
| **with-position** | **[0..2^32-1]** | integer | Position of an existing name mapping entry in the list of name mappings for this Vserver. This entry will be swapped with the entry at 'position'. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# name-mapping-unix-group-add-user

[top]

Add a user to a UNIX group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | string | Specifies UNIX group name. |
| **user-name** | | string | Specifies user's UNIX account name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_ENABLED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-mapping-unix-group-create

[top]

Create a new UNIX group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-id** | **[0..2^32-1]** | integer | Specifies an identification number for the UNIX group. |
| **group-name** | | string | Specifies UNIX group name. |
| **return-record** | | boolean optional | If set to true, returns the UNIX group information on successful creation. Default: false |
| **skip-name-validation** | | boolean optional | Specifies if group name validation is skipped. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | unix-group-info optional | The UNIX group information created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_ENABLED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-mapping-unix-group-delete-user

[top]

Delete a user from a UNIX group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | string | Specifies UNIX group name. |
| **user-name** | | string | Specifies user's UNIX account name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_ENABLED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-mapping-unix-group-destroy

[top]

Destroy an existing UNIX group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | string | Specifies UNIX group name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_ENABLED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-mapping-unix-group-get

[top]

Get the attributes of a UNIX group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | unix-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **group-name** | | string | Specifies UNIX group name. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | unix-group-info | The attributes of the UNIX group information. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_GROUP_ALT_CMD** | |

# name-mapping-unix-group-get-iter

[top]

Iterate over a list of UNIX groups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | unix-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | unix-group-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the UNIX group information object. All UNIX group information objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | unix-group-info[] optional | The list of attributes of UNIX group information objects. |
| | | string | Tag for the next call. Not present when there are no more UNIX |

| | | | |
|---|---|---|---|
| **next-tag** | | optional | group information objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |
| **E_NS_CONFIG_FILEONLY_GROUP_ALT_CMD** | |

## name-mapping-unix-group-modify

[top]

Modify the attributes of a UNIX group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-id** | **[0..2^32-1]** | integer optional | Specifies an identification number for the UNIX group. |
| **group-name** | | string | Specifies UNIX group name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_ENABLED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

## name-mapping-unix-user-create

[top]

Create a new UNIX user.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **full-name** | | string optional | Specifies the full name of the UNIX user. |
| **group-id** | **[0..2^32-1]** | integer | Specifies the primary group identification number for the UNIX user. |
| **return-record** | | boolean optional | If set to true, returns the UNIX user information on successful creation. Default: false |
| **skip-name-validation** | | boolean optional | Specifies if user name validation is skipped. |
| **user-id** | **[0..2^32-1]** | integer | Specifies an identification number for the UNIX user. |
| **user-name** | | string | Specifies user's UNIX account name. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | unix-user-info optional | The UNIX user information created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_ENABLED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-mapping-unix-user-destroy

[top]

Destroy an existing UNIX user.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **user-name** | | string | Specifies user's UNIX account name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_ENABLED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-mapping-unix-user-get

[top]

Get the attributes of a UNIX user.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | unix-user-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **user-name** | | string | Specifies user's UNIX account name. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | unix-user-info | The attributes of the UNIX user information. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_USER_ALT_CMD** | |

# name-mapping-unix-user-get-iter

[top]

Iterate over a list of UNIX users.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | unix-user-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | unix-user-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the UNIX user information object. All UNIX user information objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | unix-user-info[] optional | The list of attributes of UNIX user information objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more UNIX user information objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |
| **E_NS_CONFIG_FILEONLY_USER_ALT_CMD** | |

# name-mapping-unix-user-modify

[top]

Modify the attributes of a UNIX user.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **full-name** | | string optional | Specifies the full name of the UNIX user. |
| | | | |

| | | | |
|---|---|---|---|
| **group-id** | **[0..2^32-1]** | integer optional | Specifies the primary group identification number for the UNIX user. |
| **user-id** | **[0..2^32-1]** | integer optional | Specifies an identification number for the UNIX user. |
| **user-name** | | string | Specifies user's UNIX account name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_ENABLED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

# Element definition: **name-mapping-direction**

[top]

Direction of the name mapping. Possible values:

- "krb_unix" - Kerberos principal name to UNIX user name mapping,
- "win_unix" - Windows user name to UNIX user name mapping,
- "unix_win" - UNIX user name to Windows user name mapping,
- "s3_unix" - S3 user name to UNIX user name mapping,
- "s3_win" - S3 user name to Windows user name mapping

[none]

# Element definition: **name-mapping-info**

[top]

Name mapping configuration for Vservers. The possible sources of name mapping information and the order in which they are searched is determined by the Vserver's 'name-mapping-switch' option. If the 'name-mapping-switch' is set to 'file', the rules in this table are used to determine the mapping. Windows user names, UNIX user names and Kerberos principal names can be three disjoint sets of names. A mechanism is needed to map users from one set to another when performing authorization checks. Each name mapping entry represents one such map in a given direction. Name mappings are done using standard UNIX style regular expressions for pattern replacement. For example if a configuration is required to convert any Windows user in the Windows domain name 'EXAMPLE' into a UNIX user with the same name in NIS, the direction entry should be set to 'win-unix', the pattern string should be set to 'EXAMPLE\\(.+)' and the replacement string should be set to '\1'. The double ba) in the pattern matches a single backslash in the source name. The parentheses denote a subexpression but do

not match any characters themselves. The 'period' matches any single character. The 'plus' matches one or more characters of the previous expression. The pattern 'EXAMPLE\\(.+)' matches 'EXAMPLE\' followed by one or more of any character. In the replacement, '\1' refers to the string that the first subexpression matched. Assuming the Windows user 'EXAMPLE\user1', the replacement evaluates to 'user1'. If a mapping is required from Windows to UNIX and none of the name mapping entries match, the domain name is stripped from the the username and it is directly mapped to the UNIX user of the same name. Similarly if a mapping is required from a UNIX user to a Windows user and none of the name mapping entries match, the domain name is prefixed to the username and it is directly mapped to a Windows user of the same name. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-and-mask optional | IP address is an optional parameter which is used to match the client IP address while searching for a pattern that can be used as a replacement. Attributes: optional-for-create, modifiable |
| **direction** | | name-mapping-direction optional | Direction in which the name mapping is applied. Attributes: key, required-for-create, non-modifiable Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **hostname** | | string optional | Hostname is an optional parameter which is used to match the client IP address with the list of IP addresses from mentioned hostname. Attributes: optional-for-create, modifiable |
| **pattern** | | string optional | Pattern to use to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. Attributes: required-for-create, modifiable |
| **position** | **[1..2147483647]** | integer optional | Position of an existing name mapping in the list of name mappings for this Vserver. Attributes: key, required-for-create, non-modifiable |
| **replacement** | | string optional | The name that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. Attributes: required-for-create, modifiable |
| **vserver** | | string optional | Specifies the Vserver for the name mapping. Attributes: key, non-creatable, non-modifiable |

# Element definition: **unix-group-info**

[top]

UNIX group information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **group-id** | **[0..2^32-1]** | integer optional | Specifies an identification number for the UNIX group. Attributes: required-for-create, modifiable |
| **group-name** | | string optional | Specifies UNIX group name. Attributes: key, required-for-create, non-modifiable |
| **skip-name-validation** | | boolean optional | Specifies if group name validation is skipped. Attributes: optional-for-create, non-modifiable |
| **users** | | unix-user-name[] optional | Specifies the list of UNIX users that belong to the UNIX group. |
| **vserver** | | string optional | Specifies the Vserver for the group. Attributes: key, non-creatable, non-modifiable |

# Element definition: **unix-user-info**

[top]

UNIX user information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **full-name** | | string optional | Specifies the full name of the UNIX user. Attributes: optional-for-create, modifiable |
| **group-id** | **[0..2^32-1]** | integer optional | Specifies the primary group identification number for the UNIX user. Attributes: required-for-create, modifiable |
| **skip-name-validation** | | boolean optional | Specifies if user name validation is skipped. Attributes: optional-for-create, non-modifiable |
| **user-id** | **[0..2^32-1]** | integer optional | Specifies an identification number for the UNIX user. Attributes: required-for-create, modifiable |
| **user-name** | | string | Specifies user's UNIX account name. Attributes: key, required-for- |

| | | | |
|---|---|---|---|
| | | optional | create, non-modifiable |
| **vserver** | | string optional | Specifies the Vserver for the UNIX user. Attributes: key, non-creatable, non-modifiable |

# Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

# Element definition: **name-mapping-direction**

[top]

Direction of the name mapping. Possible values:

- "krb_unix" - Kerberos principal name to UNIX user name mapping,
- "win_unix" - Windows user name to UNIX user name mapping,
- "unix_win" - UNIX user name to Windows user name mapping,
- "s3_unix" - S3 user name to UNIX user name mapping,
- "s3_win" - S3 user name to Windows user name mapping

[none]

# Element definition: **unix-user-name**

[top]

Specifies user name information.

| Name | Range | Type | Description |
|---|---|---|---|
| **user-name** | | string optional | Specifies user's UNIX account name. Attributes: non-creatable, non-modifiable |

# APIs in Category: **nameservice**


name-service-cache-group-membership-settings-get
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name-service-cache-unix-user-settings-get
name-service-cache-unix-user-settings-get-iter
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name-service-nis-binding-detail-get
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nameservice-nsswitch-modify


## name-service-cache-group-membership-settings-get

[top]

Get the name services group membership cache configuration of the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-cache-group-membership-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | name-service-cache-group-membership- | The attributes of the name-service-cache-group-membership-settings. |

| | | | |
|---|---|---|---|
| | | settings-info | |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# name-service-cache-group-membership-settings-get-iter

[top]

Get the name services group membership cache configuration of the Cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | name-service-cache-group-membership-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | name-service-cache-group-membership-settings-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-group-membership-settings object. All name-service-cache-group-membership-settings objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | name-service-cache-group-membership-settings-info[] optional | The list of attributes of name-service-cache-group-membership-settings objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more name-service-cache-group-membership-settings objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# name-service-cache-group-membership-settings-modify

[top]

Modify the name services group membership cache configuration of the specified Vserver. Omitted

(optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **grplist-ttl** | | time-interval optional | Time to Live for Grplist |
| **is-enabled** | | boolean optional | Is Cache Enabled? |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-service-cache-hosts-settings-get

[top]

Get the name services hosts cache configuration of the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-cache-hosts-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | name-service-cache-hosts-settings-info | The attributes of the name-service-cache-hosts-settings. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# name-service-cache-hosts-settings-get-iter

[top]

Get the name services hosts cache configuration of the Cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-cache-hosts-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | name-service-cache-hosts-settings-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-hosts-settings object. All name-service-cache-hosts-settings objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | name-service-cache-hosts-settings-info[] optional | The list of attributes of name-service-cache-hosts-settings objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more name-service-cache-hosts-settings objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# name-service-cache-hosts-settings-modify

[top]

Modify the name services hosts cache configuration of the specified Vserver. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-dns-ttl-enabled** | | boolean optional | Is TTL Taken from DNS |
| **is-enabled** | | boolean optional | Is Cache Enabled? |
| **is-negative-cache-enabled** | | boolean optional | Is Negative Cache Enabled? |
| **negative-ttl** | | time-interval optional | Negative Time to Live |
| **ttl** | | time-interval optional | Time to Live |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-service-cache-netgroup-settings-get

[top]

Get the name services netgroup cache configuration of the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-cache-netgroup-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | name-service-cache-netgroup-settings-info | The attributes of the name-service-cache-netgroup-settings. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# name-service-cache-netgroup-settings-get-iter

[top]

Get the name services netgroup cache configuration of the Cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-cache-netgroup-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | name-service-cache-netgroup-settings-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-netgroup-settings object. All name-service-cache-netgroup-settings objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **attributes-list** | | name-service-cache-netgroup-settings-info[] optional | The list of attributes of name-service-cache-netgroup-settings objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more name-service-cache-netgroup-settings objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# name-service-cache-netgroup-settings-modify

[top]

Modify the name services netgroup cache configuration of the specified Vserver. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Is Cache Enabled? |
| **is-negative-cache-enabled** | | boolean optional | Is Negative Cache Enabled? |
| **negative-ttl** | | time-interval optional | Negative Time to Live |
| **ttl** | | time-interval optional | Time to Live |
| **ttl-members** | | time-interval optional | TTL for netgroup members |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-service-cache-unix-group-settings-get

[top]

Get the name services UNIX group cache configuration of the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-cache-unix-group-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | name-service-cache-unix-group-settings-info | The attributes of the name-service-cache-unix-group-settings. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# name-service-cache-unix-group-settings-get-iter

[top]

Get the name services unix-group cache configuration of the Cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-cache-unix-group-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | name-service-cache-unix-group-settings-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-unix-group-settings object. All name-service-cache-unix-group-settings objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | name-service-cache-unix-group-settings-info[] optional | The list of attributes of name-service-cache-unix-group-settings objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more name-service-cache-unix-group-settings objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

## name-service-cache-unix-group-settings-modify

[top]

Modify the name services UNIX group cache configuration of the specified Vserver. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| is-enabled | | boolean optional | Is Cache Enabled? |
| is-negative-cache-enabled | | boolean optional | Is Negative Cache Enabled? |
| is-propagation-enabled | | boolean optional | Is Propagation Enabled? |
| negative-ttl | | time-interval optional | Negative Time to Live |
| ttl | | time-interval optional | Time to Live |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

## name-service-cache-unix-user-settings-get

[top]

Get the name services UNIX users cache configuration of the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | name-service-cache-unix-user-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | name-service-cache-unix-user-settings-info | The attributes of the name-service-cache-unix-user-settings. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# name-service-cache-unix-user-settings-get-iter

[top]

Get the name services unix-user cache configuration of the Cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-cache-unix-user-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | name-service-cache-unix-user-settings-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-unix-user-settings object. All name-service-cache-unix-user-settings objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | name-service-cache-unix-user-settings-info[] optional | The list of attributes of name-service-cache-unix-user-settings objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more name-service-cache-unix-user-settings objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# name-service-cache-unix-user-settings-modify

[top]

Modify the name services UNIX users cache configuration of the specified Vserver. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean | Is Cache Enabled? |

| | | | |
|---|---|---|---|
| | | optional | |
| **is-negative-cache-enabled** | | boolean optional | Is Negative Cache Enabled? |
| **is-propagation-enabled** | | boolean optional | Is Propagation Enabled? |
| **negative-ttl** | | time-interval optional | Negative Time to Live |
| **ttl** | | time-interval optional | Time to Live |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-service-nis-binding-detail-get

[top]

Show bound NIS servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **bound-server** | | string | Specifies the hostname/IP address of the NIS server in the domain. |
| **desired-attributes** | | nis-binding-detail optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **nis-domain** | | string | Specifies the NIS domain. For example: 'example.com' |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | nis-binding-detail | The attributes of the nis-binding-detail. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# name-service-nis-binding-detail-get-iter

[top]

Iterate over a list of bound NIS servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nis-binding-detail optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nis-binding-detail optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the nis-binding-detail object. All nis-binding-detail objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nis-binding-detail[] optional | The list of attributes of nis-binding-detail objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more nis-binding-detail objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |

# name-service-nis-show-bound

[top]

Show bound nis servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nis-domain-show-bound optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **nis-domain** | | string | Specifies the NIS domain. For example: 'example.com' |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | nis-domain-show-bound | The attributes of the nis-show-bound. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# name-service-nis-show-bound-iter

[top]

Iterate over a list of bound nis servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nis-domain-show-bound optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nis-domain-show-bound optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the nis-show-bound object. All nis-show-bound objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nis-domain-show-bound[] optional | The list of attributes of nis-show-bound objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more nis-show-bound objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |

# name-service-unix-group-fileonly-get

[top]

Display Configuration for UNIX-Group file download

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-unix-group-fileonly-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | name- | |

| | | | |
|---|---|---|---|
| **attributes** | | service-unix-group-fileonly-info | The attributes of the name-service-unix-group-fileonly. |

| Errno | Description |
|---|---|
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# name-service-unix-user-fileonly-get

[top]

Display Configuration for UNIX-User file download

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-unix-user-fileonly-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | name-service-unix-user-fileonly-info | The attributes of the name-service-unix-user-fileonly. |

| Errno | Description |
|---|---|
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# nameservice-get-hostname-from-ipv4

[top]

Get the host information from the IP address.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ip-address** | | string | IPv4 address of the host to be resolved, in dotted decimal notation (for example, 10.56.10.125). |
| **node** | | string | Name of the node over which the command is to be run. |
| **show-source** | | boolean optional | Source used for Lookup |
| **vserver** | | string | Vserver Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **canonical-name** | | string | Canonical Host-Name of the IpAddress to be resolved |
| **source** | | string | Source used for Lookup |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EOBJECTNOTFOUND | |
| EINVALIDINPUTERROR | |
| EVSERVER_OP_NOT_ALLOWED | |
| EHOSTNOTFOUND | |
| EHOST_TRYAGAIN | |
| E_NODATA | |

# nameservice-get-ip-from-hostname

[top]

Get the IP address information by using the host name.

| Input Name | Range | Type | Description |
|---|---|---|---|
| address-family | | address-family optional | Return Addresses for Family |
| hostname | | string | Name of the host to be resolved |
| node | | string | Name of the node over which the command is to be run. |
| show-source | | boolean optional | Show Source used for lookup |
| vserver | | string | Vserver Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| ipaddress | | ip-address[] | One ip address, can be an IPv4 address in dotted-decimal format(for example, 192.168.11.12) or the textual representation of an IPv6 address (for example, 2001:DB8:0:0:8:800:200C:417A or 2001:DB8::8:800:200C:417A). No hostname resolution |
| source | | string | Source used for Lookup |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EOBJECTNOTFOUND | |
| EINVALIDINPUTERROR | |
| EVSERVER_OP_NOT_ALLOWED | |
| EVSERVERNOTFOUND | |
| E_AGAIN | |
| E_NONAME | |
| E_MEMORY | |
| E_FAMILY | |

# nameservice-get-ipv4-from-hostname

[top]

Get the IP address information from host name.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hostname** | | string | Name of the host to be resolved |
| **node** | | string | Name of the node over which the command is to be run. |
| **show-source** | | boolean optional | Source used for Lookup |
| **vserver** | | string | Vserver Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **ipaddress** | | ip-address[] | One ip address, can be an IPv4 address in dotted-decimal format(for example, 192.168.11.125). |
| **source** | | string | Source used for Lookup |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVSERVERNOTFOUND** | |
| **EHOSTNOTFOUND** | |
| **EHOST_TRYAGAIN** | |
| **E_NODATA** | |

# nameservice-nsswitch-create

[top]

Create an Name Service Switch Configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **nameservice-database** | | nss-db-type | Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Possible values:<br>• "hosts" - Hosts Database,<br>• "group" - Group Database,<br>• "passwd" - Password Database,<br>• "netgroup" - Netgroup Database,<br>• "namemap" - Name mapping database |
| **nameservice-sources** | | nss-source-type[] | Order of looking up Name Service Switch Sources.Possible values are files, dns, ldap or nis Possible values:<br>• "files" - Local File Name System service setup,<br>• "dns" - Domain Name System service setup,<br>• "ldap" - Lightweight Directory Access Protocol service setup,<br>• "nis" - Network Information Service service setup |
| **return-record** | | boolean optional | If set to true, returns the nsswitch on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | namservice- | |

| | | | |
|---|---|---|---|
| **result** | | nsswitch-config-info optional | The nsswitch created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nameservice-nsswitch-destroy

[top]

Destroy an existing Name Service Switch Configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **nameservice-database** | | nss-db-type | Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Possible values:<br>• "hosts" - Hosts Database,<br>• "group" - Group Database,<br>• "passwd" - Password Database,<br>• "netgroup" - Netgroup Database,<br>• "namemap" - Name mapping database |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nameservice-nsswitch-get

[top]

Get Name Service Switch Configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | namservice-nsswitch-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **nameservice-database** | | nss-db-type | Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Possible values:<br>• "hosts" - Hosts Database,<br>• "group" - Group Database, |

| | | | |
|---|---|---|---|
| | | | "passwd" - Password Database,<br>• "netgroup" - Netgroup Database,<br>• "namemap" - Name mapping database |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | namservice-nsswitch-config-info | The attributes of the nsswitch. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# nameservice-nsswitch-get-iter

[top]

Iterate over a list of Name Service Switch Configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | namservice-nsswitch-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | namservice-nsswitch-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the nsswitch object. All nsswitch objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | namservice-nsswitch-config-info[] optional | The list of attributes of nsswitch objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more nsswitch objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |

# nameservice-nsswitch-modify

[top]

Modify the attributes of Name Service Switch Configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **nameservice-database** | | nss-db-type | Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Possible values:<br>• "hosts" - Hosts Database,<br>• "group" - Group Database,<br>• "passwd" - Password Database,<br>• "netgroup" - Netgroup Database,<br>• "namemap" - Name mapping database |
| **nameservice-sources** | | nss-source-type[] optional | Order of looking up Name Service Switch Sources.Possible values are files, dns, ldap or nis Possible values:<br>• "files" - Local File Name System service setup,<br>• "dns" - Domain Name System service setup,<br>• "ldap" - Lightweight Directory Access Protocol service setup,<br>• "nis" - Network Information Service service setup |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# Element definition: **address-family**

[top]

ipv4|ipv6|all Possible values:

- "ipv4" - Lookup for ipv4 addresses,
- "ipv6" - Lookup for ipv6 addresses,
- "all" - Lookup for both ipv4 and ipv6 addresses

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **name-service-cache-group-membership-settings-info**

[top]

Contains name services group membership cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **grplist-ttl** | | time-interval optional | Time to Live for Grplist Attributes: optional-for-create, modifiable |
| **is-enabled** | | boolean optional | Is Cache Enabled? Attributes: optional-for-create, modifiable |
| **vserver-name** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **name-service-cache-hosts-settings-info**

[top]

Contains name services hosts cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-dns-ttl-enabled** | | boolean optional | Is TTL Taken from DNS Attributes: optional-for-create, modifiable |
| **is-enabled** | | boolean optional | Is Cache Enabled? Attributes: optional-for-create, modifiable |
| **is-negative-cache-enabled** | | boolean optional | Is Negative Cache Enabled? Attributes: optional-for-create, modifiable |
| **negative-ttl** | | time-interval optional | Negative Time to Live Attributes: optional-for-create, modifiable |
| **ttl** | | time-interval optional | Time to Live Attributes: optional-for-create, modifiable |
| **vserver-name** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **name-service-cache-netgroup-settings-info**

[top]

Contains name services netgroup cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Is Cache Enabled? Attributes: optional-for-create, modifiable |
| **is-negative-cache-enabled** | | boolean optional | Is Negative Cache Enabled? Attributes: optional-for-create, modifiable |
| **negative-ttl** | | time-interval optional | Negative Time to Live Attributes: optional-for-create, modifiable |
| **ttl** | | time-interval optional | Time to Live Attributes: optional-for-create, modifiable |
| **ttl-members** | | time-interval optional | TTL for netgroup members Attributes: optional-for-create, modifiable |
| **vserver-name** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **name-service-cache-unix-group-settings-info**

[top]

Contains name services UNIX group cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Is Cache Enabled? Attributes: optional-for-create, modifiable |
| **is-negative-cache-enabled** | | boolean optional | Is Negative Cache Enabled? Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **is-propagation-enabled** | | boolean optional | Is Propagation Enabled? Attributes: optional-for-create, modifiable |
| **negative-ttl** | | time-interval optional | Negative Time to Live Attributes: optional-for-create, modifiable |
| **ttl** | | time-interval optional | Time to Live Attributes: optional-for-create, modifiable |
| **vserver-name** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **name-service-cache-unix-user-settings-info**

[top]

Contains name services UNIX users cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Is Cache Enabled? Attributes: optional-for-create, modifiable |
| **is-negative-cache-enabled** | | boolean optional | Is Negative Cache Enabled? Attributes: optional-for-create, modifiable |
| **is-propagation-enabled** | | boolean optional | Is Propagation Enabled? Attributes: optional-for-create, modifiable |
| **negative-ttl** | | time-interval optional | Negative Time to Live Attributes: optional-for-create, modifiable |
| **ttl** | | time-interval optional | Time to Live Attributes: optional-for-create, modifiable |
| **vserver-name** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **name-service-unix-group-fileonly-info**

[top]

name-service-unix-group-fileonly typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | If 'true', the unix-groups configuration would be controlled only through load-from-uri. Default value is 'false' Attributes: required-for-create, modifiable |

# Element definition: **name-service-unix-user-fileonly-info**

[top]

name-service-unix-user-fileonly typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | If 'true', the unix-users configuration would be controlled only through load-from-uri. Default value is 'false' Attributes: required-for-create, modifiable |

# Element definition: **namservice-nsswitch-config-info**

[top]

Name Service Switch Configuration Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **nameservice-database** | | nss-db-type optional | Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Attributes: key, required-for-create, non-modifiable Possible values:<br>• "hosts" - Hosts Database,<br>• "group" - Group Database,<br>• "passwd" - Password Database,<br>• "netgroup" - Netgroup Database,<br>• "namemap" - Name mapping database |
| | | | Order of looking up Name Service Switch Sources.Possible values are |

| | | | |
|---|---|---|---|
| **nameservice-sources** | | nss-source-type[] optional | files, dns, ldap or nis Attributes: required-for-create, modifiable Possible values:<br>• "files" - Local File Name System service setup,<br>• "dns" - Domain Name System service setup,<br>• "ldap" - Lightweight Directory Access Protocol service setup,<br>• "nis" - Network Information Service service setup |
| **vserver-name** | | string optional | Vserver name Attributes: key, non-creatable, non-modifiable |

# Element definition: **nis-binding-detail**

[top]

NIS domain show-bound-debug When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **bound-server** | | string optional | Specifies the hostname/IP address of the NIS server in the domain. Attributes: key, non-creatable, non-modifiable |
| **bound-status** | | string optional | Specifies the binding status of the NIS server. Attributes: non-creatable, non-modifiable |
| **nis-domain** | | string optional | Specifies the NIS domain. For example: 'example.com' Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Specifies the Vserver for the NIS domain configuration. Attributes: key, non-creatable, non-modifiable |

# Element definition: **nis-domain-show-bound**

[top]

NIS domain show-bound When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **bound-servers** | | ip-address[] optional | Specifies the IP address of one or more bound NIS servers in the domain. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **nis-domain** | | string optional | Specifies the NIS domain. For example: 'example.com' Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Specifies the Vserver for the NIS domain configuration. Attributes: key, non-creatable, non-modifiable |

# Element definition: **nss-db-type**

[top]

The type of Name Service database Possible values:

- "hosts" - Hosts Database,
- "group" - Group Database,
- "passwd" - Password Database,
- "netgroup" - Netgroup Database,
- "namemap" - Name mapping database

[none]

# Element definition: **nss-source-type**

[top]

The type of Name Service source Possible values:

- "files" - Local File Name System service setup,
- "dns" - Domain Name System service setup,
- "ldap" - Lightweight Directory Access Protocol service setup,
- "nis" - Network Information Service service setup

[none]

# Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

[top]

# Element definition: **vserver-name**

The name of the Vserver.

[none]

# APIs in Category: **ndmp**


ndmp-node-session-info-get-iter
ndmp-node-session-kill
ndmp-node-session-kill-all
ndmp-password-generate
ndmp-vserver-attributes-get-iter
ndmp-vserver-attributes-modify
ndmp-vserver-service-disable
ndmp-vserver-service-enable
ndmp-vserver-session-info-get-iter
ndmp-vserver-session-kill
ndmp-vserver-session-kill-all


This set of APIs allow managing NDMP services

## ndmp-node-session-info-get-iter

[top]

Iterate over a list of ndmp objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ndmp-node-session-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ndmp-node-session-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ndmp object. All ndmp objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ndmp-node-session-info[] optional | The list of attributes of ndmp objects. |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ndmp objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# ndmp-node-session-kill

[top]

Kill a NDMP session on a node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string | Name of the Node |
| **session-id** | **[0..2^32-1]** | integer | Session Identifier |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EAPIMISSINGARGUMENT** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# ndmp-node-session-kill-all

[top]

Kill all NDMP sessions on a node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string | Name of the Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EAPIMISSINGARGUMENT** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# ndmp-password-generate

[top]

Generate NDMP password for the given user in a specific Vserver context. The generated NDMP password is based on the actual login password for the user; hence it should be regenerated whenever the actual user password is changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **desired-attributes** | | ndmp-password-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **user-name** | | string | The user for which the password is to be generated. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ndmp-password-info | The attributes of the ndmp-password. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EAPIMISSINGARGUMENT** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNOTFOUND** | |
| **EINVALIDQUERY** | |
| **EINVALIDPASSWORD** | |
| **EOPNOTSUPPORTED** | |

# ndmp-vserver-attributes-get-iter

[top]

Get NDMP attributes for vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ndmp-vserver-attributes-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ndmp-vserver-attributes-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ndmp object. All ndmp objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ndmp-vserver-attributes-info[] optional | The list of attributes of ndmp objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ndmp objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EOBJECTNOTFOUND | |

# ndmp-vserver-attributes-modify

[top]

Modify NDMP attributes for vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| abort-on-disk-error | | boolean optional | Enable Abort on Disk Error |
| authtype | | ndmpd-authtypes[] optional | Authentication Type Possible values:<br>• "plaintext" - plaintext authtype,<br>• "challenge" - challenge authtype,<br>• "plaintext_sso" - plaintext_sso authtype |
| backup-log-enable | | boolean optional | Enable Backup Log |
| data-port-range | | string optional | Data Port Range |
| debug-enable | | boolean optional | Enable Debug |
| debug-filter | | string optional | Debug Filter |
| dump-detailed-stats | | boolean optional | Enable Logging of VM Stats for Dump |
| dump-logical-find | | string optional | Enable Logical Find for Dump |
| enable | | boolean optional | Enable NDMP on Vserver |
| fh-dir-retry-interval | [0..2^32-1] | integer optional | FH Throttle Value for Dir |
| fh-node-retry-interval | [0..2^32-1] | integer optional | FH Throttle Value for Node |
| ignore-ctime-enabled | | boolean optional | Ignore Ctime |
| is-secure-control-connection-enabled | | boolean optional | Is Secure Control Connection Enabled |
| offset-map-enable | | boolean optional | Enable Offset Map |
| per-qtree-exclude-enable | | boolean optional | Enable per Qtree Exclusion |
| | | netport- | Preferred Interface Role Possible values:<br>• "undef" - No defined role,<br>• "cluster" - Used for communication using the private cluster network,<br>• "data" - Used for communicating with file service clients, |

| | | | |
|---|---|---|---|
| **preferred-interface-role** | | role[] optional | • "node_mgmt" - Used by administrators to configure the node,<br>• "intercluster" - Used for communication with a different cluster,<br>• "cluster_mgmt" - Used by administrators to configure the cluster |
| **restore-vm-cache-size** | **[0..2^32-1]** | integer optional | Restore VM File Cache Size |
| **secondary-debug-filter** | | string optional | Secondary Debug Filter |
| **tcpnodelay** | | boolean optional | Enable TCP Nodelay |
| **tcpwinsize** | **[0..2^32-1]** | integer optional | TCP Window Size |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# ndmp-vserver-service-disable

[top]

Disable NDMP service on the vserver. Disabling ndmp service on the vserver will not cause any disruption to NDMP operations that are running. Executing this zapi when the ndmp service is already disabled will not result in any errors.

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EAPIMISSINGARGUMENT** | |
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |

# ndmp-vserver-service-enable

[top]

Enable NDMP service on the vserver. Enabling ndmp service on the vserver will not cause any disruption to NDMP operations that are running. Executing this zapi when the ndmp service is already enabled will not result in any errors.

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| | |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |

# ndmp-vserver-session-info-get-iter

[top]

Iterate over a list of ndmp objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ndmp-vserver-session-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ndmp-vserver-session-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ndmp object. All ndmp objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ndmp-vserver-session-info[] optional | The list of attributes of ndmp objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ndmp objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EOPNOTSUPPORTED** | |

# ndmp-vserver-session-kill

[top]

Kill a NDMP session on a vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **session-id** | | string | Session Identifier |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EAPIMISSINGARGUMENT | |
| EOBJECTNOTFOUND | |
| EINVALIDINPUTERROR | |
| EOPNOTSUPPORTED | |

## ndmp-vserver-session-kill-all

[top]

Kill all NDMP sessions on a vserver

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EAPIMISSINGARGUMENT | |
| EOBJECTNOTFOUND | |
| EINVALIDINPUTERROR | |
| EOPNOTSUPPORTED | |

# Element definition: **ndmp-node-session-info**

[top]

NDMP session typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-addr** | | string optional | NDMP Client Address Attributes: non-creatable, non-modifiable |
| **client-port** | **[0..2^32-1]** | integer optional | NDMP Client Port Attributes: non-creatable, non-modifiable |
| **data-backup-mode** | | string optional | Data Backup Mode Attributes: non-creatable, non-modifiable |
| **data-bytes-processed** | **[0..2^64-1]** | integer optional | Data Bytes Processed Attributes: non-creatable, non-modifiable |
| **data-con-addr** | | string optional | Data Server Connect Address Attributes: non-creatable, non-modifiable |
| **data-con-addr-** | | ndmpd-addr- | Data Server Connect Type Attributes: non-creatable, non-modifiable Possible values: • "local" , |

| | | | |
|---|---|---|---|
| **type** | | type optional | • "tcp" ,<br>• "fc" ,<br>• "ipc" ,<br>• "tcp_ipv6" |
| **data-con-port** | **[0..2^32-1]** | integer optional | Data Server Connect Port Attributes: non-creatable, non-modifiable |
| **data-halt-reason** | | ndmpd-halt-reason optional | Data Server Halt Reason Attributes: non-creatable, non-modifiable Possible values:<br>• "na" - Not Available,<br>• "connection_closed" - Connection Closed,<br>• "aborted" - Aborted,<br>• "internal_error" - Internal Error,<br>• "connect_error" - Connect Error,<br>• "media_error" - Media Error,<br>• "successful" - Successful |
| **data-operation** | | ndmpd-data-oper optional | Data Operation Attributes: non-creatable, non-modifiable Possible values:<br>• "noaction" - None,<br>• "backup" - Backup,<br>• "restore" - Restore |
| **data-path** | | string optional | Data Path Attributes: non-creatable, non-modifiable |
| **data-state** | | ndmpd-state optional | Data State Attributes: non-creatable, non-modifiable Possible values:<br>• "idle" - Idle,<br>• "listen" - Listen,<br>• "active" - Active,<br>• "paused" - Paused,<br>• "connected" - Connected,<br>• "halted" - Halted |
| **eff-host** | | ndmpd-host optional | Effective Host Attributes: non-creatable, non-modifiable Possible values:<br>• "primary" - Primary,<br>• "partner" - Partner |
| **is-secure-control-connection** | | boolean optional | Is Secure Control Connection Attributes: non-creatable, non-modifiable |
| **mover-bytes-left-to-read** | **[0..2^64-1]** | integer optional | Mover Bytes Left to Read Attributes: non-creatable, non-modifiable |
| **mover-bytes-moved** | **[0..2^64-1]** | integer optional | Mover Bytes Moved Attributes: non-creatable, non-modifiable |
| **mover-con-addr** | | string optional | Mover Connect Address Attributes: non-creatable, non-modifiable |
| **mover-con-addr-type** | | ndmpd-addr-type optional | Mover Connect Type Attributes: non-creatable, non-modifiable Possible values:<br>• "local" ,<br>• "tcp" ,<br>• "fc" ,<br>• "ipc" ,<br>• "tcp_ipv6" |

| | | | |
|---|---|---|---|
| **mover-con-port** | **[0..2^32-1]** | integer optional | Mover Connect Port Attributes: non-creatable, non-modifiable |
| **mover-halt-reason** | | ndmpd-halt-reason optional | Mover Halt Reason Attributes: non-creatable, non-modifiable Possible values:<br>• "na" - Not Available,<br>• "connection_closed" - Connection Closed,<br>• "aborted" - Aborted,<br>• "internal_error" - Internal Error,<br>• "connect_error" - Connect Error,<br>• "media_error" - Media Error,<br>• "successful" - Successful |
| **mover-mode** | | ndmpd-mover-mode optional | Mover Mode Attributes: non-creatable, non-modifiable Possible values:<br>• "read" - Read,<br>• "write" - Write,<br>• "noaction" - Data,<br>• "raw" - Raw |
| **mover-pause-reason** | | ndmpd-pause-reason optional | Mover Pause Reason Attributes: non-creatable, non-modifiable Possible values:<br>• "na" - Not Available,<br>• "eom" - End of media,<br>• "eof" - End of file,<br>• "seek" - Seek,<br>• "media_error" - Media Error,<br>• "eow" - End of window |
| **mover-position** | **[0..2^64-1]** | integer optional | Mover Position Attributes: non-creatable, non-modifiable |
| **mover-record-num** | **[0..2^64-1]** | integer optional | Mover Record Number Attributes: non-creatable, non-modifiable |
| **mover-record-size** | **[0..2^64-1]** | integer optional | Mover Record Size Attributes: non-creatable, non-modifiable |
| **mover-seek-position** | **[0..2^64-1]** | integer optional | Mover Seek Position Attributes: non-creatable, non-modifiable |
| **mover-setrecordsize-flag** | | boolean optional | Mover SetRecordSize Flag Attributes: non-creatable, non-modifiable |
| **mover-setwindow-flag** | | boolean optional | Mover SetWindow Flag Attributes: non-creatable, non-modifiable |
| **mover-state** | | ndmpd-state optional | Mover State Attributes: non-creatable, non-modifiable Possible values:<br>• "idle" - Idle,<br>• "listen" - Listen,<br>• "active" - Active,<br>• "paused" - Paused,<br>• "connected" - Connected,<br>• "halted" - Halted |
| **mover-window-length** | **[0..2^64-1]** | integer optional | Mover Window Length Attributes: non-creatable, non-modifiable |
| **mover-window-offset** | **[0..2^64-1]** | integer optional | Mover Window Offset Attributes: non-creatable, non-modifiable |
| **ndmp-version** | **[0..2^32-1]** | integer | NDMP Version Attributes: non-creatable, non- |

| | | | |
|---|---|---|---|
| | | optional | modifiable |
| **node-name** | | node-name optional | Name of the Node Attributes: key, non-creatable, non-modifiable |
| **session-authorized** | | boolean optional | Session Authorized Attributes: non-creatable, non-modifiable |
| **session-id** | **[0..2^32-1]** | integer optional | Session Identifier Attributes: key, non-creatable, non-modifiable |
| **source-addr** | | string optional | NDMP Source Address Attributes: non-creatable, non-modifiable |
| **spt-device-id** | | string optional | SCSI Device ID Attributes: non-creatable, non-modifiable |
| **spt-ha** | **[-2^31..2^31-1]** | integer optional | SCSI Host Adapter Attributes: non-creatable, non-modifiable |
| **spt-scsi-id** | **[-2^31..2^31-1]** | integer optional | SCSI Target ID Attributes: non-creatable, non-modifiable |
| **spt-scsi-lun** | **[-2^31..2^31-1]** | integer optional | SCSI LUN ID Attributes: non-creatable, non-modifiable |
| **tape-device** | | string optional | Tape Device Attributes: non-creatable, non-modifiable |
| **tape-mode** | | ndmpd-mover-mode optional | Tape Mode Attributes: non-creatable, non-modifiable Possible values:<br>• "read" - Read,<br>• "write" - Write,<br>• "noaction" - Data,<br>• "raw" - Raw |

# Element definition: **ndmp-password-info**

[top]

Information about generate password When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **password** | | string optional | The generated NDMP password for the given user. The command fails if such a user does not exist in the Vserver context. Attributes: non-creatable, non-modifiable |
| **user-name** | | string optional | The user for which the password is to be generated. Attributes: key, non-creatable, non-modifiable |
| **vserver-name** | | string optional | The Vserver on which the user password is to be generated for the given user. Attributes: key, non-creatable, non-modifiable |

# Element definition: **ndmp-vserver-attributes-info**

[top]

NDMP vserver attributes When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **abort-on-disk-error** | | boolean optional | Enable Abort on Disk Error Attributes: non-creatable, modifiable |
| **authtype** | | ndmpd-authtypes[] optional | Authentication Type Attributes: non-creatable, modifiable Possible values:<br>• "plaintext" - plaintext authtype,<br>• "challenge" - challenge authtype,<br>• "plaintext_sso" - plaintext_sso authtype |
| **backup-log-enable** | | boolean optional | Enable Backup Log Attributes: non-creatable, modifiable |
| **data-port-range** | | string optional | Data Port Range Attributes: non-creatable, modifiable |
| **debug-enable** | | boolean optional | Enable Debug Attributes: non-creatable, modifiable |
| **debug-filter** | | string optional | Debug Filter Attributes: non-creatable, modifiable |
| **dump-detailed-stats** | | boolean optional | Enable Logging of VM Stats for Dump Attributes: non-creatable, modifiable |
| **dump-logical-find** | | string optional | Enable Logical Find for Dump Attributes: non-creatable, modifiable |
| **enable** | | boolean optional | Enable NDMP on Vserver Attributes: non-creatable, modifiable |
| **fh-dir-retry-interval** | **[0..2^32-1]** | integer optional | FH Throttle Value for Dir Attributes: non-creatable, modifiable |
| **fh-node-retry-interval** | **[0..2^32-1]** | integer optional | FH Throttle Value for Node Attributes: non-creatable, modifiable |
| **ignore-ctime-enabled** | | boolean optional | Ignore Ctime Attributes: non-creatable, modifiable |
| **is-secure-control-connection-enabled** | | boolean optional | Is Secure Control Connection Enabled Attributes: non-creatable, modifiable |
| **maxversion** | **[0..2^32-1]** | integer optional | NDMP Version Attributes: non-creatable, non-modifiable |
| **offset-map-enable** | | boolean optional | Enable Offset Map Attributes: non-creatable, modifiable |
| **per-qtree-exclude-enable** | | boolean optional | Enable per Qtree Exclusion Attributes: non-creatable, modifiable |
| | | | Preferred Interface Role Attributes: non-creatable, modifiable Possible values:<br>• "undef" - No defined role, |

| | | | |
|---|---|---|---|
| **preferred-interface-role** | | netport-role[] optional | "cluster" - Used for communication using the private cluster network,<br>• "data" - Used for communicating with file service clients,<br>• "node_mgmt" - Used by administrators to configure the node,<br>• "intercluster" - Used for communication with a different cluster,<br>• "cluster_mgmt" - Used by administrators to configure the cluster |
| **restore-vm-cache-size** | **[0..2^32-1]** | integer optional | Restore VM File Cache Size Attributes: non-creatable, modifiable |
| **secondary-debug-filter** | | string optional | Secondary Debug Filter Attributes: non-creatable, modifiable |
| **tcpnodelay** | | boolean optional | Enable TCP Nodelay Attributes: non-creatable, modifiable |
| **tcpwinsize** | **[0..2^32-1]** | integer optional | TCP Window Size Attributes: non-creatable, modifiable |
| **vserver-name** | | vserver-name-data-admin optional | Name of the Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **ndmp-vserver-session-info**

[top]

NDMP session typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-addr** | | string optional | NDMP Client Address Attributes: non-creatable, non-modifiable |
| **client-port** | **[0..2^32-1]** | integer optional | NDMP Client Port Attributes: non-creatable, non-modifiable |
| **data-backup-mode** | | string optional | Data Backup Mode Attributes: non-creatable, non-modifiable |
| **data-bytes-processed** | **[0..2^64-1]** | integer optional | Data Bytes Processed Attributes: non-creatable, non-modifiable |
| **data-con-addr** | | string optional | Data Server Connect Address Attributes: non-creatable, non-modifiable |
| **data-con-addr-type** | | ndmpd-addr-type optional | Data Server Connect Type Attributes: non-creatable, non-modifiable Possible values:<br>• "local" ,<br>• "tcp" ,<br>• "fc" ,<br>• "ipc" , |

| | | | |
|---|---|---|---|
| | | | • "tcp_ipv6" |
| **data-con-port** | **[0..2^32-1]** | integer optional | Data Server Connect Port Attributes: non-creatable, non-modifiable |
| **data-halt-reason** | | ndmpd-halt-reason optional | Data Server Halt Reason Attributes: non-creatable, non-modifiable Possible values:<br>• "na" - Not Available,<br>• "connection_closed" - Connection Closed,<br>• "aborted" - Aborted,<br>• "internal_error" - Internal Error,<br>• "connect_error" - Connect Error,<br>• "media_error" - Media Error,<br>• "successful" - Successful |
| **data-operation** | | ndmpd-data-oper optional | Data Operation Attributes: non-creatable, non-modifiable Possible values:<br>• "noaction" - None,<br>• "backup" - Backup,<br>• "restore" - Restore |
| **data-path** | | string optional | Data Path Attributes: non-creatable, non-modifiable |
| **data-state** | | ndmpd-state optional | Data State Attributes: non-creatable, non-modifiable Possible values:<br>• "idle" - Idle,<br>• "listen" - Listen,<br>• "active" - Active,<br>• "paused" - Paused,<br>• "connected" - Connected,<br>• "halted" - Halted |
| **eff-host** | | ndmpd-host optional | Effective Host Attributes: non-creatable, non-modifiable Possible values:<br>• "primary" - Primary,<br>• "partner" - Partner |
| **is-secure-control-connection** | | boolean optional | Is Secure Control Connection Attributes: non-creatable, non-modifiable |
| **mover-bytes-left-to-read** | **[0..2^64-1]** | integer optional | Mover Bytes Left to Read Attributes: non-creatable, non-modifiable |
| **mover-bytes-moved** | **[0..2^64-1]** | integer optional | Mover Bytes Moved Attributes: non-creatable, non-modifiable |
| **mover-con-addr** | | string optional | Mover Connect Address Attributes: non-creatable, non-modifiable |
| **mover-con-addr-type** | | ndmpd-addr-type optional | Mover Connect Type Attributes: non-creatable, non-modifiable Possible values:<br>• "local" ,<br>• "tcp" ,<br>• "fc" ,<br>• "ipc" ,<br>• "tcp_ipv6" |
| **mover-con-port** | **[0..2^32-1]** | integer optional | Mover Connect Port Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **mover-halt-reason** | | ndmpd-halt-reason optional | Mover Halt Reason Attributes: non-creatable, non-modifiable Possible values:<br>• "na" - Not Available,<br>• "connection_closed" - Connection Closed,<br>• "aborted" - Aborted,<br>• "internal_error" - Internal Error,<br>• "connect_error" - Connect Error,<br>• "media_error" - Media Error,<br>• "successful" - Successful |
| **mover-mode** | | ndmpd-mover-mode optional | Mover Mode Attributes: non-creatable, non-modifiable Possible values:<br>• "read" - Read,<br>• "write" - Write,<br>• "noaction" - Data,<br>• "raw" - Raw |
| **mover-pause-reason** | | ndmpd-pause-reason optional | Mover Pause Reason Attributes: non-creatable, non-modifiable Possible values:<br>• "na" - Not Available,<br>• "eom" - End of media,<br>• "eof" - End of file,<br>• "seek" - Seek,<br>• "media_error" - Media Error,<br>• "eow" - End of window |
| **mover-position** | **[0..2^64-1]** | integer optional | Mover Position Attributes: non-creatable, non-modifiable |
| **mover-record-num** | **[0..2^64-1]** | integer optional | Mover Record Number Attributes: non-creatable, non-modifiable |
| **mover-record-size** | **[0..2^64-1]** | integer optional | Mover Record Size Attributes: non-creatable, non-modifiable |
| **mover-seek-position** | **[0..2^64-1]** | integer optional | Mover Seek Position Attributes: non-creatable, non-modifiable |
| **mover-setrecordsize-flag** | | boolean optional | Mover SetRecordSize Flag Attributes: non-creatable, non-modifiable |
| **mover-setwindow-flag** | | boolean optional | Mover SetWindow Flag Attributes: non-creatable, non-modifiable |
| **mover-state** | | ndmpd-state optional | Mover State Attributes: non-creatable, non-modifiable Possible values:<br>• "idle" - Idle,<br>• "listen" - Listen,<br>• "active" - Active,<br>• "paused" - Paused,<br>• "connected" - Connected,<br>• "halted" - Halted |
| **mover-window-length** | **[0..2^64-1]** | integer optional | Mover Window Length Attributes: non-creatable, non-modifiable |
| **mover-window-offset** | **[0..2^64-1]** | integer optional | Mover Window Offset Attributes: non-creatable, non-modifiable |
| **ndmp-version** | **[0..2^32-1]** | integer optional | NDMP Version Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | Name of the Node Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **session-authorized** | | boolean optional | Session Authorized Attributes: non-creatable, non-modifiable |
| **session-id** | | string optional | Session Identifier Attributes: key, non-creatable, non-modifiable |
| **source-addr** | | string optional | NDMP Source Address Attributes: non-creatable, non-modifiable |
| **spt-device-id** | | string optional | SCSI Device ID Attributes: non-creatable, non-modifiable |
| **spt-ha** | **[-2^31..2^31-1]** | integer optional | SCSI Host Adapter Attributes: non-creatable, non-modifiable |
| **spt-scsi-id** | **[-2^31..2^31-1]** | integer optional | SCSI Target ID Attributes: non-creatable, non-modifiable |
| **spt-scsi-lun** | **[-2^31..2^31-1]** | integer optional | SCSI LUN ID Attributes: non-creatable, non-modifiable |
| **tape-device** | | string optional | Tape Device Attributes: non-creatable, non-modifiable |
| **tape-mode** | | ndmpd-mover-mode optional | Tape Mode Attributes: non-creatable, non-modifiable Possible values:<br>• "read" - Read,<br>• "write" - Write,<br>• "noaction" - Data,<br>• "raw" - Raw |
| **vserver-name** | | vserver-name optional | Name of the Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **ndmpd-authtypes**

[top]

NDMP Authentication types Possible values:

- "plaintext" - plaintext authtype,
- "challenge" - challenge authtype,
- "plaintext_sso" - plaintext_sso authtype

[none]

# Element definition: **netport-role**

[top]

undef|cluster|data|node-mgmt|intercluster|cluster-mgmt Possible values:

- "undef" - No defined role,
- "cluster" - Used for communication using the private cluster network,
- "data" - Used for communicating with file service clients,
- "node_mgmt" - Used by administrators to configure the node,
- "intercluster" - Used for communication with a different cluster,
- "cluster_mgmt" - Used by administrators to configure the cluster

[none]

## Element definition: **ndmpd-addr-type**

[top]

address type Possible values:

- "local" ,
- "tcp" ,
- "fc" ,
- "ipc" ,
- "tcp_ipv6"

[none]

## Element definition: **ndmpd-data-oper**

[top]

data operation Possible values:

- "noaction" - None,
- "backup" - Backup,
- "restore" - Restore

[none]

## Element definition: **ndmpd-halt-reason**

[top]

halt reason Possible values:

- "na" - Not Available,
- "connection_closed" - Connection Closed,
- "aborted" - Aborted,
- "internal_error" - Internal Error,
- "connect_error" - Connect Error,
- "media_error" - Media Error,
- "successful" - Successful

[none]

## Element definition: **ndmpd-host**

[top]

host type Possible values:

- "primary" - Primary,
- "partner" - Partner

[none]

## Element definition: **ndmpd-mover-mode**

[top]

mover mode Possible values:

- "read" - Read,
- "write" - Write,
- "noaction" - Data,
- "raw" - Raw

[none]

## Element definition: **ndmpd-pause-reason**

[top]

pause reason Possible values:

- "na" - Not Available,
- "eom" - End of media,
- "eof" - End of file,
- "seek" - Seek,
- "media_error" - Media Error,
- "eow" - End of window

[none]

## Element definition: **ndmpd-state**

[top]

component state Possible values:

- "idle" - Idle,
- "listen" - Listen,
- "active" - Active,
- "paused" - Paused,
- "connected" - Connected,
- "halted" - Halted

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

## Element definition: **vserver-name-data-admin**

[top]

The name of the Vserver.

[none]

# APIs in Category: **net**


data-lif-capacity
data-lif-capacity-details
net-active-routes-get
net-active-routes-get-iter
net-arp-active-entry-destroy
net-arp-active-entry-get
net-arp-active-entry-get-iter
net-arp-create
net-arp-destroy
net-arp-get
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net-bgp-config-create
net-bgp-config-destroy
net-bgp-config-get
net-bgp-config-get-iter
net-bgp-config-modify
net-bgp-defaults-get
net-bgp-defaults-modify
net-bgp-peer-group-create
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net-bgp-peer-group-get
net-bgp-peer-group-get-iter
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net-bgp-peer-group-rename
net-bgp-vserver-status-get
net-bgp-vserver-status-get-iter
net-check-failover
net-cluster-ping
net-cluster-ping6
net-connections-receive-window-size-get
net-connections-receive-window-size-get-iter
net-connections-receive-window-size-modify
net-ddns-get
net-ddns-get-iter
net-ddns-modify
net-device-discovery-get-iter
net-dns-check-get-iter
net-dns-create


The net APIs provide network management from ONTAP.

net-dns-get
net-dns-get-iter
net-dns-modify
net-external-route-table-create
net-external-route-table-delete
net-failover-group-add-targets
net-failover-group-create
net-failover-group-destroy
net-failover-group-get
net-failover-group-get-iter
net-failover-group-modify
net-failover-group-remove-targets
net-failover-group-rename
net-firewall-config-get
net-firewall-config-get-iter
net-firewall-config-modify
net-firewall-config-modify-iter
net-firewall-policy-create
net-firewall-policy-destroy
net-firewall-policy-get
net-firewall-policy-get-iter
net-firewall-policy-modify
net-hosts-create
net-hosts-destroy
net-hosts-get
net-hosts-get-iter
net-hosts-modify
net-interface-create
net-interface-delete
net-interface-get
net-interface-get-iter
net-interface-migrate
net-interface-modify
net-interface-modify-iter
net-interface-rename
net-interface-revert
net-interface-service-get
net-interface-service-get-iter
net-interface-service-policy-add-service
net-interface-service-policy-clone
net-interface-service-policy-create

net-interface-service-policy-destroy
net-interface-service-policy-entry-get
net-interface-service-policy-entry-get-iter
net-interface-service-policy-get
net-interface-service-policy-get-iter
net-interface-service-policy-modify-service
net-interface-service-policy-remove-service
net-interface-service-policy-rename
net-interface-service-policy-restore-defaults
net-ipspaces-create
net-ipspaces-destroy
net-ipspaces-get
net-ipspaces-get-iter
net-ipspaces-rename
net-ndp-active-neighbor-destroy
net-ndp-active-neighbor-get
net-ndp-active-neighbor-get-iter
net-ndp-default-router-delete-all
net-ndp-default-router-get
net-ndp-default-router-get-iter
net-ndp-neighbor-create
net-ndp-neighbor-destroy
net-ndp-neighbor-get
net-ndp-neighbor-get-iter
net-ndp-prefix-delete-all
net-ndp-prefix-get
net-ndp-prefix-get-iter
net-options-get
net-options-hypervisor-uplink-monitoring-get
net-options-hypervisor-uplink-monitoring-modify
net-options-modify
net-placement-cache-delete
net-placement-cache-get-iter
net-placement-discover
net-port-broadcast-domain-add-ports
net-port-broadcast-

domain-create
net-port-broadcast-domain-destroy
net-port-broadcast-domain-get
net-port-broadcast-domain-get-iter
net-port-broadcast-domain-merge
net-port-broadcast-domain-modify
net-port-broadcast-domain-remove-ports
net-port-broadcast-domain-rename
net-port-broadcast-domain-split
net-port-delete
net-port-get
net-port-get-iter
net-port-health-monitor-disable
net-port-health-monitor-enable
net-port-health-monitor-get
net-port-health-monitor-get-iter
net-port-ifgrp-add-port
net-port-ifgrp-create
net-port-ifgrp-destroy
net-port-ifgrp-get
net-port-ifgrp-remove-port
net-port-modify
net-port-modify-iter
net-qos-marking-get-iter
net-qos-marking-modify
net-routes-create
net-routes-destroy
net-routes-get
net-routes-get-iter
net-routes-lifs-get
net-routes-lifs-get-iter
net-san-lif-placement-get
net-subnet-add-ranges
net-subnet-create
net-subnet-destroy
net-subnet-get
net-subnet-get-iter
net-subnet-modify
net-subnet-remove-ranges
net-subnet-rename
net-subnets-for-

broadcast-domain-get
net-subnets-for-broadcast-domain-get-iter
net-test-path
net-traceroute6
net-tuning-icmp-get
net-tuning-icmp-modify
net-tuning-icmp6-get
net-tuning-icmp6-modify
net-tuning-tcp-get
net-tuning-tcp-modify
net-vip-port-create
net-vip-port-destroy
net-vip-port-get
net-vip-port-get-iter
net-vlan-create
net-vlan-delete
net-vlan-get
net-vlan-get-iter

# data-lif-capacity

[top]

Get the IP data LIF capacity of the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | data-lif-capacity-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | data-lif-capacity-info | The attributes of the net. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# data-lif-capacity-details

[top]

Get the IP data LIF capacity details for each node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | data-lif-capacity- | Specify the attributes that should be returned. If not present, all |

| | | | |
|---|---|---|---|
| **desired-attributes** | | details-info optional | attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | data-lif-capacity-details-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net object. All net objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | data-lif-capacity-details-info[] optional | The list of attributes of net objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-active-routes-get

[top]

Get the attributes of the network route active-entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address-type** | | ipaddresstype | Specify the address type. Possible values are ipv4 and ipv6. Possible values:<br>• "unknown" ,<br>• "ipv4" ,<br>• "ipv6" ,<br>• "ipv4z" ,<br>• "ipv6z" ,<br>• "dns" |
| **desired-attributes** | | net-active-routes-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination** | | string | Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 |
| **gateway** | | string | Specify the gateway. Example: 10.7.125.1, fd20:13::1 |
| **interface** | | string | Specify the route's interface. |
| **node-name** | | node-name | Specify the name of the node. |

| | | | |
|---|---|---|---|
| **route-interface-address** | | string | Specify the Route Interface Address. |
| **subnet-group** | | ip-and-mask | Specify the name of the subnet group. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-active-routes-info | The attributes of the network route active-entry. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-active-routes-get-iter

[top]

Iterate over a list of network route active-entry objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-active-routes-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-active-routes-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the network route active-entry object. All network route active-entry objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-active-routes-info[] optional | The list of attributes of network route active-entry objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more network route active-entry objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-arp-active-entry-destroy

[top]

Delete dynamically learned ARP entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | node-name | Node from which to remove the ARP active entry. |
| **port** | | string | Port from which to remove the ARP active entry. |
| **remotehost** | | string | Remote IP address which will be removed from the ARP active entry table. |
| **subnet-group-name** | | ip-and-mask | Subnet group from which to remove the ARP active entry. |
| **vserver-name** | | vif-owner-name | System or Admin Vserver from which to remove the ARP active entry. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-arp-active-entry-get

[top]

Get the attributes of the network ARP active entry which is present in network stack of the node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-arp-operational-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | Node from which to get the ARP active entry. |
| **port** | | string | Port name for which to get the ARP active entry. |
| **remote-host** | | string | Remote IP address for which to get the ARP active entry. |
| **subnet-group** | | ip-and-mask | Subnet group from which to get the ARP active entry. |
| **vserver** | | vif-owner-name | System or Admin Vserver from which to get the ARP active entry. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-arp-operational-info | The attributes of the network ARP active-entry |
| **ipspace** | | string | IPspace from which to get the ARP active entry. |
| **mac-address** | | string | MAC address of remote host. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-arp-active-entry-get-iter

[top]

Iterate over a list of network ARP active entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-arp-operational-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-arp-operational-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the network ARP active-entry object. All network ARP active-entry objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-arp-operational-info[] optional | The list of attributes of network ARP active-entry objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more network ARP active-entry objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-arp-create

[top]

Create a new network ARP entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **mac** | | mac-address | MAC address of remote host. |
| **remotehost** | | ip-address | Remote IP address which is to be added as the ARP entry. |
| **vserver** | | vserver-name | Vserver in which to create the ARP entry. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-arp-destroy

[top]

Delete an existing network ARP entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **remotehost** | | ip-address | Remote IP address which is to be deleted from the ARP entries. |
| **vserver** | | vserver-name | Vserver in which to delete the ARP entry. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-arp-get

[top]

Get the attributes of the network ARP entry which is present in Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-arp-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **remotehost** | | ip-address | Remote IP address for which to get the ARP entry. |
| **vserver** | | vserver-name | Vserver from which to get the ARP entry. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-arp-info | The attributes of the network ARP |
| **ipspace** | | string optional | IPspace from which to get the ARP entry. |
| **mac** | | mac-address | MAC address of remote host. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-arp-get-iter

[top]

Iterate over a list of network ARP entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-arp-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | | A query that specifies which objects to return. A query could be |

| | | | |
|---|---|---|---|
| **query** | | net-arp-info optional | specified on any number of attributes in the network ARP object. All network ARP objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-arp-info[] optional | The list of attributes of network ARP objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more network ARP objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-bgp-config-create

[top]

Create the BGP configuration for a given node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **asn** | **[0..2^32-1]** | integer | The autonomous system number to which this node belongs. |
| **hold-time** | **[0..2^32-1]** | integer | The hold time (seconds) value to use for this node when negotiating a connection with the peer. |
| **node** | | node-name | The node name that the BGP configuration belongs to. |
| **return-record** | | boolean optional | If set to true, returns the net-bgp-config on successful creation. Default: false |
| **router-id** | | ip-address | The router id (IPv4) to use for this node when negotiating a connection with the peer. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-bgp-config-info optional | The net-bgp-config created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **E_NO_VALID_ROUTERID** | |
| **E_BGP_DEFAULTS_NOT_POPULATED** | |
| **E_VIP_NOT_SUPPORTED** | |

# net-bgp-config-destroy

[top]

Delete the BGP configuration on a given node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | The node name that the BGP configuration belongs to. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## net-bgp-config-get

[top]

Get the BGP configuration for a node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-bgp-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | The node name that the BGP configuration belongs to. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-bgp-config-info | The attributes of the net-bgp-config. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## net-bgp-config-get-iter

[top]

Iterate over the BGP configuration for each node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-bgp-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | net-bgp- | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-bgp-config object. |

| | | | |
|---|---|---|---|
| **query** | | config-info optional | All net-bgp-config objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-bgp-config-info[] optional | The list of attributes of net-bgp-config objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-bgp-config objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-bgp-config-modify

[top]

Modify BGP configuration for a given node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **asn** | **[0..2^32-1]** | integer optional | The autonomous system number to which this node belongs. |
| **hold-time** | **[0..2^32-1]** | integer optional | The hold time (seconds) value to use for this node when negotiating a connection with the peer. |
| **node** | | node-name | The node name that the BGP configuration belongs to. |
| **router-id** | | ip-address optional | The router id (IPv4) to use for this node when negotiating a connection with the peer. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# net-bgp-defaults-get

[top]

Get the cluster wide default BGP configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-bgp-defaults-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be |

| | | | |
|---|---|---|---|
| | | optional | returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-bgp-defaults-info | The attributes of the net-bgp-defaults. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# net-bgp-defaults-modify

[top]

Modify the cluster wide default BGP configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **asn** | **[0..2^32-1]** | integer optional | The cluster wide default value for autonomous system number. |
| **hold-time** | **[0..2^32-1]** | integer optional | The cluster wide default value for routing information hold time (seconds). |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# net-bgp-peer-group-create

[top]

Create a new BGP peer group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **bgp-lif** | | lif-name | The LIF associated with this peer group. |
| **ipspace** | | string | Name of the IPspace that the peer group belongs to. |
| **peer-address** | | ip-address | The remote peer router address. |
| **peer-asn** | **[0..2^32-1]** | integer | The remote peer router Autonomous number. The default value for this paramenter is '0'. |
| **peer-group** | | string | The name of the peer group. |
| **route-preference** | **[0..2^32-1]** | integer | The route preference value associated with this peer group. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINTERNALERROR** | |
| **E_VIFMGR_BGP_NOT_CONFIGURED** | |
| **E_VIFMGR_VSERVER_NOT_FOUND** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |

# net-bgp-peer-group-destroy

[top]

Destroy an existing BGP peer group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | Name of the IPspace that the peer group belongs to. |
| **peer-group** | | string | The name of the peer group. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINTERNALERROR** | |

# net-bgp-peer-group-get

[top]

Get the attributes of the peer group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-bgp-peer-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **ipspace** | | string | Name of the IPspace that the peer group belongs to. |
| **peer-group** | | string | The name of the peer group. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-bgp-peer-group-info | The attributes of the net-bgp-peer-group. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-bgp-peer-group-get-iter

[top]

Iterate over a list of BGP peer groups

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **desired-attributes** | | net-bgp-peer-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-bgp-peer-group-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-bgp-peer-group object. All net-bgp-peer-group objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-bgp-peer-group-info[] optional | The list of attributes of net-bgp-peer-group objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-bgp-peer-group objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINTERNALERROR** | |

# net-bgp-peer-group-modify

[top]

Modify the attributes of the BGP peer group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | Name of the IPspace that the peer group belongs to. |
| **peer-address** | | ip-address | The remote peer router address. |
| **peer-group** | | string | The name of the peer group. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINTERNALERROR** | |
| **E_VIFMGR_VSERVER_NOT_FOUND** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |

# net-bgp-peer-group-rename

[top]

Rename a BGP peer group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | Name of the IPspace that the peer group belongs to. |
| **new-name** | | string | New name for the BPG peer group |
| **peer-group** | | string | The name of the peer group. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_PEER_GROUP_NOT_FOUND** | |
| **E_VIFMGR_PEER_GROUP_RENAME_ENTRY_EXISTS** | |

# net-bgp-vserver-status-get

[top]

Get BGP status of a Vserver on a given node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | bgp-vserver-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |
| **vserver** | | vserver-name | Vserver |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | bgp-vserver-info | The attributes of the net-bgp-vserver-status. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

# net-bgp-vserver-status-get-iter

[top]

Iterate over BGP Vservers status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | bgp- | Specify the attributes that should be returned. If not present, all |

| | | | |
|---|---|---|---|
| **desired-attributes** | | vserver-info optional | attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | bgp-vserver-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-bgp-vserver-status object. All net-bgp-vserver-status objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | bgp-vserver-info[] optional | The list of attributes of net-bgp-vserver-status objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-bgp-vserver-status objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

# net-check-failover

[top]

Get the list of LIFs at risk.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | lif-capacity-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | lif-capacity-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net object. All net objects matching this query up to 'max-records' will be returned. |
| **source-nodes** | | filer-id[] | This is a list of nodes whose LIFs should be checked. LIFs considered at risk will be currently hosted on one of these nodes. This list should contain at most half the nodes in the cluster. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-** | | lif-capacity- | The list of attributes of net objects. |

| | | | |
|---|---|---|---|
| **list** | | info[] optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |

# net-cluster-ping

[top]

Ping an IP address to verify whether the interface is alive

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-address** | | string | Specifies IPv4 address of the destination. |
| **interface** | | string optional | Specifies the LIF from which the ping request is to be sent. This element must be specified with interface-owner, and it is mutually exclusive with element node. |
| **interface-owner** | | string optional | Specifies the name of the owning vserver of the logical interface (LIF). |
| **node** | | string optional | Specifies the node from which ping request is to be sent. Element node is mutually exclusive with element lif. |
| **retry-count** | | integer optional | Specifies the number of ECHO_REQUEST retries for the given destination address. Ping stops upon first successful reply from the destination. Default: 20 |
| **use-source-port** | | boolean optional | Specifies whether to send out ping via the port which is hosting the lif. Only applicable when lif parameter when specified. Default: false |
| **wait** | | integer optional | Specifies inter packet time interval (secs) for sending ECHO_REQUEST. Default: 1 |
| **wait-response** | | integer optional | Specifies the maximum number of milliseconds to wait for each ping response. Default: 10000 (10 secs) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EONTAPI_EHOSTDOWN** | |
| **EHOSTNOTFOUND** | |

# net-cluster-ping6

[top]

Ping an IPv6 address to verify whether the interface is alive

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **buffer-size** | | integer optional | Specifies the socket buffer size in bytes. |
| **destination-address** | | string | Specifies IPv6 address of the destination. |
| **disable-fragmentation** | | boolean optional | Disallow fragmentation of the outgoing packets. |
| **disable-fragmentation-all** | | boolean optional | Fragment packets to fit into the minimum IPv6 maximum transmission unit size for both unicast and multicast addresses. |
| **disable-fragmentation-unicast** | | boolean optional | Fragment packets to fit into the minimum IPv6 maximum transmission unit size for unicast addresses. |
| **interface** | | string optional | Specifies the LIF from which the ping request is to be sent. This element must be specified with interface-owner, and it is optional with element node. |
| **interface-owner** | | string optional | Specifies the name of logical interface (LIF) owner or vserver. It may be a node or Vserver name. |
| **interval** | | integer optional | Specifies inter packet time interval (secs) for sending ECHO_REQUEST. Default: 1 |
| **node** | | string optional | Specifies the node from which ping request is to be sent. Element node is mutually exclusive with element lif. |
| **packet-size** | | integer optional | Specifies the packet size in bytes. |
| **retry-count** | | integer optional | Specifies the number of ECHO_REQUEST retries for the given destination address. Ping stops upon first successful reply from the destination. Default: 20 |
| **use-source-port** | | boolean optional | Specifies whether to send out ping6 via the port which is hosting the lif. Only applicable when lif parameter is specified. Default: false |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EONTAPI_EHOSTDOWN** | |
| **ENETUNREACH** | |
| **EHOSTNOTFOUND** | |
| **EINVALIDHOST** | |
| **EHOST_BADCONFIGURE** | |

# net-connections-receive-window-size-get

[top]

Get the receive buffer size properties of a service

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | receive-buffer optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **network** | | network-type | The network topology classification Possible values:<br>• "wan" ,<br>• "lan" , |

| | | | |
|---|---|---|---|
| | | | • "undefined" |
| **protocol** | | protocol-layer4 | The network layer 4 protocol type Possible values:<br>• "udp" - UDP,<br>• "tcp" - TCP,<br>• "na" - not_available |
| **service** | | stream-protocol-service | The stream protocol connection classification Possible values:<br>• "mount" - Mount stream protocol,<br>• "nfs" - NFS stream protocol,<br>• "nfs_v3" - NFS version 3 stream protocol,<br>• "nlm_v4" - Network lock manager stream protocol,<br>• "sm" - Session Manager stream protocol,<br>• "ftp_ctrl" - FTP control stream protocol,<br>• "ftp_data" - FTP data stream protocol,<br>• "http_1_0" - HTTP version 1 stream protocol,<br>• "http_1_1" - HTTP version 1.1 stream protocol,<br>• "iscsi" - ISCSI stream protocol,<br>• "cifs_srv" - CIFS server stream protocol,<br>• "cifs_nam" - CIFS name server stream protocol,<br>• "loopback" - loopback stream protocol,<br>• "rf" - RC stream protocol,<br>• "rawscp" - Raw secure copy stream protocol,<br>• "discard" - Discard stream protocol,<br>• "port_map" - Port map stream protocol,<br>• "pass_thru" - Passthru stream protocol,<br>• "rclopcp" - Rc connection stream protocol,<br>• "nfs_v4" - NFS version 4 stream protocol,<br>• "fcache" - 7 Mode FlexCache stream protocol,<br>• "ctlopcp" - Ct connection stream protocol,<br>• "rquota" - Rquota stream protocol,<br>• "cifs_msrpc" - CIFS MsRpc stream protocol,<br>• "http" - HTTP stream protocol,<br>• "unknown" - unknown protocol,<br>• "s3" - S3 stream protocol,<br>• "sdapi" - SDAPI stream protocol |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | receive-buffer | The attributes of the net-connections-receive-window-size. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-connections-receive-window-size-get-iter

[top]

Iterate over connections returning receive buffer size properties

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-** | | receive- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | buffer optional | present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | receive-buffer optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-connections-receive-window-size object. All net-connections-receive-window-size objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | receive-buffer[] optional | The list of attributes of net-connections-receive-window-size objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-connections-receive-window-size objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-connections-receive-window-size-modify

[top]

Modify receive buffer size properties

| Input Name | Range | Type | Description |
|---|---|---|---|
| **network** | | network-type | The network topology classification Possible values:<br>• "wan" ,<br>• "lan" ,<br>• "undefined" |
| **protocol** | | protocol-layer4 | The network layer 4 protocol type Possible values:<br>• "udp" - UDP,<br>• "tcp" - TCP,<br>• "na" - not_available |
| **receive-auto-tune** | | boolean optional | If true, allow the system to automatically adjust the receive buffer size. The default value is false for the ctlopcp service using the LAN network type, and true in all other cases. |
| **receive-buffer** | **[256..7168]** | integer optional | If receive-auto-tune is false, receive buffer size in kilobytes (1024). If receive-auto-tune flag is true, this value has no effect. The default value is 2048 for the ctlopcp service using the WAN network type, and 256 in other cases. |
| | | | The stream protocol connection classification Possible values:<br>• "mount" - Mount stream protocol,<br>• "nfs" - NFS stream protocol,<br>• "nfs_v3" - NFS version 3 stream protocol, |

| | | | |
|---|---|---|---|
| **service** | | stream-protocol-service | • "nlm_v4" - Network lock manager stream protocol,<br>• "sm" - Session Manager stream protocol,<br>• "ftp_ctrl" - FTP control stream protocol,<br>• "ftp_data" - FTP data stream protocol,<br>• "http_1_0" - HTTP version 1 stream protocol,<br>• "http_1_1" - HTTP version 1.1 stream protocol,<br>• "iscsi" - ISCSI stream protocol,<br>• "cifs_srv" - CIFS server stream protocol,<br>• "cifs_nam" - CIFS name server stream protocol,<br>• "loopback" - loopback stream protocol,<br>• "rf" - RC stream protocol,<br>• "rawscp" - Raw secure copy stream protocol,<br>• "discard" - Discard stream protocol,<br>• "port_map" - Port map stream protocol,<br>• "pass_thru" - Passthru stream protocol,<br>• "rclopcp" - Rc connection stream protocol,<br>• "nfs_v4" - NFS version 4 stream protocol,<br>• "fcache" - 7 Mode FlexCache stream protocol,<br>• "ctlopcp" - Ct connection stream protocol,<br>• "rquota" - Rquota stream protocol,<br>• "cifs_msrpc" - CIFS MsRpc stream protocol,<br>• "http" - HTTP stream protocol,<br>• "unknown" - unknown protocol,<br>• "s3" - S3 stream protocol,<br>• "sdapi" - SDAPI stream protocol |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-ddns-get

[top]

Get the Dynamic DNS Update configuration of the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-ddns-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-ddns-info | The attributes of the ddns. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

[top]

# net-ddns-get-iter

Iterate through Dynamic DNS Update configurations of the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-ddns-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-ddns-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ddns object. All ddns objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-ddns-info[] optional | The list of attributes of ddns objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ddns objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-ddns-modify

[top]

Modify the Dynamic DNS Update configuration of the specified Vserver. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **domain-name** | | string optional | Vserver FQDN to Be Used for DNS Updates |
| **is-enabled** | | boolean optional | Is Dynamic DNS Update Enabled? |
| **skip-fqdn-validation** | | boolean optional | Specifies if the Vserver FQDN name validation is skipped. |
| **ttl** | | time-interval optional | TTL For the Dynamically Updated DNS Records. Maximum Supported Value Is 720h. Default: 24h. |
| **use-secure** | | boolean optional | Use Secure Dynamic DNS Updates? |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# net-device-discovery-get-iter

[top]

Iterate over a list of network device discovery objects found by a discovery protocol such as CDP or LLDP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | net-device-discovery-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | net-device-discovery-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-device-discovery object. All net-device-discovery objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | net-device-discovery-info[] optional | The list of attributes of net-device-discovery objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more net-device-discovery objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# net-dns-check-get-iter

[top]

Display the status of a list of name servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired- | | dns-status | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | optional | present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | dns-status optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the dns-check object. All dns-check objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | dns-status[] optional | The list of attributes of dns-check objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more dns-check objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **E_DNS_VSERVER_OPSTATE_STOPPED** | |

# net-dns-create

[top]

Creates DNS configuration for a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attempts** | **[1..4]** | integer optional | Max number of trials before giving up and returning error. Default is one. |
| **dns-state** | | enable optional | Enable/Disable DNS. Possible values are 'enabled' or 'disabled'. |
| **domains** | | string[] | List of DNS domains such as 'sales.bar.com'. The first domain is the one that the Vserver belongs to. |
| **is-tld-query-enabled** | | boolean optional | Use this parameter to enable or disable top-level domain (TLD) queries. TLD is a name that contains no dots. Default is true. |
| **name-servers** | | ip-address[] | IPv4 addresses of name servers such as '123.123.123.123'. |
| **require-packet-query-match** | | boolean optional | Require query sections of query and response packets to match. |
| **require-source-address-match** | | boolean optional | Require source IP address of reply to match the name-server address. |
| **return-record** | | boolean optional | If set to true, returns the dns on successful creation. Default: false |
| **skip-config-** | | boolean | Skip Configuration Validation |

| | | | |
|---|---|---|---|
| **validation** | | optional | |
| **timeout** | **[1..5]** | integer optional | Number of seconds to wait for a response from a name server before trying a different name server. Default is two seconds. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-dns-info optional | The dns created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EDUPLICATEENTRY** | |
| **E_DNS_CONFIG_CHECK_FAILURE** | |
| **E_DNS_STATE_DISABLED_NOT_SUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-dns-get

[top]

Get the DNS configuration of the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-dns-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-dns-info | The attributes of the dns. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-dns-get-iter

[top]

Iterate through DNS configurations of the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-dns-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | net- | |

| | | | |
|---|---|---|---|
| **query** | | dns-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the dns object. All dns objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-dns-info[] optional | The list of attributes of dns objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more dns objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-dns-modify

[top]

Modify the DNS configuration of the specified Vserver. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attempts** | **[1..4]** | integer optional | Max number of trials before giving up and returning error. Default is one. |
| **dns-state** | | enable optional | Enable/Disable DNS. Possible values are 'enabled' or 'disabled'. |
| **domains** | | string[] optional | List of DNS domains such as 'sales.bar.com'. The first domain is the one that the Vserver belongs to. |
| **is-tld-query-enabled** | | boolean optional | Use this parameter to enable or disable top-level domain (TLD) queries. TLD is a name that contains no dots. Default is true. |
| **name-servers** | | ip-address[] optional | IPv4 addresses of name servers such as '123.123.123.123'. |
| **require-packet-query-match** | | boolean optional | Require query sections of query and response packets to match. |
| **require-source-address-match** | | boolean optional | Require source IP address of reply to match the name-server address. |
| **skip-config-validation** | | boolean optional | Skip Configuration Validation |
| **timeout** | **[1..5]** | integer optional | Number of seconds to wait for a response from a name server before trying a different name server. Default is two seconds. |

| Errno | Description |
|---|---|
| **E_DNS_CONFIG_CHECK_FAILURE** | |
| **E_DNS_STATE_DISABLED_NOT_SUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-external-route-table-create

[top]

Create a new external routing table

| Input Name | Range | Type | Description |
|---|---|---|---|
| **return-record** | | boolean optional | If set to true, returns the network cloud routing-table on successful creation. Default: false |
| **route-table-id** | | string | Route Table ID |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | external-route-table-info optional | The network cloud routing-table created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-external-route-table-delete

[top]

Delete an existing external routing table

| Input Name | Range | Type | Description |
|---|---|---|---|
| **route-table-id** | | string | Route Table ID |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-failover-group-add-targets

[top]

Add failover targets to a failover group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **failover-group** | | string | The failover group. |
| **targets** | | net-qualified-port-name[] | The failover targets to add to the failover group. Format: node-name:port-name |
| **vserver** | | vif-owner-name | The vserver for which the failover group is defined. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |

| | |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

# net-failover-group-create

[top]

Create a failover group. Failover groups are used to define a set of possible failover targets for LIFs on one or more nodes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **failover-group** | | string | The failover group. |
| **return-record** | | boolean optional | If set to true, returns the Failover Group on successful creation. Default: false |
| **targets** | | net-qualified-port-name[] | The list of potential failover targets to be used. Lifs within the specified vserver and assigned to the specified failover-group will use this list of failover targets as needed. Format: node-name:port-name |
| **vserver** | | vif-owner-name | The vserver for which the failover group is defined. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-failover-group-info optional | The Failover Group created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_EEXIST** | |

# net-failover-group-destroy

[top]

Delete a failover group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **failover-group** | | string | The failover group. |
| **vserver** | | vif-owner-name | The vserver for which the failover group is defined. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| | |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## net-failover-group-get

[top]

Get the attributes of a failover goup.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-failover-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **failover-group** | | string | The failover group. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-failover-group-info | The attributes of the Failover Group. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

## net-failover-group-get-iter

[top]

Iterate over a list of failover group objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-failover-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-failover-group-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Failover Group object. All Failover Group objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **attributes-list** | | net-failover-group-info[] optional | The list of attributes of Failover Group objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Failover Group objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |

# net-failover-group-modify

[top]

Modify a failover group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **failover-group** | | string | The failover group. |
| **targets** | | net-qualified-port-name[] optional | The list of potential failover targets to be used. Lifs within the specified vserver and assigned to the specified failover-group will use this list of failover targets as needed. Format: node-name:port-name |
| **vserver** | | vif-owner-name | The vserver for which the failover group is defined. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

# net-failover-group-remove-targets

[top]

Remove failover targets from a failover group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **failover-group** | | string | The failover group. |
| **targets** | | net-qualified-port-name[] | The failover targets to remove from the failover group. Format: node-name:port-name |
| **vserver** | | vif-owner-name | The vserver for which the failover group is defined. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EVSERVERNTFOUND | |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |

# net-failover-group-rename

[top]

Rename a failover group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| failover-group | | node-name | The failover group. |
| new-failover-group-name | | string | The new name of the failover group. |
| vserver | | vif-owner-name | The vserver for which the failover group is defined. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EVSERVERNTFOUND | |
| EOBJECTNOTFOUND | |
| EONTAPI_EEXIST | |

# net-firewall-config-get

[top]

Get the attributes of a firewall configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | net-firewall-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| node-name | | node-name | Specifies the node on which the firewall configiration is set. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | net-firewall-config-info | The attributes of the firewall configuration. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |

| Errno | Description |
|---|---|
| ENODENOTFOUND | |

# net-firewall-config-get-iter

[top]

Iterate over a list of firewall configuration objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | net-firewall-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | net-firewall-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the firewall configuration object. All firewall configuration objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | net-firewall-config-info[] optional | The list of attributes of firewall configuration objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more firewall configuration objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| ENODENOTFOUND | |

# net-firewall-config-modify

[top]

Create a new firewall configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| is-enabled | | boolean optional | Specifies whether firewall protection is enabled (true) or disabled (false) for the node's network ports. The default setting is true. |
| | | | This parameter has been deprecated in Data ONTAP 9.0, but is still |

| | | | |
|---|---|---|---|
| **is-logging** | | boolean optional | returned for compatibility and may be removed in a future release. Specifies whether logging is enabled (true) or disabled (false) for the firewall service. The default setting is false. |
| **node-name** | | node-name | Specifies the node on which the firewall configiration is set. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# net-firewall-config-modify-iter

[top]

Modify the attributes of a firewall configuration or a group of firewall configuration objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-firewall-config-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple firewall configuration objects match a given query. If set to true, the API will continue modifying the next matching firewall configuration even when modification of a previous firewall configuration fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching firewall configuration even when the modification of a previous matching firewall configuration fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | net-firewall-config-info | If modifying a specific firewall configuration, this input element must specify all keys. If modifying firewall configuration objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of firewall configuration objects (just keys) that were not modified due to some error. If set to false, the list of firewall configuration objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of firewall configuration objects (just keys) that were successfully updated. If set to false, the list of firewall configuration objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | net-firewall-config-modify-iter-info[] optional | Information about firewall configuration objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching firewall configuration objects to be modified. |
| **num-failed** | [0..2^32-1] | integer optional | Number of firewall configuration objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | [0..2^32-1] | integer optional | The number of firewall configuration objects that matched the query and were successfully updated. |
| **success-list** | | net-firewall-config-modify-iter-info[] optional | The firewall configuration objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# net-firewall-policy-create

[top]

Create a new firewall policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allow-list** | | ip-and-mask[] | Specifies the list of client IPs that are permitted to access the specified service running on LIFs with the specified policy. Format: |
| **policy** | | string | Specifies the name of the firewall policy |
| **return-record** | | boolean optional | If set to true, returns the firewall policy on successful creation. Default: false |
| **service** | | fw-service | Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include:<br>• 'dns: - THe DNS protocol server',<br>• 'http: - The HTTP protocol',<br>• 'ndmp: - The NDMP tape backup protocol',<br>• 'ndmps: - The NDMPS tape backup protocol',<br>• 'none: - No protocol (for creating an empty policy)',<br>• 'ntp: - The NTP protocol',<br>• 'rsh: - The RSH protocol',<br>• 'snmp: - The SNMP protocol',<br>• 'telnet: - The Telnet protocol', |

| | | | |
|---|---|---|---|
| **vserver** | | vserver-name | Specifies the name of the vserver on which the firewall policy is defined. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-firewall-policy-info optional | The firewall policy created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_EEXIST** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-firewall-policy-destroy

[top]

Destroy an existing firewall policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | string | Specifies the name of the firewall policy |
| **service** | | fw-service | Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include:<br>• 'dns: - THe DNS protocol server',<br>• 'http: - The HTTP protocol',<br>• 'ndmp: - The NDMP tape backup protocol',<br>• 'ndmps: - The NDMPS tape backup protocol',<br>• 'none: - No protocol (for creating an empty policy)',<br>• 'ntp: - The NTP protocol',<br>• 'rsh: - The RSH protocol',<br>• 'snmp: - The SNMP protocol',<br>• 'telnet: - The Telnet protocol', |
| **vserver** | | vserver-name | Specifies the name of the vserver on which the firewall policy is defined. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-firewall-policy-get

[top]

Get the attributes of a firewall policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-firewall-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy** | | string | Specifies the name of the firewall policy |
| **service** | | fw-service | Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include:<br>• 'dns: - THe DNS protocol server',<br>• 'http: - The HTTP protocol',<br>• 'ndmp: - The NDMP tape backup protocol',<br>• 'ndmps: - The NDMPS tape backup protocol',<br>• 'none: - No protocol (for creating an empty policy)',<br>• 'ntp: - The NTP protocol',<br>• 'rsh: - The RSH protocol',<br>• 'snmp: - The SNMP protocol',<br>• 'telnet: - The Telnet protocol', |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-firewall-policy-info | The attributes of the firewall policy. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# net-firewall-policy-get-iter

[top]

Iterate over a list of firewall policy objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-firewall-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-firewall-policy- | A query that specifies which objects to return. A query could be specified on any number of attributes in the firewall policy object. All |

| | | | |
|---|---|---|---|
| | | info optional | firewall policy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-firewall-policy-info[] optional | The list of attributes of firewall policy objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more firewall policy objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |

# net-firewall-policy-modify

[top]

Modify an existing firewall policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allow-list** | | ip-and-mask[] optional | Specifies the list of client IPs that are permitted to access the specified service running on LIFs with the specified policy. Format: |
| **policy** | | string | Specifies the name of the firewall policy |
| **service** | | fw-service | Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include:<br>• 'dns: - THe DNS protocol server',<br>• 'http: - The HTTP protocol',<br>• 'ndmp: - The NDMP tape backup protocol',<br>• 'ndmps: - The NDMPS tape backup protocol',<br>• 'none: - No protocol (for creating an empty policy)',<br>• 'ntp: - The NTP protocol',<br>• 'rsh: - The RSH protocol',<br>• 'snmp: - The SNMP protocol',<br>• 'telnet: - The Telnet protocol', |
| **vserver** | | vserver-name | Specifies the name of the vserver on which the firewall policy is defined. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |

| | |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-hosts-create

[top]

Create a new IP to host names mapping

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aliases** | | string[] optional | The list of aliases such as 'host1.sales.foo.com'. |
| **host-ip-address** | | ip-address | IPv4 address in dotted form as '123.123.123.123'. |
| **hostname** | | string | Canonical hostname in a simple string or in FQDN |
| **return-record** | | boolean optional | If set to true, returns the hosts on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | hosts-info optional | The hosts created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-hosts-destroy

[top]

Delete an existing hosts object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **host-ip-address** | | ip-address | IPv4 address in dotted form as '123.123.123.123'. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-hosts-get

[top]

Given an IP address, return the corresponding IP to host names mapping of the running Vserver context

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | hosts-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **host-ip-address** | | ip-address | IPv4 address in dotted form as '123.123.123.123'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | hosts-info | The attributes of the hosts. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-hosts-get-iter

[top]

Iterate all IP to host name mappings (over all Vserver) of the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | hosts-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | hosts-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the hosts object. All hosts objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | hosts-info[] optional | The list of attributes of hosts objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more hosts objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-hosts-modify

[top]

Given an IP address, modify the corresponding IP to host name mapping. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aliases** | | string[] optional | The list of aliases such as 'host1.sales.foo.com'. |
| **host-ip-address** | | ip-address | IPv4 address in dotted form as '123.123.123.123'. |
| **hostname** | | string optional | Canonical hostname in a simple string or in FQDN |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-create

[top]

Create a new logical interface.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | Specifies the LIF's IP address. This element is valid for all data protocols except FCP. |
| **administrative-status** | | string optional | Specifies the administrative status of the LIF. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the interface from functioning, the operational status remains as down. Possible values:<br>• 'up',<br>• 'down', |
| **comment** | | string optional | Comment |
| **data-protocols** | | data-protocol[] optional | Specifies the list of data protocols configured on the LIF. By default, the values in this element are nfs, cifs and fcache. Other supported protocols are iscsi and fcp. A LIF can be configured to not support any data protocols by specifying 'none'. Protocol values of none, iscsi or fcp can't be combined with any other data protocol(s). Possible values:<br>• "nfs" - Used for NFS connections,<br>• "cifs" - Used for CIFS connections,<br>• "iscsi" - Used for iSCSI connections,<br>• "fcp" - Used for Fibre Channel connections,<br>• "fcache" - Used for 7-mode FlexCache connections,<br>• "none" - Used for management. Does not serve any file protocols.,<br>• "http" - Used for HTTP connections,<br>• "fc_nvme" - Used for NVMe/FC connections,<br>• "s3" - Used for S3 connections, |

| | | | |
|---|---|---|---|
| | | | • "nvme_roce" - Used for NVMe/RoCE connections,<br>• "nvme_tcp" - Used for NVMe/TCP connections |
| **dns-domain-name** | | dns-zone optional | Specifies the unique, fully qualified domain name of the DNS zone of this LIF. |
| **failover-group** | | failover-group optional | Specifies the failover group name. |
| **failover-policy** | | string optional | Specifies the failover policy for the LIF. For FCP and iSCSI LIFs, the only failover policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'nextavail'. |
| **firewall-policy** | | string optional | Specifies the firewall policy for the LIF. Default firewall-policy is set as per the following table:<br>• 'LIF Role Protocols Default policy',<br>• '------- --------- --------------',<br>• 'data none mgmt',<br>• 'data any (except fcp) data',<br>• 'node_mgmt any mgmt',<br>• 'cluster_mgmt any mgmt',<br>• 'cluster any cluster',<br>• 'intercluster any intercluster' |
| **force-subnet-association** | | boolean optional | Force the LIF's Subnet Association |
| **home-node** | | string optional | Specifies the LIF's home node. |
| **home-port** | | string optional | Specifies the LIF's home port. |
| **interface-name** | | string | Specifies the logical interface (LIF) name. |
| **is-auto-revert** | | boolean optional | If true, data LIF will revert to its home node under certain circumstances such as startup, and load balancing migration capability is disabled automatically. Default: false |
| **is-dns-update-enabled** | | boolean optional | Specifies if DNS update is enabled for this LIF. Dynamic updates will be sent for this LIF if updates are enabled at Vserver level |
| **is-ipv4-link-local** | | boolean optional | If true, automatically configure an interface with an IPv4 address. User can configure an interface by explicitly specifying <address> and <netmask> (or <netmask-length>); or by enabling is-ipv4-link-local to true. |
| **is-vip** | | boolean optional | Specifies if this is a LIF will be hosted on VIP port with /32 or /128 netmask |
| **listen-for-dns-query** | | boolean optional | If True, this IP address will listen for DNS queries for the dns-zone specified. |
| **netmask** | | ip-address optional | Specifies the LIF's netmask. This element is valid for all data protocols except FCP. |
| **netmask-length** | **[0..2^32-1]** | integer optional | Specifies number of bits in the netmask. |
| **probe-port** | **[0..2^32-1]** | integer optional | Probe-port for Cloud Load Balancer |
| **return-record** | | boolean optional | If set to true, returns the given network interface on successful creation. Default: false |
| | | | Specifies the role of the LIF. Default: data Possible values:<br>• "undef" - No defined role,<br>• "cluster" - Used for communication using the private cluster network, |

| | | | |
|---|---|---|---|
| **role** | | string optional | • "data" - Used for communicating with file service clients,<br>• "node_mgmt" - Used by administrators to configure the node,<br>• "intercluster" - Used for communication with a different cluster,<br>• "cluster_mgmt" - Used by administrators to configure the cluster |
| **routing-group-name** | | string optional | Specifies the routing group, which enables multiple logical interfaces to share a set of routing table entries. For example: d192.168.1.0/24 ('d' stands for data LIF and 192.168.1.0/24 is subnet) c192.168.1.0/24 ('c' stands for cluster LIF and 192.168.1.0/24 is subnet) n192.168.1.0/24 ('n' stands for node management LIF and 192.168.1.0/24 is subnet) dfd20:13::0/50 ('d' stands for data LIF and fd20:13::0/50 is IPv6 subnet) |
| **service-policy** | | string optional | Specifies the service policy of the LIF. The service policy attribute is currently only supported on a limited number of LIF roles, and each supported LIF role corresponds to a specific default service policy. Supported Roles:<br>• 'LIF Role Default Policy'<br>• '------------ -----------------'<br>• 'intercluster net-intercluster' |
| **subnet-name** | | subnet-name optional | Subnet where the interface address is allocated from. If the option is not used, the IP address will need to be provided by the administrator during configuration. |
| **use-failover-group** | | string optional | Specifies whether failover rules are automatically created, manually created by the administrator, or disabled. For FCP and iSCSI LIFs, the default policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'system_defined'. Possible values:<br>• "system_defined" - Failover targets generated automatically by the system,<br>• "disabled" - Failover targets generated manually by the admin,<br>• "enabled" - Failover targets defined by failover-group,<br>• "unused" - Failover targets are not generated based on this field |
| **vserver** | | string | Specifies the Vserver name. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-interface-info optional | The given network interface created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_EADDRINUSE** | |
| **EONTAPI_EEXIST** | |
| **E_INVALID_PORT_NAME** | |

| | |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **E_DEGRADED_PORT_CANT_HOST_LIF** | |
| **E_SAN_NOT_READY** | |
| **E_NVMF_EXCLUSIVE_VSERVER** | |
| **E_NVMF_SERVICE_REQUIRED** | |
| **E_NVMF_UNSUPPORTED_LIF_CONFIG** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-delete

[top]

Destroy an existing network interface object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string | Specifies the logical interface (LIF) name. |
| **vserver** | | string | Specifies the Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **E_SAN_NOT_READY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-get

[top]

Get the attributes of a network interface.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-interface-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **interface-name** | | string | Specifies the logical interface (LIF) name. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-interface-info | The attributes of the given network interface. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# net-interface-get-iter

[top]

Iterate over a list of network interface objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | net-interface-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | net-interface-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the given network interface object. All given network interface objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | net-interface-info[] optional | The list of attributes of given network interface objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more given network interface objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EVSERVERNTFOUND | |

# net-interface-migrate

[top]

Migrate a Logical Interface between nodes and ports

| Input Name | Range | Type | Description |
|---|---|---|---|
| destination-node | | node-name | Specifies the node to which the logical interface is to be migrated. |
| destination-port | | string optional | Specifies the port or interface group to which the logical interface is to be migrated. If not specified, this field will be set to the port name of the port on which the LIF currently resides. example: node2 |
| | | boolean | Force the migration operation. If not specified, this field will be set to false. If set to true, migrating a LIF whos 'sticky' field is set to true, or |

| | | | |
|---|---|---|---|
| **force** | | optional | whose current node is sick will be allowed. Otherwise they will not be permitted. |
| **lif** | | string | Specifies the logical interface that is to be migrated. example: lif1 |
| **vserver** | | string | Specifies the Vserver that owns the logical interface that is to be migrated. example: vs0 |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |
| **E_DEGRADED_PORT_CANT_MOVE_LIF** | |

# net-interface-modify

[top]

Modify the attributes of network interface object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | Specifies the LIF's IP address. This element is valid for all data protocols except FCP. |
| **administrative-status** | | string optional | Specifies the administrative status of the LIF. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the interface from functioning, the operational status remains as down. Possible values:<br>• 'up',<br>• 'down', |
| **comment** | | string optional | Comment |
| **dns-domain-name** | | dns-zone optional | Specifies the unique, fully qualified domain name of the DNS zone of this LIF. |
| **failover-group** | | failover-group optional | Specifies the failover group name. |
| **failover-policy** | | string optional | Specifies the failover policy for the LIF. For FCP and iSCSI LIFs, the only failover policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'nextavail'. |
| **firewall-policy** | | string optional | Specifies the firewall policy for the LIF. Default firewall-policy is set as per the following table:<br>• 'LIF Role Protocols Default policy',<br>• '------- --------- --------------',<br>• 'data none mgmt',<br>• 'data any (except fcp) data',<br>• 'node_mgmt any mgmt',<br>• 'cluster_mgmt any mgmt',<br>• 'cluster any cluster',<br>• 'intercluster any intercluster' |

| | | | |
|---|---|---|---|
| **force-subnet-association** | | boolean optional | Force the LIF's Subnet Association |
| **home-node** | | string optional | Specifies the LIF's home node. |
| **home-port** | | string optional | Specifies the LIF's home port. |
| **interface-name** | | string | Specifies the logical interface (LIF) name. |
| **is-auto-revert** | | boolean optional | If true, data LIF will revert to its home node under certain circumstances such as startup, and load balancing migration capability is disabled automatically. Default: false |
| **is-dns-update-enabled** | | boolean optional | Specifies if DNS update is enabled for this LIF. Dynamic updates will be sent for this LIF if updates are enabled at Vserver level |
| **listen-for-dns-query** | | boolean optional | If True, this IP address will listen for DNS queries for the dns-zone specified. |
| **netmask** | | ip-address optional | Specifies the LIF's netmask. This element is valid for all data protocols except FCP. |
| **netmask-length** | **[0..2^32-1]** | integer optional | Specifies number of bits in the netmask. |
| **routing-group-name** | | string optional | Specifies the routing group, which enables multiple logical interfaces to share a set of routing table entries. For example: d192.168.1.0/24 ('d' stands for data LIF and 192.168.1.0/24 is subnet) c192.168.1.0/24 ('c' stands for cluster LIF and 192.168.1.0/24 is subnet) n192.168.1.0/24 ('n' stands for node management LIF and 192.168.1.0/24 is subnet) dfd20:13::0/50 ('d' stands for data LIF and fd20:13::0/50 is IPv6 subnet) |
| **service-policy** | | string optional | Specifies the service policy of the LIF. The service policy attribute is currently only supported on a limited number of LIF roles, and each supported LIF role corresponds to a specific default service policy. Supported Roles:<br>• 'LIF Role Default Policy'<br>• '------------ -----------------'<br>• 'intercluster net-intercluster' |
| **subnet-name** | | subnet-name optional | Subnet where the interface address is allocated from. If the option is not used, the IP address will need to be provided by the administrator during configuration. |
| **use-failover-group** | | string optional | Specifies whether failover rules are automatically created, manually created by the administrator, or disabled. For FCP and iSCSI LIFs, the default policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'system_defined'. Possible values:<br>• "system_defined" - Failover targets generated automatically by the system,<br>• "disabled" - Failover targets generated manually by the admin,<br>• "enabled" - Failover targets defined by failover-group,<br>• "unused" - Failover targets are not generated based on this field |
| **vserver** | | string | Specifies the Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| | |

| | |
|---|---|
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **E_SAN_NOT_READY** | |
| **E_DEGRADED_PORT_CANT_MOVE_LIF** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-modify-iter

[top]

Modify the attributes of network interface or a group of network interface objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-interface-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple given network interface objects match a given query. If set to true, the API will continue modifying the next matching given network interface even when modification of a previous given network interface fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching given network interface even when the modification of a previous matching given network interface fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | net-interface-info | If modifying a specific given network interface, this input element must specify all keys. If modifying given network interface objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of given network interface objects (just keys) that were not modified due to some error. If set to false, the list of given network interface objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of given network interface objects (just keys) that were successfully updated. If set to false, the list of given network interface objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | net-interface-modify- | Information about given network interface objects that were not modified due to some error. This element will be returned only if |

| | | | |
|---|---|---|---|
| | | iter-info[] optional | input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching given network interface objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of given network interface objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of given network interface objects that matched the query and were successfully updated. |
| **success-list** | | net-interface-modify-iter-info[] optional | The given network interface objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |
| **E_SAN_NOT_READY** | |
| **E_DEGRADED_PORT_CANT_MOVE_LIF** | |

# net-interface-rename

[top]

Rename a logical interface.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string | Specifies the logical interface that is to be renamed. |
| **new-name** | | string | Specifies the new name for the interface. |
| **vserver** | | string | Specifies the Vserver that owns the logical interface that is to be renamed. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-revert

[top]

Revert a logical interface back to its home port following a deliberate migration or failover.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string | Specifies the logical interface that is to be reverted. |

| | | | |
|---|---|---|---|
| **vserver** | | string | Specifies the Vserver that owns the logical interface that is to be reverted. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |
| **E_DEGRADED_PORT_CANT_MOVE_LIF** | |

# net-interface-service-get

[top]

Get the attributes of the network interface service object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-interface-service-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **service** | | lif-service-name | The name of the network interface service. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-interface-service-info | The attributes of the net-interface-service. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |

# net-interface-service-get-iter

[top]

Iterate over a list of network interface service objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-interface-service-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | net-interface-service-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-interface-service object. All net-interface-service objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-interface-service-info[] optional | The list of attributes of net-interface-service objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-interface-service objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-interface-service-policy-add-service

[top]

Add an additional service to an existing network interface service policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allowed-addresses** | | ip-and-mask[] optional | The allowed address list to be associated with this service. |
| **policy** | | string | The name of the network interface service policy. |
| **service** | | lif-service-name | The service to be added to the specified network interface service policy. |
| **vserver** | | vserver-name | Vserver name that the network interface service policy belongs to. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **E_NET_SERVICE_NOT_FOUND** | |
| **E_NET_SERVICE_ALREADY_IN_POLICY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-service-policy-clone

[top]

Clone a network service policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | string | The name of the network interface service policy. |
| **target-policy** | | string | Use this name for the new network service policy. |
| **target-vserver** | | vserver-name | Use this vserver for the new network service policy. |
| **vserver** | | vserver-name | Vserver name that the network interface service policy belongs to. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **E_NET_SERVICE_POLICY_ALREADY_EXISTS** | |
| **E_NET_SERVICE_POLICY_VSERVER_UNSUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-service-policy-create

[top]

Create a new network interface service policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | string | The name of the network interface service policy. |
| **return-record** | | boolean optional | If set to true, returns the net-interface-service-policy on successful creation. Default: false |
| **services** | | lif-service-name[] optional | Services included in the network interface service policy. |
| **vserver** | | string | Vserver name that the network interface service policy belongs to. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-interface-service-policy-info optional | The net-interface-service-policy created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **E_NET_SERVICE_POLICY_NOT_SUPPORTED** | |
| **E_NET_SERVICE_POLICY_RESERVED_NAME** | |
| **E_NET_SERVICE_POLICY_VSERVER_UNSUPPORTED** | |
| **E_NET_SERVICE_NOT_FOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-service-policy-destroy

[top]

Delete an existing network interface service policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | string | The name of the network interface service policy. |
| **vserver** | | string | Vserver name that the network interface service policy belongs to. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **E_NET_SERVICE_POLICY_SYSTEM_OWNED** | |
| **E_NET_SERVICE_POLICY_IN_USE** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-service-policy-entry-get

[top]

Get the attributes of the network interface service policy entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-interface-service-policy-entry-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy** | | string | The name of the network interface service policy. |
| **service** | | lif-service-name | The name of the network interface service contained in this policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-interface-service-policy-entry-info | The attributes of the net-interface-service-policy-entry. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |

# net-interface-service-policy-entry-get-iter

[top]

Iterate over a list of network interface service policy entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-interface-service-policy-entry-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-interface-service-policy-entry-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-interface-service-policy-entry object. All net-interface-service-policy-entry objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-interface-service-policy-entry-info[] optional | The list of attributes of net-interface-service-policy-entry objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-interface-service-policy-entry objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-interface-service-policy-get

[top]

Get the attributes of the network interface service policy object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-interface-service-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy** | | string | The name of the network interface service policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **attributes** | | net-interface-service-policy-info | The attributes of the net-interface-service-policy. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |

# net-interface-service-policy-get-iter

[top]

Iterate over a list of network interface service policy objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-interface-service-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-interface-service-policy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-interface-service-policy object. All net-interface-service-policy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-interface-service-policy-info[] optional | The list of attributes of net-interface-service-policy objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-interface-service-policy objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-interface-service-policy-modify-service

[top]

Modify the attributes of an existing network interface service policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allowed-addresses** | | ip-and-mask[] | The allowed address list to be associated with this service. |
| **policy** | | string | The name of the network interface service policy. |
| **service** | | lif-service-name | The service to be updated in the specified network interface service policy. |
| **vserver** | | vserver-name | Vserver name that the network interface service policy belongs to. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **E_NET_SERVICE_NOT_IN_POLICY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-service-policy-remove-service

[top]

Remove a service from an existing network interface service policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | string | The name of the network interface service policy. |
| **service** | | lif-service-name | The service to be removed from the specified network interface service policy. |
| **vserver** | | vserver-name | Vserver name that the network interface service policy belongs to. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **E_NET_SERVICE_NOT_IN_POLICY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-service-policy-rename

[top]

Rename a network service policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-name** | | string | Assign this name to the network service policy. |
| **policy** | | string | The name of the network interface service policy. |
| | | | |

| | | | |
|---|---|---|---|
| **vserver** | | vserver-name | Vserver name that the network interface service policy belongs to. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **E_NET_SERVICE_POLICY_SYSTEM_OWNED** | |
| **E_NET_SERVICE_POLICY_ALREADY_EXISTS** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-service-policy-restore-defaults

[top]

Restore default settings to a network service policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | string | The name of the network interface service policy. |
| **vserver** | | vserver-name | Vserver name that the network interface service policy belongs to. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **E_NET_SERVICE_POLICY_NO_DEFAULTS** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-ipspaces-create

[top]

Create an IPspace

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | IPspace name |
| **return-record** | | boolean optional | If set to true, returns the given IPspace on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-ipspaces-info optional | The given IPspace created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |

| | |
|---|---|
| **EINTERNALERROR** | |
| **EONTAPI_EEXIST** | |

# net-ipspaces-destroy

[top]

Delete an IPspace

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | IPspace name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# net-ipspaces-get

[top]

Get the attributes of an IPspace.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | IPspace name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domains** | | broadcast-domain-name[] optional | The broadcast domains that belong to the IPspace |
| **ports** | | net-qualified-port-name[] optional | The ports that have been assigned to the IPspace. This field must be specified with the following format: : |
| **vservers** | | vserver-name[] | The vservers that have been assigned to the IPspace |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# net-ipspaces-get-iter

[top]

Iterate over a list of IPspace objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-** | | net-ipspaces- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | info optional | present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-ipspaces-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the given IPspace object. All given IPspace objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-ipspaces-info[] optional | The list of attributes of given IPspace objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more given IPspace objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |

# net-ipspaces-rename

[top]

Rename an IPspace.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | Current IPspace name |
| **new-name** | | string | New IPspace name. Note: You cannot rename system defined ipspaces. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EONTAPI_EEXIST** | |

# net-ndp-active-neighbor-destroy

[top]

Delete an existing network ndp active neighbor object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **neighbor** | | ip-address | Specify the neighbor IPv6 address. Example: fd20:13::1 |
| **node** | | node-name | Specify the name of the node. |

| | | | |
|---|---|---|---|
| **port** | | lif-bindable | Specify the physical port. |
| **subnet-group** | | ip-and-mask | Subnet Group |
| **vserver** | | vif-owner-name | Specify the name of a System or Admin Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-ndp-active-neighbor-get

[top]

Get the attributes of the network ndp active neighbor.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-ndp-neighbor-cache-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **neighbor** | | ip-address | Specify the neighbor IPv6 address. Example: fd20:13::1 |
| **node** | | node-name | Specify the name of the node. |
| **port** | | lif-bindable | Specify the physical port. |
| **subnet-group** | | ip-and-mask | Subnet Group |
| **vserver** | | vif-owner-name | Specify the name of a System or Admin Vserver. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-ndp-neighbor-cache-info | The attributes of the network ndp active neighbor. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-ndp-active-neighbor-get-iter

[top]

Iterate over a list of network ndp active neighbor objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-** | | net-ndp-neighbor- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | cache-info optional | present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-ndp-neighbor-cache-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the network ndp active neighbor object. All network ndp active neighbor objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-ndp-neighbor-cache-info[] optional | The list of attributes of network ndp active neighbor objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more network ndp active neighbor objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-ndp-default-router-delete-all

[top]

Delete default routers on a given IPspace

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | Speicifies the IPspace where the default router list will be deleted. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-ndp-default-router-get

[top]

Get the attributes of the network ndp default-router.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-ndp-default-router-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be |

| | | | |
|---|---|---|---|
| | | optional | returned. |
| **ipspace** | | string | Specify the name of the Ipspace. |
| **node** | | node-name | Specify the name of the node. |
| **port** | | lif-bindable | Specify the physical interface. |
| **router-addr** | | ip-address | Specify the default router IPv6 address. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-ndp-default-router-info | The attributes of the network ndp default-router. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-ndp-default-router-get-iter

[top]

Iterate over a list of network ndp default-router objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-ndp-default-router-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-ndp-default-router-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the network ndp default-router object. All network ndp default-router objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-ndp-default-router-info[] optional | The list of attributes of network ndp default-router objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more network ndp default-router objects to return. |

| num-records | [0..2^32-1] | integer | The number of records returned in this call. |
|---|---|---|---|

| Errno | Description |
|---|---|
| EINTERNALERROR | |

## net-ndp-neighbor-create

[top]

Configure a new NDP neighbor entry

| Input Name | Range | Type | Description |
|---|---|---|---|
| mac-address | | mac-address | Specifies the neighbor's MAC Address. |
| neighbor-address | | ip-address | Specifies the neighbor's IPv6 Address. |
| return-record | | boolean optional | If set to true, returns the network NDP neighbor on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| result | | ndp-neighbor-info optional | The network NDP neighbor created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

## net-ndp-neighbor-destroy

[top]

Delete an existing static NDP neighbor entry

| Input Name | Range | Type | Description |
|---|---|---|---|
| neighbor-address | | ip-address | Specifies the neighbor's IPv6 Address. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

## net-ndp-neighbor-get

[top]

Get a static configured NDP neighbor entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | ndp-neighbor-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available |

| | | | |
|---|---|---|---|
| | | optional | will be returned. |
| **neighbor-address** | | ip-address | Specifies the neighbor's IPv6 Address. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ndp-neighbor-info | The attributes of the network NDP neighbor. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-ndp-neighbor-get-iter

[top]

Iterator over a list of static configured NDP neighbor entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ndp-neighbor-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ndp-neighbor-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the network NDP neighbor object. All network NDP neighbor objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ndp-neighbor-info[] optional | The list of attributes of network NDP neighbor objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more network NDP neighbor objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-ndp-prefix-delete-all

[top]

Delete IPv6 prefixes on a given IPspace

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | Speicifies the IPspace where the prefix list will be deleted. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-ndp-prefix-get

[top]

Get the attributes of the network ndp prefix.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-ndp-prefix-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **ipspace** | | string | Specify the name of the Ipspace. |
| **node** | | node-name | Specify the name of the node. |
| **port** | | lif-bindable | Specify the physical port. |
| **prefix** | | ip-and-mask | Specify the prefix. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-ndp-prefix-info | The attributes of the network ndp prefix. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-ndp-prefix-get-iter

[top]

Iterate over a list of network ndp prefix objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-ndp-prefix-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-ndp-prefix-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the network ndp prefix object. All network ndp prefix objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-ndp-prefix-info[] optional | The list of attributes of network ndp prefix objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more network ndp prefix objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-options-get

[top]

Get the attributes of the net.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **net-options** | | net-options | Network Options Typedef |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-options-hypervisor-uplink-monitoring-get

[top]

Get the hypervisor uplink monitoring status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-options-hypervisor-uplink-monitoring-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-options-hypervisor-uplink-monitoring-info | The attributes of the net. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-options-hypervisor-uplink-monitoring-modify

[top]

Modify the hypervisor uplink monitoring status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **enabled** | | boolean optional | Hypervisor Uplink Monitoring |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-options-modify

[top]

Modify the attributes of net object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **net-options** | | net-options | Network Options Typedef |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-placement-cache-delete

[top]

Delete LIF placement cached information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address | The IP address that was searched. |
| **netmask-length** | **[0..2^32-1]** | integer | The number of bits in the subnet mask (i.e. 24 or 64). |
| **node** | | string | Specifies the name of the node. |
| **port** | | string | The port name on the node. |
| | | | |

| vserver | | string | Vserver Name |
|---|---|---|---|

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINVALIDINPUTERROR | |

# net-placement-cache-get-iter

[top]

Iterate over the LIF placement cached information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | net-placement-cache optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | net-placement-cache optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the network interface placement object. All network interface placement objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | net-placement-cache[] optional | The list of attributes of network interface placement objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more network interface placement objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# net-placement-discover

[top]

Find the ports direcly connected to the IP address

| Input Name | Range | Type | Description |
|---|---|---|---|
| address | | string | IP Address |
| mac | | string | MAC Address |

| | | | |
|---|---|---|---|
| | | optional | |
| **netmask-length** | **[0..2^32-1]** | integer | Netmask Length |
| **vserver** | | string | Vserver Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# net-port-broadcast-domain-add-ports

[top]

Add ports to a layer 2 broadcast domain.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name | The name of the layer 2 broadcast domain. |
| **ipspace** | | string optional | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. |
| **ports** | | net-qualified-port-name[] | Ports to be added to the broadcast domain. Format:node-name:port-name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **port-update-status-combined** | | broadcast-domain-port-status | Overall Port Update Status |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_PORT_NOT_FOUND** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_PORT_ALREADY_ASSIGNED_TO_BROADCAST_DOMAIN** | |
| **E_VIFMGR_BROADCAST_DOMAIN_ASSIGNMENT_DISALLOWED_IFGRP** | |

# net-port-broadcast-domain-create

[top]

Create a new layer 2 broadcast domain object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name | The name of the layer 2 broadcast domain. |
| **ipspace** | | string optional | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. |
| | | | Maximum Transmission Unit (MTU) of the layer 2 broadcast |

| | | | |
|---|---|---|---|
| **mtu** | **[0..2^32-1]** | integer | domain. The MTU will be applied to all ports that belong to the layer 2 broadcast domain. |
| **ports** | | net-qualified-port-name[] optional | Ports added to the layer 2 broadcast domain. Ports added to a new layer 2 broadcast domain will be removed from their current layer 2 broadcast domain. Format: node-name:port-name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **port-update-status-combined** | | broadcast-domain-port-status optional | Overall status of the port updates. The value is 'in-progress' if any port is in progress, 'complete' if all port updates complete, or 'error' if any port update is unsuccessful. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_PORT_NOT_FOUND** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_CANNOT_ADD_TO_CLUSTER_IPSPACE** | |
| **E_VIFMGR_BROADCAST_DOMAIN_INVALID_MTU** | |
| **E_VIFMGR_PORT_ALREADY_ASSIGNED_TO_BROADCAST_DOMAIN** | |
| **E_VIFMGR_BROADCAST_DOMAIN_ASSIGNMENT_DISALLOWED_IFGRP** | |

# net-port-broadcast-domain-destroy

[top]

Destroy an existing layer 2 broadcast domain object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name | The name of the layer 2 broadcast domain. |
| **ipspace** | | string optional | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **port-update-status-combined** | | broadcast-domain-port-status optional | Overall status of the port updates. The value is 'in-progress' if any port is in progress, 'complete' if all port updates complete, or 'error' if any port update is unsuccessful. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_CANNOT_REMOVE_CLUSTER_BROADCAST_DOMAIN** | |
| **E_VIFMGR_BROADCAST_DOMAIN_HOSTS_PORTS** | |

# net-port-broadcast-domain-get

[top]

Get the attributes of the layer 2 broadcast domain object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name | The name of the layer 2 broadcast domain. |
| **desired-attributes** | | net-port-broadcast-domain-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **ipspace** | | string | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-port-broadcast-domain-info | The attributes of the net-port-broadcast-domain. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |

# net-port-broadcast-domain-get-iter

[top]

Iterate over a list of layer 2 broadcast domain objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-port-broadcast-domain-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-port-broadcast-domain-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-port-broadcast-domain object. All net-port-broadcast-domain objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| | | | |
|---|---|---|---|

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | net-port-broadcast-domain-info[] optional | The list of attributes of net-port-broadcast-domain objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more net-port-broadcast-domain objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| E_NET_UI_VIFMGR_NOT_INITIALIZED | |
| E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED | |

# net-port-broadcast-domain-merge

[top]

Merges two layer 2 broadcast domains.

| Input Name | Range | Type | Description |
|---|---|---|---|
| broadcast-domain | | broadcast-domain-name | The name of the layer 2 broadcast domain. |
| into-broadcast-domain | | broadcast-domain-name | Merge with this layer 2 broadcast domain. |
| ipspace | | string optional | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. |

| Errno | Description |
|---|---|
| E_NET_UI_VIFMGR_NOT_INITIALIZED | |
| E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED | |
| E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND | |
| E_VIFMGR_BROADCAST_DOMAIN_MERGE_MTU_MISMATCH | |

# net-port-broadcast-domain-modify

[top]

Modify the attributes of the layer 2 broadcast domain object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| broadcast-domain | | broadcast-domain-name | The name of the layer 2 broadcast domain. |
| ipspace | | string optional | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. |
| mtu | [0..2^32-1] | integer | Maximum Transmission Unit (MTU) of the layer 2 broadcast domain. The MTU will be applied to all ports that belong to the layer 2 broadcast domain. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **port-update-status-combined** | | broadcast-domain-port-status optional | Overall status of the port updates. The value is 'in-progress' if any port is in progress, 'complete' if all port updates complete, or 'error' if any port update is unsuccessful. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_INVALID_MTU** | |

# net-port-broadcast-domain-remove-ports

[top]

Remove ports from a layer 2 broadcast domain.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name | The name of the layer 2 broadcast domain. |
| **ipspace** | | string optional | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. |
| **ports** | | net-qualified-port-name[] | Ports to be removed from their current layer 2 broadcast domain. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **port-update-status-combined** | | broadcast-domain-port-status | Overall Port Update Status |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_PORT_NOT_FOUND** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_PORT_NOT_ASSIGNED_TO_BROADCAST_DOMAIN** | |

# net-port-broadcast-domain-rename

[top]

Rename a layer 2 broadcast domain.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name | The name of the layer 2 broadcast domain. |

| | | | |
|---|---|---|---|
| **ipspace** | | string<br>optional | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. |
| **new-name** | | string | New name for the layer 2 broadcast domain |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EONTAPI_EEXIST** | |
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_CANNOT_RENAME_CLUSTER_BROADCAST_DOMAIN** | |
| **E_VIFMGR_BROADCAST_DOMAIN_RENAME_ENTRY_EXISTS** | |

# net-port-broadcast-domain-split

[top]

Splits a layer 2 broadcast domain into two layer 2 broadcast domains.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name | The name of the layer 2 broadcast domain. |
| **ipspace** | | string<br>optional | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. |
| **new-broadcast-domain** | | broadcast-domain-name | New layer 2 broadcast domain name. |
| **ports** | | net-qualified-port-name[] | The ports to be split from current broadcast domain and added to the new broadcast domain. Format:node-name:port-name |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_PORT_NOT_ASSIGNED_TO_SAME_BROADCAST_DOMAIN** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NAMED_FAILOVER_GROUP_EXISTS** | |
| **E_VIFMGR_FAILOVER_GROUP_TARGETS_NOT_IN_SPLIT_PORTS** | |
| **E_VIFMGR_LIF_CURRENT_AND_HOME_NOT_IN_SPLIT** | |
| **E_VIFMGR_LIFS_FAILOVER_GROUP_USES_PORTS_NOT_SPLIT** | |
| **E_VIFMGR_LIFS_FAILOVER_GROUP_USES_PORTS_IN_SPLIT** | |
| **E_VIFMGR_SUBNET_USED_BY_PORTS_IN_BROADCAST_DOMAIN** | |

# net-port-delete

[top]

Delete a physical network port. This is typically used when there is an entry in the port table reffering to a physical port that was previously removed from a node. Any LIFs hosted on the port must be deleted

or moved to another port before deletion of the port is permitted

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Specifies the name of node. |
| **port** | | lif-bindable | Specifies the name of port. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |
| **E_CANT_DELETE_PORT_HOSTING_LIF** | |

# net-port-get

[top]

Get the attributes of a network port.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-port-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | string | Specifies the name of node. |
| **port** | | string | Specifies the name of port. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-port-info | The attributes of the given network port. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# net-port-get-iter

[top]

Iterate over a list of network port objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-port-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-** | integer | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| | 1] | optional | |
| **query** | | net-port-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the given network port object. All given network port objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-port-info[] optional | The list of attributes of given network port objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more given network port objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# net-port-health-monitor-disable

[top]

Disable one or more port health monitors

| Input Name | Range | Type | Description |
|---|---|---|---|
| **health-monitors** | | netport-degraded-reason[] | List of Port Health Monitors to Disable |
| **ipspace** | | string | IPspace Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-port-health-monitor-enable

[top]

Enable one or more port health monitors

| Input Name | Range | Type | Description |
|---|---|---|---|
| **health-monitors** | | netport-degraded-reason[] | List of Port Health Monitors to Enable |
| **ipspace** | | string | IPspace Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# net-port-health-monitor-get

[top]

Get the network port health monitors enabled for an IPspace.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | net-port-health-monitor-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| ipspace | | string | IPspace Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | net-port-health-monitor-info | The attributes of the net. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# net-port-health-monitor-get-iter

[top]

Iterate over the the network port health monitors enabled for each IPspace.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | net-port-health-monitor-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | net-port-health-monitor-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net object. All net objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | net-port-health- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | monitor-info[] optional | The list of attributes of net objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-port-ifgrp-add-port

[top]

Add port to a network interface group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ifgrp-name** | | netport-ifgrp-name | Specifies the interface group name. |
| **node** | | string | Specifies the name of node. |
| **port** | | string | Specifies the name of port. |
| **skip-broadcast-domain-placement** | | boolean optional | Skip Placement Into Broadcast Domain |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |
| **E_DEGRADED_PORT_IFGRP_ADDED** | |

# net-port-ifgrp-create

[top]

Create a new network interface group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **distribution-function** | | string | Specifies the traffic distribution function for the ifgrp. Possible values:<br>• "mac" - Network traffic is distributed on the basis of MAC addresses,<br>• "ip" - Network traffic is distributed on the basis of IP addresses,<br>• "sequential" - Network traffic is distributed round-robin to each interface,<br>• "port" - Network traffic is distributed by transport layer address 4-tuple |
| **ifgrp-name** | | netport-ifgrp-name | Specifies the interface group name. |
| | | | |

| | | | |
|---|---|---|---|
| **mode** | | string | Specifies the link policy for the ifgrp. Possible values:<br>• 'multimode - All links are simultaneously active',<br>• 'multimode_lacp - Link state is managed by the switch using link aggregation control protocol (LACP) (IEEE 802.3ad)',<br>• 'singlemode - Only one link is active at a time' |
| **node** | | string | Specifies the name of node. |
| **return-record** | | boolean optional | If set to true, returns the network interface group on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-ifgrp-info optional | The network interface group created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |
| **E_INVALID_IFGRP_NAME** | |

# net-port-ifgrp-destroy

[top]

Destroy an existing network interface group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ifgrp-name** | | netport-ifgrp-name | Specifies the interface group name. |
| **node** | | string | Specifies the name of node. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# net-port-ifgrp-get

[top]

Get the attributes of a network interface group (ifgrp).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-ifgrp-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| | | netport- | |

| | | | |
|---|---|---|---|
| **ifgrp-name** | | ifgrp-name | Specifies the interface group name. |
| **node** | | string | Specifies the name of node. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-ifgrp-info | The attributes of the network interface group. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# net-port-ifgrp-remove-port

[top]

Remove port from a network interface group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ifgrp-name** | | netport-ifgrp-name | Specifies the interface group name. |
| **node** | | string | Specifies the name of node. |
| **port** | | string | Specifies the name of port. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# net-port-modify

[top]

Modify the given attributes of network port and the rest remain unchanged.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **administrative-duplex** | | string optional | Specifies the user preferred duplex setting of the port. Possible values:<br>• "undef" - No defined duplex,<br>• "auto" - Auto-negotiate duplex setting for link,<br>• "half" - Half-duplex link usage,<br>• "full" - Full-duplex link usage |
| **administrative-flowcontrol** | | string optional | Specifies the user preferred flow control setting of the port. |
| | | | Specifies the user preferred speed setting of the port. Possible values: |

| | | | |
|---|---|---|---|
| **administrative-speed** | | string optional | • "undef" - No defined speed,<br>• "auto" - Auto-negotiate speed for link,<br>• "10" - 10 megabits per second,<br>• "100" - 100 megabits per second,<br>• "1000" - 1 gigabit per second,<br>• "10000" - 10 gigabits per second,<br>• "40000" - 40 gigabits per second,<br>• "100000" - 100 gigabits per second,<br>• "25000" - 25 gigabits per second |
| **autorevert-delay** | **[0..2^32-1]** | integer optional | For a port with role 'cluster', specifies the delay in seconds before autoreverting a LIF to this port. |
| **ignore-health-status** | | boolean optional | Use this parameter to specify that the system ignore network port health status of the specified port for the purpose of hosting a logical interface. The default value for this parameter is false. |
| **ipspace** | | string optional | Specifies the port's associated IPspace name. Note: the 'Cluster' ipspace is reserved for cluster ports. |
| **is-administrative-auto-negotiate** | | boolean optional | Enables or disables Ethernet auto-negotiation of speed, duplex and flow control. |
| **is-administrative-up** | | boolean optional | If true, it changes the state of the port to 'up'. |
| **mtu** | **[0..2^32-1]** | integer optional | Specifies the maximum transmission unit (MTU) reported by the port. |
| **node** | | string | Specifies the name of node. |
| **port** | | string | Specifies the name of port. |
| **role** | | string optional | This parameter has been deprecated in Data ONTAP 8.3, but is still returned for compatibility and may be removed in a future release. Prefer instead to use the 'ipspace' parameter. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# net-port-modify-iter

[top]

Modify the attributes of network port or a group of network port objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-port-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple given network port objects match a given query. If set to true, the API will continue modifying the next matching given network port even when modification of a previous given network port fails. If set to false, the API will return on the first failure. Default: false |
| | | | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify |

| | | | |
|---|---|---|---|
| **max-failure-count** | **[1..2^32-1]** | integer optional | operations before the server gives up and returns. If set, the API will continue modifying the next matching given network port even when the modification of a previous matching given network port fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | net-port-info | If modifying a specific given network port, this input element must specify all keys. If modifying given network port objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of given network port objects (just keys) that were not modified due to some error. If set to false, the list of given network port objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of given network port objects (just keys) that were successfully updated. If set to false, the list of given network port objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | net-port-modify-iter-info[] optional | Information about given network port objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching given network port objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of given network port objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of given network port objects that matched the query and were successfully updated. |
| **success-list** | | net-port-modify-iter-info[] optional | The given network port objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# net-qos-marking-get-iter

[top]

Iterate over a list of QoS Marking attributes

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qos-marking optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | qos-marking optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-qos-marking object. All net-qos-marking objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | qos-marking[] optional | The list of attributes of net-qos-marking objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-qos-marking objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-qos-marking-modify

[top]

Modify the the QoS Marking attributes of a protocol

| Input Name | Range | Type | Description |
|---|---|---|---|
| **dscp** | **[0..63]** | integer optional | DSCP marking value. Default value for NFS, CIFS, iSCSI, HTTP-fileserv, NDMP, SnapMirror, and SnapMirror-Sync is 10 and for FTP, HTTP-admin, SSH, Telnet, and SNMP is 48. |
| **ipspace** | | string | IPspace Name. |
| **is-enabled** | | boolean optional | QoS Marking status. Default setting is false. |
| **protocol** | | string | Protocol name. Supported values are NFS, CIFS, iSCSI, NVMe-TCP, SnapMirror, SnapMirror-Sync, NDMP, FTP, HTTP-admin, HTTP-fileserv, SSH, Telnet, and SNMP. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-routes-create

[top]

Create a new network route.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination** | | ip-and-mask | Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 |
| **gateway** | | ip-address | Specify the route gateway. Example: 10.7.125.1, fd20:13::1 |
| **metric** | **[0..2^32-1]** | integer optional | Specify the route metric. If this field is not provided the default will be set to 30 |
| **return-record** | | boolean optional | If set to true, returns the network route on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-vs-routes-info optional | The network route created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_EEXIST** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-routes-destroy

[top]

Destroy an existing network route object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination** | | ip-and-mask | Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 |
| **gateway** | | ip-address | Specify the route gateway. Example: 10.7.125.1, fd20:13::1 |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-routes-get

[top]

Get the attributes of a network route.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-vs-routes-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination** | | ip-and-mask | Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 |
| **gateway** | | ip-address | Specify the route gateway. Example: 10.7.125.1, fd20:13::1 |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-vs-routes-info | The attributes of the network route. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# net-routes-get-iter

[top]

Iterate over a list of network route objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-vs-routes-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-vs-routes-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the network route object. All network route objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-vs-routes-info[] optional | The list of attributes of network route objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more network route objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EVSERVERNTFOUND | |

# net-routes-lifs-get

[top]

Get the logical interfaces (LIFs) associated with a network route.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-vs-routes-lif-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination** | | ip-and-mask | Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 |
| **gateway** | | ip-address | Specify the route gateway. Example: 10.7.125.1, fd20:13::1 |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-vs-routes-lif-info | The attributes of the network route showlifs. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EVSERVERNTFOUND | |
| EINTERNALERROR | |

# net-routes-lifs-get-iter

[top]

Iterate over a list of network route objects and get the associated logical interfaces (LIFs).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-vs-routes-lif-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-vs-routes-lif-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the network route showlifs object. All network route showlifs objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-vs-routes-lif-info[] optional | The list of attributes of network route showlifs objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more network route showlifs objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |

# net-san-lif-placement-get

[top]

Get the attributes of the SAN LIF Placement.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-type** | | adapter-type | Adapter type |
| **broadcast-domain** | | broadcast-domain-name optional | It is for iSCSI protocol only. If provided, only the candidate ports in the given broadcast domain will be returned; otherwise, all candidate ports will be returned. It is interchangeable with subnet-name. If both are provided but the given subnet is not in the given broadcast domain, then an error will be returned. |
| **ipspace-name** | | string optional | The IPspace that the given subnet or broadcast domain belongs to. It is required when either subnet-name or broadcast-domain is provided. |
| **lifs-per-node** | [0..2^32-1] | integer | LIFs per node |
| **nodelist** | | node-name[] optional | If provided, LIF placement is returned only for the given nodes. Otherwise, they are returned for all nodes in the cluster. |
| **protocol** | | data-protocol | Protocol |
| **subnet-name** | | subnet-name optional | It is for iSCSI protocol only. If provided, only the candidate ports in the broadcast domain that the subnet belongs to will be returned; otherwise, all candidate ports will be returned. It is interchangeable with broadcast-domain. If both are provide but the given subnet is not in the given broadcast domain, then an error will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **lif-placement** | | lif-placement-info[] | SAN LIF placement |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |
| **EADAPTERNOTFOUND** | |
| **E_TOO_FEW_PORTS** | |
| **EAPIUNSUPPORTEDVERSION** | |

# net-subnet-add-ranges

[top]

Add address ranges to a subnet.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force-update-lif-associations** | | boolean optional | This command will fail if any service processor interfaces or network interfaces are using the IP addresses in the ranges provided. Setting this value to true will associate any manually addressed interfaces with the subnet and will allow the command to succeed. |
| **ip-ranges** | | ip-range[] | The list of ranges to add to the subnet |
| **ipspace** | | string optional | IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'. |
| **subnet-name** | | subnet-name | Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_RANGES_NOT_IN_SUBNET** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP** | |

# net-subnet-create

[top]

Create a new subnet object. A subnet object represents a layer 3 subnet in a network.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name | Layer 2 broadcast domain name that the subnet belongs to. |
| **force-update-lif-associations** | | boolean optional | This command will fail if any service processor interfaces or network interfaces are using the IP addresses in the ranges provided. Setting this value to true will associate any manually addressed interfaces with the subnet and will allow the command to succeed. |
| **gateway** | | ip-address optional | The gateway for the default route of the subnet. |

| | | | |
|---|---|---|---|
| **ip-ranges** | | ip-range[] optional | The list of IP address ranges associated with the subnet. |
| **ipspace** | | string optional | IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'. |
| **return-record** | | boolean optional | If set to true, returns the net-subnet on successful creation. Default: false |
| **subnet** | | ip-and-mask | Layer 3 Subnet |
| **subnet-name** | | subnet-name | Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-subnet-info optional | The net-subnet created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_INVALID_GATEWAY** | |
| **E_VIFMGR_CONFLICTS_WITH_EXISTING_SUBNET** | |
| **E_VIFMGR_SUBNET_NAME_ALREADY_EXISTS** | |
| **E_VIFMGR_SUBNET_ALREADY_EXISTS** | |
| **E_VIFMGR_SUBNET_SUBNET_NESTED** | |
| **E_VIFMGR_SUBNET_INVALID** | |
| **E_VIFMGR_SUBNET_GATEWAY_NOT_IN_SUBNET** | |
| **E_VIFMGR_SUBNET_GATEWAY_INVALID** | |
| **E_VIFMGR_SUBNET_RANGES_NOT_IN_SUBNET** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_INVALID** | |
| **E_VIFMGR_SUBNET_RANGES_INCLUDE_GATEWAY** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP** | |

# net-subnet-destroy

[top]

Destroy an existing subnet object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force-update-lif-associations** | | boolean optional | This command will fail if the subnet has ranges containing any existing service processor interface or network interface IP addresses. Setting this value to true will remove the network interface associations with the subnet and allow the command to succeed. However, it will not affect service processor interfaces. |
| **ipspace** | | string optional | IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'. |
| **subnet-** | | subnet- | Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or |

| | | | |
|---|---|---|---|
| **name** | | name | a specific subnet IP value, 198.18.10.0/24 is allowed. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP** | |

# net-subnet-get

[top]

Get the attributes of the subnet object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-subnet-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **ipspace** | | string | IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'. |
| **subnet-name** | | subnet-name | Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-subnet-info | The attributes of the net-subnet. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_NOT_FOUND** | |

# net-subnet-get-iter

[top]

Iterate over a list of subnet objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-subnet-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-** | integer | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| | 1] | optional | |
| **query** | | net-subnet-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-subnet object. All net-subnet objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-subnet-info[] optional | The list of attributes of net-subnet objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-subnet objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_NOT_FOUND** | |

# net-subnet-modify

[top]

Modify an existing subnet object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force-update-lif-associations** | | boolean optional | This command will fail if any service processor interfaces or network interfaces are using the IP addresses in the ranges provided. Setting this value to true will associate any manually addressed interfaces with the subnet and will allow the command to succeed. |
| **gateway** | | ip-address optional | The gateway for the default route of the subnet. |
| **ip-ranges** | | ip-range[] optional | The list of IP address ranges associated with the subnet. |
| **ipspace** | | string optional | IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'. |
| **subnet** | | ip-and-mask optional | Layer 3 Subnet |
| **subnet-name** | | subnet-name | Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |

| | |
|---|---|
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_ENTRY_EXISTS** | |
| **E_VIFMGR_SUBNET_DUPLICATE_SUBNET** | |
| **E_VIFMGR_SUBNET_SUBNET_NESTED** | |
| **E_VIFMGR_SUBNET_INVALID** | |
| **E_VIFMGR_SUBNET_GATEWAY_NOT_IN_SUBNET** | |
| **E_VIFMGR_SUBNET_GATEWAY_INVALID** | |
| **E_VIFMGR_SUBNET_RANGES_NOT_IN_SUBNET** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_INVALID** | |
| **E_VIFMGR_SUBNET_RANGES_INCLUDE_GATEWAY** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP** | |
| **E_VIFMGR_SUBNET_LIF_NETMASK_CHANGE_NOT_SUPPORTED** | |
| **E_VIFMGR_SUBNET_LIF_NETMASK_MISMATCH** | |

# net-subnet-remove-ranges

[top]

Remove address ranges from a subnet.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force-update-lif-associations** | | boolean optional | This command will fail if any existing service processor interfaces or network interfaces are using IP addresses in the ranges provided. Setting this value to true will remove the subnet's association with those interfaces and allow the command to succeed. |
| **ip-ranges** | | ip-range[] | IP ranges to remove |
| **ipspace** | | string optional | IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'. |
| **subnet-name** | | subnet-name | Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_RANGES_NOT_IN_SUBNET** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP** | |

# net-subnet-rename

[top]

Rename a layer 3 subnet.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string optional | IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'. |
| **new-name** | | string | New name for the layer 3 subnet |
| **subnet-name** | | subnet-name | Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_ALREADY_EXISTS** | |

# net-subnets-for-broadcast-domain-get

[top]

Get the list of subnets associated with the layer 2 broadcast domain object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name | The name of the layer 2 broadcast domain. |
| **desired-attributes** | | net-subnets-for-broadcast-domain-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **ipspace** | | string | IPspace name that the layer 2 broadcast domain belongs to. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-subnets-for-broadcast-domain-info | The attributes of the net-subnets-for-broadcast-domain. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |

# net-subnets-for-broadcast-domain-get-iter

[top]

Iterate over a list of subnets associated with the layer 2 broadcast domain objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | net- | |

| | | | |
|---|---|---|---|
| **desired-attributes** | | subnets-for-broadcast-domain-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-subnets-for-broadcast-domain-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-subnets-for-broadcast-domain object. All net-subnets-for-broadcast-domain objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-subnets-for-broadcast-domain-info[] optional | The list of attributes of net-subnets-for-broadcast-domain objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-subnets-for-broadcast-domain objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |

# net-test-path

[top]

Test performance between specified nodes

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection-detail** | | boolean optional | Display test results per network path. |
| **destination-cluster** | | cluster-name | The cluster containing the destination node. |
| **destination-node** | | string | The node receiving the session request. |
| **session-type** | | csm-session-type | Type of session used for session parameters. Possible values:<br>• "asyncmirrorlocal" - Intra-cluster Async Mirror,<br>• "asyncmirrorremote" - Inter-cluster Async Mirror,<br>• "remotedatatransfer" - Intra-cluster File/Lun Read/Write |

| | | | |
|---|---|---|---|
| **source-node** | | node-name | The node initiating the session request. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **average-latency** | **[0..2^64-1]** | integer optional | Average request + response time in microseconds, for all request/response pairs. |
| **cookie** | **[0..2^32-1]** | integer optional | The send cookie used for the request. |
| **maximum-latency** | **[0..2^64-1]** | integer optional | Maximum request + response time in microseconds, for all request/response pairs. |
| **minimum-latency** | **[0..2^64-1]** | integer optional | Minimum request + response time in microseconds, for all request/response pairs. |
| **receive-throughput** | **[0..2^64-1]** | integer optional | Receive throughput (destination to source node) in bytes/second. |
| **send-throughput** | **[0..2^64-1]** | integer optional | Send throughput (source to destination node) in bytes/second. |
| **test-duration** | **[0..2^64-1]** | integer optional | Test duration in microseconds. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-traceroute6

[top]

Trace the route IPv6 packets take to a host. The input node is exclusive with the interface input. Only one is allowed. The interface input must be specified with interface owner.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **debug-mode** | | boolean optional | Specifies the use of debug-mode for socket level debugging. Default: False |
| **destination-address** | | string | Specifies the IPv6 address of the destination. |
| **first-hop** | | integer optional | Specifies the number of hops to skip in trace. Default: 1. |
| **gateway** | | remote-inet-address optional | Specifies the intermediate gateway. |
| **hop-limit** | | integer optional | Specifies the maximum hoplimit. Default: 64. Range: [1..255]. |
| **interface** | | string optional | Specifies the LIF from where traceroute is to be started. This interface input must be specified with the interface-owner input. |
| **interface-owner** | | string optional | Specifies the optional Vserver from which traceroute is to be started. If Vserver is not specified, then traceroute will be started from cluster adminstration Vserver of the cluster. |
| **node** | | string optional | Specifies the node from which traceroute is to be started. The input node is exclusive with the interface input. Only one is allowed. |
| **nqueries** | | integer optional | Specifies the number of probes per hop. Default: 3. |
| **numeric** | | boolean | Specifies printing of hop addresses only numerically rather than |

| | | | |
|---|---|---|---|
| | | optional | symbolically and numerically. Default: False. |
| **packet-size** | | integer optional | Specifies the size of probe packets in bytes. Default: 16 for ICMP6 ECHO and 12 for UDP datagrams. |
| **port** | | integer optional | Specifies the base UDP port number used in probes. Default: 33434. |
| **use-icmp6** | | boolean optional | Specifies use of ICMP6 ECHO instead of UDP datagrams for probes. This parameter is mutually exclusive with the udp parameter. Default: False. |
| **use-udp** | | boolean optional | Specifies use of UDP datagrams for probes. This parameter is mutually exclusive with the icmp6 parameter. Default: True. |
| **verbose** | | boolean optional | Specifies that all received ICMP packets must be displayed rather than just TIME_EXCEEDED and UNREACHABLE packets. Default: False. |
| **wait-time** | | integer optional | Specifies the delay time between probes in seconds. Default: 5. Range: [1..65535]. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **raw-output** | | string optional | The multi-line output of the OS level traceroute6 command. |

| Errno | Description |
|---|---|
| **EONTAPI_EAFNOSUPPORT** | |
| **EONTAPI_EPERM** | |
| **EONTAPI_ENOPROTOOPT** | |
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# net-tuning-icmp-get

[top]

Get ICMP tuning options.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-tuning-icmp-options optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-tuning-icmp-options | The attributes of the ICMP protocol tuning. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-tuning-icmp-modify

[top]

Modify ICMP tuning options

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-drop-redirect-enabled** | | boolean optional | Drop redirect ICMP |
| **node** | | node-name | Node |
| **redirect-timeout** | **[0..65535]** | integer optional | Maximum seconds for route redirect timeout |
| **tx-icmp-limit** | **[0..2^32-1]** | integer optional | Maximum number of ICMP packets sent per second |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-tuning-icmp6-get

[top]

Get ICMPv6 tuning options.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-tuning-icmp6-options optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-tuning-icmp6-options | The attributes of the ICMPv6 protocol tuning. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-tuning-icmp6-modify

[top]

Modify ICMPv6 tuning options

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-v6-redirect-** | | boolean | Accept redirects via ICMPv6 |

| | | | |
|---|---|---|---|
| **accepted** | | optional | |
| **node** | | node-name | Node |
| **redirect-v6-timeout** | **[0..65535]** | integer optional | Maximum seconds for route redirect timeout |
| **tx-icmp6-err-limit** | **[0..2^32-1]** | integer optional | Maximum number of ICMPv6 error messages sent per second |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-tuning-tcp-get

[top]

Get TCP tuning options.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-tuning-tcp-options optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-tuning-tcp-options | The attributes of the TCP protocol tuning. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-tuning-tcp-modify

[top]

Modify TCP tuning options

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-path-mtu-discovery-enabled** | | boolean optional | Path MTU discovery enabled |
| **is-rfc3390-enabled** | | boolean optional | RFC3390 enabled |
| **is-rfc3465-enabled** | | boolean optional | RFC3465 enabled |
| **is-sack-enabled** | | boolean | SACK support enabled |

| | | | |
|---|---|---|---|
| | | optional | |
| **max-cwnd-increment** | **[0..2^32-1]** | integer optional | Maximum congestion window segments incrementation |
| **node** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-vip-port-create

[top]

Create a new VIP port.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | IPspace Name |
| **node** | | node-name | Node |
| **port** | | net-port | Network Port |
| **return-record** | | boolean optional | If set to true, returns the net-vip-port on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | vip-port-info optional | The net-vip-port created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-vip-port-destroy

[top]

Delete a VIP port.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node |
| **port** | | net-port | Network Port |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-vip-port-get

[top]

Get the attributes of a VIP port.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vip-port-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |
| **port** | | net-port | Network Port |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vip-port-info | The attributes of the net-vip-port. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

# net-vip-port-get-iter

[top]

Iterate over a list of VIP ports.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vip-port-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vip-port-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-vip-port object. All net-vip-port objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vip-port-info[] optional | The list of attributes of net-vip-port objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-vip-port objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-vlan-create

[top]

Create a new vlan interface. In Data ONTAP 7-Mode, changes made by this API are not persisted across system reboots. In Data ONTAP Cluster-Mode, changes made by this API are persisted across system reboots.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **vlan-info** | | vlan-info | Vlan to create. |

| Errno | Description |
|---|---|
| **EVLANEXISTS** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EINVALIDTAG** | |
| **EINTERFACENOTFOUND** | |

# net-vlan-delete

[top]

Delete a vlan interface. In Data ONTAP 7-Mode, changes made by this API are not persisted across system reboots. In Data ONTAP Cluster-Mode, changes made by this API are persisted across system reboots.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **vlan-info** | | vlan-info | Vlan to delete. |

| Errno | Description |
|---|---|
| **EINTERFACENOTFOUND** | |

# net-vlan-get

[top]

Get the attributes of a VLAN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vlan-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **interface-name** | | string | Name of vlan interface. The name must be of the format <parent-inteface>-<vlanid> |
| **node** | | string | Node name of vlan interface. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | vlan- | |

| | | | |
|---|---|---|---|
| **attributes** | | info | The attributes of the network VLAN |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

## net-vlan-get-iter

[top]

Iterate over a list of VLAN objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vlan-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vlan-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-vlan object. All net-vlan objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vlan-info[] optional | The list of attributes of net-vlan objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-vlan objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

# Element definition: **adapter-type**

[top]

Adapter types of physical and logical network ports capable of hosting LIFs. Possible values:

- "fc" - Used for FC Adapters,
- "cna" - Used for CNA Adapters,
- "nic" - Used for NIC Adapters,

"ifgrp" - Used for Interface Groups,
- "cna_or_nic" - Used for CNA and NIC Adapters

[none]

# Element definition: **bgp-vserver-info**

[top]

BGP Vserver status. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ipv4-status** | | vserver-bgp-state optional | IPv4 status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Fail to query BGP sessions state,<br>• "unconfigured" - BGP is not configured,<br>• "up" - At lease one BGP session is up,<br>• "down" - No BGP sessions are up |
| **ipv6-status** | | vserver-bgp-state optional | IPv6 status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Fail to query BGP sessions state,<br>• "unconfigured" - BGP is not configured,<br>• "up" - At lease one BGP session is up,<br>• "down" - No BGP sessions are up |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **broadcast-domain-name**

[top]

Broadcast Domain

[none]

# Element definition: **broadcast-domain-port-status**

[top]

Possible port update states for a broadcast domain operation Possible values:

- "complete" - Port updates are complete and values match the broadcast domain,
- "in_progress" - Port values are being updated to match the broadcast domain,
- "error" - An error was encountered and values do not match the broadcast domain,
- "overridden_while_offline" - Port values were overriden while offline

[none]

# Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

# Element definition: **csm-session-type**

[top]

AsyncMirrorLocal|AsyncMirrorRemote|RemoteDataTransfer Possible values:

- "asyncmirrorlocal" - Intra-cluster Async Mirror,
- "asyncmirrorremote" - Inter-cluster Async Mirror,
- "remotedatatransfer" - Intra-cluster File/Lun Read/Write

[none]

# Element definition: **data-lif-capacity-details-info**

[top]

Information Regarding Data LIF Capacity When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **capacity-for-node** | **[0..2^32-1]** | integer optional | Specifies the number of IP data LIFs that can be configured on the nblade of this node. Attributes: non-creatable, non-modifiable |
| **count-for-node** | **[0..2^32-1]** | integer optional | Specifies the number of IP data LIFs that are currently homed on this node. Attributes: non-creatable, non-modifiable |
| **limit-for-node** | **[0..2^32-1]** | integer optional | Specifies the number of IP data LIFs that are supported on this node. Attributes: non-creatable, non-modifiable |
| | | node- | Specifies the node for which the capacity details are provided. |

| | | | |
|---|---|---|---|
| **node** | | name optional | Attributes: key, non-creatable, non-modifiable |

# Element definition: **data-lif-capacity-info**

[top]

Information Regarding Data LIF Capacity When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^32-1]** | integer optional | Specifies the number of IP data LIFs that are currently configured in the cluster. Attributes: non-creatable, non-modifiable |
| **limit** | **[0..2^32-1]** | integer optional | Specifies the number of IP data LIFs that are supported in the cluster. Attributes: non-creatable, non-modifiable |

# Element definition: **data-protocol**

[top]

nfs|cifs|iscsi|fcp|fcache|none|fc-nvme|s3|nvme-tcp Possible values:

- "nfs" - Used for NFS connections,
- "cifs" - Used for CIFS connections,
- "iscsi" - Used for iSCSI connections,
- "fcp" - Used for Fibre Channel connections,
- "fcache" - Used for 7-mode FlexCache connections,
- "none" - Used for management. Does not serve any file protocols.,
- "http" - Used for HTTP connections,
- "fc_nvme" - Used for NVMe/FC connections,
- "s3" - Used for S3 connections,
- "nvme_roce" - Used for NVMe/RoCE connections,
- "nvme_tcp" - Used for NVMe/TCP connections

[none]

# Element definition: **dns-status**

[top]

DNS Configuration Check When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **name-server** | | string optional | Specifies the IP address of a DNS configuration. Attributes: key, non-creatable, non-modifiable |
| **status** | | string optional | Specifies the status of a DNS configuration. Attributes: non-creatable, non-modifiable |
| **status-details** | | string optional | Specifies additional information about the status of a DNS configuration. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Specifies the Vserver for the DNS configuration. Attributes: key, non-creatable, non-modifiable |

# Element definition: **dns-zone**

[top]

Specifies the unique, fully qualified domain name of the DNS zone of this LIF.

[none]

# Element definition: **enable**

[top]

'enabled' or 'disabled'

[none]

# Element definition: **external-route-table-info**

[top]

External Routing Table Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **route-table-id** | | string optional | Route Table ID Attributes: key, required-for-create, non-modifiable |

# Element definition: **failover-group**

[top]

Specifies the failover group name.

[none]

# Element definition: **filer-id**

[top]

Filer UUID

[none]

# Element definition: **fw-service**

[top]

[none]

# Element definition: **hosts-info**

[top]

Name attributes for one host When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aliases** | | string[] optional | The list of aliases such as 'host1.sales.foo.com'. Attributes: optional-for-create, modifiable |
| **host-ip-address** | | ip-address optional | IPv4 address in dotted form as '123.123.123.123'. Attributes: key, required-for-create, non-modifiable |
| **hostname** | | string optional | Canonical hostname in a simple string or in FQDN Attributes: required-for-create, modifiable |
| **vserver-name** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

## Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

## Element definition: **ip-range**

[top]

IPv4 and IPv6 address range containing a start address and an end address. The start and end addresses themselves are included in the range.

An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '4:3:2:1:d:c:b:b-4:3:2:1:d:c:b:c'

[none]

## Element definition: **ipaddresstype**

[top]

ipv4|ipv6|ipv6z Possible values:

- "unknown" ,
- "ipv4" ,
- "ipv6" ,
- "ipv4z" ,
- "ipv6z" ,
- "dns"

[none]

## Element definition: **lif-bindable**

[top]

|

[none]

## Element definition: **lif-capacity-info**

[top]

Information Regarding Potentially Over-Provisioned LIFs When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **destination-nodes** | | filer-id[] optional | This represents the set of nodes a given LIF or LIFs could fail over to. Each node in the list contains at least one port in the given LIF's set of failover targets. Filtering on this field will select only LIFs whose set of failover targets matches the query. Attributes: key, non-creatable, non-modifiable |
| **failover-group** | | failover-group optional | Specifies the name of an at-risk LIF's failover group. Filtering on this field will select only LIFs whose failover-group attribute matches the query. Attributes: non-creatable, non-modifiable |
| **failover-policy** | | string optional | Specifies the failover policy for an at-risk LIF. Filtering on this field will select only LIFs whose failover-policy attribute matches the query. Attributes: non-creatable, non-modifiable |
| **lif-name** | | lif-name optional | Specifies the name of an at-risk LIF. Filtering on this field will select only LIFs whose name matches the query. Attributes: key, non-creatable, non-modifiable |
| **over-amount** | **[0..2^32-1]** | integer optional | Indicates the number of LIFs over capacity for a given set of destination-nodes. For all rows returned, this value shall be greater than zero. Filtering on this field will select only LIFs associated with a set of destination nodes whose amount over capacity matches the query. Attributes: non-creatable, non-modifiable |
| **vserver-name** | | vif-owner-name optional | Specifies the name of the vserver which owns the LIF. Filtering on this field will select only LIFs whose vserver matches the query. Attributes: key, non-creatable, non-modifiable |

# Element definition: **lif-name**

[top]

Logical Interface Id

[none]

# Element definition: **lif-placement-info**

[top]

SAN LIF placement When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **home-node** | | node-name optional | Home node info Attributes: non-creatable, non-modifiable |
| **home-port** | | string optional | Port info Attributes: non-creatable, non-modifiable |

# Element definition: **lif-service-name** [top]

The name of network interface service.

[none]

# Element definition: **mac-address** [top]

MAC Address

[none]

# Element definition: **ndp-neighbor-info** [top]

NDP Neighbor Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **mac-address** | | mac-address optional | Specifies the neighbor's MAC Address. Attributes: required-for-create, non-modifiable |
| **neighbor-address** | | ip-address optional | Specifies the neighbor's IPv6 Address. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | Specifies the Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-active-routes-info**

[top]

Active Routes Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address-type** | | ipaddresstype optional | Specify the address type. Possible values are ipv4 and ipv6. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "ipv4" ,<br>• "ipv6" ,<br>• "ipv4z" ,<br>• "ipv6z" ,<br>• "dns" |
| **destination** | | string optional | Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 Attributes: key, non-creatable, non-modifiable |
| **flags** | | string optional | Specify the route's flags. Possible values for flags are U(Usable), G(Gateway), H(Host), R(Reject), D(Dynamic), S(Static), 1(Protocol1), 2(Protocol2), L(Llinfo), and C(Clone). Multiple values can be specified. Example: UHS, UC Attributes: non-creatable, non-modifiable |
| **gateway** | | string optional | Specify the gateway. Example: 10.7.125.1, fd20:13::1 Attributes: key, non-creatable, non-modifiable |
| **interface** | | string optional | Specify the route's interface. Attributes: key, non-creatable, non-modifiable |
| **lookup-count** | **[0..2^32-1]** | integer optional | Specify the count of lookups for the route. Attributes: non-creatable, non-modifiable |
| **metric** | **[0..2^32-1]** | integer optional | Specify the route metric. Default: 30 Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | Specify the name of the node. Attributes: key, non-creatable, non-modifiable |
| **path-mtu** | **[0..2^32-1]** | integer optional | Specify the Maximum Transmission Unit for the Path. Attributes: non-creatable, non-modifiable |
| **reference-count** | **[0..2^32-1]** | integer optional | Specify the route's reference count. Attributes: non-creatable, non-modifiable |
| **route-interface-address** | | string optional | Specify the Route Interface Address. Attributes: key, non-creatable, non-modifiable |
| **subnet-group** | | ip-and-mask optional | Specify the name of the subnet group. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vif-owner-name optional | Specify the name of the Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-arp-info**

[top]

ARP Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ip-space** | | string optional | IPspace from which to get the ARP entry. Attributes: non-creatable, non-modifiable |
| **mac-address** | | mac-address optional | MAC address of remote host. Attributes: required-for-create, non-modifiable |
| **remote-host** | | ip-address optional | Remote IP address for which to get the ARP entry. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | Vserver from which to get the ARP entry. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-arp-operational-info**

[top]

ARP Active-entry Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **mac-address** | | string optional | MAC address of remote host. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node from which to get the ARP active entry. Attributes: key, required-for-create, non-modifiable |
| **port-name** | | string optional | Port name from which to get the ARP active entry. Attributes: key, optional-for-create, non-modifiable |
| **remote-host** | | string optional | Remote IP address for which to get the ARP active entry. Attributes: key, required-for-create, non-modifiable |
| **subnet-group** | | ip-and-mask optional | Subnet group from which to get the ARP active entry. Attributes: key, required-for-create, non-modifiable |
| | | vif-owner- | System or Admin Vserver from which to get the ARP active entry. |

| | | | |
|---|---|---|---|
| **vserver** | | name optional | Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-bgp-config-info**

[top]

BGP Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **asn** | **[0..2^32-1]** | integer optional | The autonomous system number to which this node belongs. Attributes: required-for-create, modifiable |
| **hold-time** | **[0..2^32-1]** | integer optional | The hold time (seconds) value to use for this node when negotiating a connection with the peer. Attributes: required-for-create, modifiable |
| **node** | | node-name optional | The node name that the BGP configuration belongs to. Attributes: key, required-for-create, non-modifiable |
| **router-id** | | ip-address optional | The router id (IPv4) to use for this node when negotiating a connection with the peer. Attributes: required-for-create, modifiable |

# Element definition: **net-bgp-defaults-info**

[top]

BGP Default Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **asn** | **[0..2^32-1]** | integer optional | The cluster wide default value for autonomous system number. Attributes: non-creatable, modifiable |
| **hold-time** | **[0..2^32-1]** | integer optional | The cluster wide default value for routing information hold time (seconds). Attributes: non-creatable, modifiable |

[top]

# Element definition: **net-bgp-peer-group-info**

BGP peer group information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **bgp-lif** | | lif-name optional | The LIF associated with this peer group. Attributes: required-for-create, non-modifiable |
| **bgp-node** | | filer-id optional | The node where the peer group exists. Attributes: non-creatable, non-modifiable |
| **bgp-port** | | net-port optional | The port where the BGP interface is hosted. Attributes: non-creatable, non-modifiable |
| **ipspace** | | string optional | Name of the IPspace that the peer group belongs to. Attributes: key, required-for-create, non-modifiable |
| **peer-address** | | ip-address optional | The remote peer router address. Attributes: required-for-create, modifiable |
| **peer-asn** | **[0..2^32-1]** | integer optional | The remote peer router Autonomous number. The default value for this paramenter is '0'. Attributes: optional-for-create, non-modifiable |
| **peer-group** | | string optional | The name of the peer group. Attributes: key, required-for-create, non-modifiable |
| **route-preference** | **[0..2^32-1]** | integer optional | The route preference value associated with this peer group. Attributes: required-for-create, non-modifiable |
| **state** | | bgp-session-state optional | The bgp session state. Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "unknown" ,<br>• "up" ,<br>• "down" |

# Element definition: **net-ddns-info**

[top]

Contains Dynamic DNS Update configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **domain-name** | | string optional | Vserver FQDN to Be Used for DNS Updates Attributes: optional-for-create, modifiable |
| **is-enabled** | | boolean optional | Is Dynamic DNS Update Enabled? Attributes: optional-for-create, modifiable |
| **skip-fqdn-validation** | | boolean optional | Specifies if the Vserver FQDN name validation is skipped. Attributes: optional-for-create, modifiable |
| **ttl** | | time-interval optional | TTL For the Dynamically Updated DNS Records. Maximum Supported Value Is 720h. Default: 24h. Attributes: optional-for-create, modifiable |
| **use-secure** | | boolean optional | Use Secure Dynamic DNS Updates? Attributes: optional-for-create, modifiable |
| **vserver-name** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-device-discovery-info**

[top]

Information about discovered devices When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **capabilities** | | device-capability[] optional | Capabilities of the discovered devices. For example: switch, igmp. Attributes: non-creatable, non-modifiable Possible values:<br>• "router" - Router,<br>• "trans_bridge" - Trans Bridge,<br>• "source_route_bridge" - Source Route Bridge,<br>• "switch" - Switch,<br>• "host" - Host,<br>• "igmp" - IGMP,<br>• "repeater" - Repeater,<br>• "phone" - Phone |
| **chassis-id** | | string optional | Chassis ID of the discovered device. Attributes: non-creatable, non-modifiable |
| **device-ip** | | ip-address[] optional | IP address(es) of the discovered device. At present, only IPv4 addresses are included. Attributes: non-creatable, non-modifiable |
| **discovered-device** | | string optional | Device discovered by the physical network port. Attributes: key, non-creatable, non-modifiable |
| **hold-time-remaining** | **[0..2^32-1]** | integer optional | Remaining packet hold time in seconds for the discovered device. Attributes: non-creatable, non-modifiable |
| **interface** | | string optional | Interface port of the discovered device. The format is dependent on the reporting device. For example: FastEthernet0/12 or e0a Attributes: key, non-creatable, non-modifiable |
| | | string | The node on which the network port resides. Attributes: key, non- |

| | | | |
|---|---|---|---|
| **node** | | optional | creatable, non-modifiable |
| **platform** | | string optional | Platform of the discovered device. For example: N5K-C5010P-BF Attributes: non-creatable, non-modifiable |
| **port** | | string optional | The name of the physical network port for device discovery. For example: e0a Attributes: key, non-creatable, non-modifiable |
| **protocol** | | string optional | The name of the discovery protocol. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "cdp" ,<br>• "lldp" |
| **system-name** | | string optional | System Name of the discovered device. Attributes: non-creatable, non-modifiable |
| **version** | | string optional | Software version of the discovered device. Attributes: non-creatable, non-modifiable |

# Element definition: **net-dns-info**

[top]

Contains DNS configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **attempts** | **[1..4]** | integer optional | Max number of trials before giving up and returning error. Default is one. Attributes: optional-for-create, modifiable |
| **dns-state** | | enable optional | Enable/Disable DNS. Possible values are 'enabled' or 'disabled'. Attributes: optional-for-create, modifiable |
| **domains** | | string[] optional | List of DNS domains such as 'sales.bar.com'. The first domain is the one that the Vserver belongs to. Attributes: required-for-create, modifiable |
| **is-tld-query-enabled** | | boolean optional | Use this parameter to enable or disable top-level domain (TLD) queries. TLD is a name that contains no dots. Default is true. Attributes: optional-for-create, modifiable |
| **name-servers** | | ip-address[] optional | IPv4 addresses of name servers such as '123.123.123.123'. Attributes: required-for-create, modifiable |
| **require-packet-query-match** | | boolean optional | Require query sections of query and response packets to match. Attributes: optional-for-create, modifiable |
| **require-source-address-match** | | boolean optional | Require source IP address of reply to match the name-server address. Attributes: optional-for-create, modifiable |
| **skip-config-validation** | | boolean optional | Skip Configuration Validation Attributes: optional-for-create, modifiable |
| | | | Number of seconds to wait for a response from a name server before |

| | | | |
|---|---|---|---|
| **timeout** | **[1..5]** | integer optional | trying a different name server. Default is two seconds. Attributes: optional-for-create, modifiable |
| **vserver-name** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-failover-group-info**

[top]

Failover Group Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name optional | Broadcast Domain Attributes: non-creatable, non-modifiable |
| **failover-group** | | string optional | The failover group. Attributes: key, required-for-create, non-modifiable |
| **targets** | | net-qualified-port-name[] optional | The list of potential failover targets to be used. Lifs within the specified vserver and assigned to the specified failover-group will use this list of failover targets as needed. Format: node-name:port-name Attributes: required-for-create, modifiable |
| **vserver** | | vif-owner-name optional | The vserver for which the failover group is defined. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-firewall-config-info**

[top]

Firewall configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-** | | boolean | Specifies whether firewall protection is enabled (true) or disabled (false) for |

| | | | |
|---|---|---|---|
| **enabled** | | optional | the node's network ports. The default setting is true. Attributes: non-creatable, modifiable |
| **is-logging** | | boolean optional | This parameter has been deprecated in Data ONTAP 9.0, but is still returned for compatibility and may be removed in a future release. Specifies whether logging is enabled (true) or disabled (false) for the firewall service. The default setting is false. Attributes: non-creatable, modifiable |
| **node-name** | | node-name optional | Specifies the node on which the firewall configiration is set. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-firewall-config-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against firewall configuration object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **net-firewall-config-key** | | net-firewall-config-info | The keys for the firewall configuration object to which the modify operation applies. |

# Element definition: **net-firewall-policy-info**

[top]

Firewall policy When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **allow-list** | | ip-and-mask[] optional | Specifies the list of client IPs that are permitted to access the specified service running on LIFs with the specified policy. Format: Attributes: required-for-create, modifiable |
| **ipspace** | | string optional | Specifies the ipspace of the vserver for which the policy is defined. Attributes: non-creatable, non-modifiable |
| **policy** | | string optional | Specifies the name of the firewall policy Attributes: key, required-for-create, non-modifiable |
| | | | Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include:<br>• 'dns: - THe DNS protocol server',<br>• 'http: - The HTTP protocol', |

| | | | |
|---|---|---|---|
| **service** | | fw-service optional | • 'ndmp: - The NDMP tape backup protocol',<br>• 'ndmps: - The NDMPS tape backup protocol',<br>• 'none: - No protocol (for creating an empty policy)',<br>• 'ntp: - The NTP protocol',<br>• 'rsh: - The RSH protocol',<br>• 'snmp: - The SNMP protocol',<br>• 'telnet: - The Telnet protocol',<br><br>Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | Specifies the name of the vserver on which the firewall policy is defined. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-ifgrp-info**

[top]

Network interface group information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **distribution-function** | | string optional | Specifies the traffic distribution function for the ifgrp. Attributes: required-for-create, non-modifiable Possible values:<br><br>• "mac" - Network traffic is distributed on the basis of MAC addresses,<br>• "ip" - Network traffic is distributed on the basis of IP addresses,<br>• "sequential" - Network traffic is distributed round-robin to each interface,<br>• "port" - Network traffic is distributed by transport layer address 4-tuple |
| **down-ports** | | lif-bindable[] optional | Specifies all inactive ports of an ifgrp. Attributes: non-creatable, non-modifiable |
| **ifgrp-name** | | netport-ifgrp-name optional | Specifies the interface group name. Attributes: key, required-for-create, non-modifiable |
| **mac-address** | | string optional | Specifies the MAC address of the ifgrp. For example: '02:0c:29:78:e1:b7' Attributes: non-creatable, non-modifiable |
| **mode** | | string optional | Specifies the link policy for the ifgrp. Possible values:<br><br>• 'multimode - All links are simultaneously active',<br>• 'multimode_lacp - Link state is managed by the switch using link aggregation control protocol (LACP) (IEEE 802.3ad)',<br>• 'singlemode - Only one link is active at a time'<br><br>Attributes: required-for-create, non-modifiable |
| **node** | | string optional | Specifies the name of node. Attributes: key, required-for-create, non-modifiable |

| | | | |
|---|---|---|---|
| **port-participation** | | string optional | Port participation state of the ifgrp. Attributes: non-creatable, non-modifiable Possible values:<br>• "full" - Indicates all the ifgrp ports are active,<br>• "partial" - Indicates not all the ifgrp ports are active,<br>• "none" - Indicates none of the ifgrp ports is active |
| **ports** | | lif-bindable[] optional | List of ports associated with this ifgrp. Attributes: non-creatable, non-modifiable |
| **up-ports** | | lif-bindable[] optional | Specifies all active ports of an ifgrp. Attributes: non-creatable, non-modifiable |

# Element definition: **net-interface-info**

[top]

Network interface information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | Specifies the LIF's IP address. This element is valid for all data protocols except FCP. Attributes: optional-for-create, modifiable |
| **address-family** | | string optional | Address family Attributes: non-creatable, non-modifiable |
| **administrative-status** | | string optional | Specifies the administrative status of the LIF. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the interface from functioning, the operational status remains as down. Possible values:<br>• 'up',<br>• 'down',<br><br>Attributes: optional-for-create, modifiable |
| **comment** | | string optional | Comment Attributes: optional-for-create, modifiable |
| **current-node** | | string optional | The node on which the LIF currently resides. Upon LIF migration 'current-node' may be different from 'home-node'. Attributes: non-creatable, non-modifiable |
| **current-port** | | string optional | The port on which the LIF currently resides. Upon LIF migration 'current-port' may be different from 'home-port'. Attributes: non-creatable, non-modifiable |
| | | | Specifies the list of data protocols configured on the LIF. By default, the values in this element are nfs, cifs and fcache. Other supported protocols are iscsi and fcp. A LIF can be configured to not support any data protocols by specifying |

| | | | |
|---|---|---|---|
| **data-protocols** | | data-protocol[] optional | 'none'. Protocol values of none, iscsi or fcp can't be combined with any other data protocol(s). Attributes: optional-for-create, non-modifiable Possible values:<br>• "nfs" - Used for NFS connections,<br>• "cifs" - Used for CIFS connections,<br>• "iscsi" - Used for iSCSI connections,<br>• "fcp" - Used for Fibre Channel connections,<br>• "fcache" - Used for 7-mode FlexCache connections,<br>• "none" - Used for management. Does not serve any file protocols.,<br>• "http" - Used for HTTP connections,<br>• "fc_nvme" - Used for NVMe/FC connections,<br>• "s3" - Used for S3 connections,<br>• "nvme_roce" - Used for NVMe/RoCE connections,<br>• "nvme_tcp" - Used for NVMe/TCP connections |
| **dns-domain-name** | | dns-zone optional | Specifies the unique, fully qualified domain name of the DNS zone of this LIF. Attributes: optional-for-create, modifiable |
| **extended-status** | | string optional | Specifies an extended description of why the LIF has an operational status of down. Attributes: non-creatable, non-modifiable |
| **failover-group** | | failover-group optional | Specifies the failover group name. Attributes: optional-for-create, modifiable |
| **failover-policy** | | string optional | Specifies the failover policy for the LIF. For FCP and iSCSI LIFs, the only failover policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'nextavail'. Attributes: optional-for-create, modifiable |
| **firewall-policy** | | string optional | Specifies the firewall policy for the LIF. Default firewall-policy is set as per the following table:<br>• 'LIF Role Protocols Default policy',<br>• '------- --------- --------------',<br>• 'data none mgmt',<br>• 'data any (except fcp) data',<br>• 'node_mgmt any mgmt',<br>• 'cluster_mgmt any mgmt',<br>• 'cluster any cluster',<br>• 'intercluster any intercluster'<br><br>Attributes: optional-for-create, modifiable |
| **force-subnet-association** | | boolean optional | Force the LIF's Subnet Association Attributes: optional-for-create, modifiable |
| **home-node** | | string optional | Specifies the LIF's home node. Attributes: optional-for-create, modifiable |
| **home-port** | | string optional | Specifies the LIF's home port. Attributes: optional-for-create, modifiable |
| **interface-name** | | string optional | Specifies the logical interface (LIF) name. Attributes: key, required-for-create, non-modifiable |
| **ipspace** | | string optional | IPspace of LIF Attributes: non-creatable, non-modifiable |
| **is-auto-revert** | | boolean optional | If true, data LIF will revert to its home node under certain circumstances such as startup, and load balancing migration capability is disabled automatically. Default: false Attributes: optional-for-create, modifiable |
| **is-dns-update-enabled** | | boolean optional | Specifies if DNS update is enabled for this LIF. Dynamic updates will be sent for this LIF if updates are enabled at Vserver level |

| | | | |
|---|---|---|---|
| | | | Attributes: optional-for-create, modifiable |
| **is-home** | | boolean optional | True if LIF is currently on 'home-node' and 'home-port'. Attributes: non-creatable, non-modifiable |
| **is-ipv4-link-local** | | boolean optional | If true, automatically configure an interface with an IPv4 address. User can configure an interface by explicitly specifying <address> and <netmask> (or <netmask-length>); or by enabling is-ipv4-link-local to true. Attributes: optional-for-create, non-modifiable |
| **is-vip** | | boolean optional | Specifies if this is a LIF will be hosted on VIP port with /32 or /128 netmask Attributes: optional-for-create, non-modifiable |
| **lif-uuid** | | uuid optional | Available in Data ONTAP 8.2 and later. Attributes: non-creatable, non-modifiable |
| **listen-for-dns-query** | | boolean optional | If True, this IP address will listen for DNS queries for the dns-zone specified. Attributes: optional-for-create, modifiable |
| **netmask** | | ip-address optional | Specifies the LIF's netmask. This element is valid for all data protocols except FCP. Attributes: optional-for-create, modifiable |
| **netmask-length** | **[0..2^32-1]** | integer optional | Specifies number of bits in the netmask. Attributes: optional-for-create, modifiable |
| **operational-status** | | string optional | Specifies the operational status of the LIF. Possible values:<br>• 'up',<br>• 'down',<br><br>Attributes: non-creatable, non-modifiable |
| **probe-port** | **[0..2^32-1]** | integer optional | Probe-port for Cloud Load Balancer Attributes: optional-for-create, non-modifiable |
| **role** | | string optional | Specifies the role of the LIF. Default: data Attributes: optional-for-create, non-modifiable Possible values:<br>• "undef" - No defined role,<br>• "cluster" - Used for communication using the private cluster network,<br>• "data" - Used for communicating with file service clients,<br>• "node_mgmt" - Used by administrators to configure the node,<br>• "intercluster" - Used for communication with a different cluster,<br>• "cluster_mgmt" - Used by administrators to configure the cluster |
| **routing-group-name** | | string optional | Specifies the routing group, which enables multiple logical interfaces to share a set of routing table entries. For example: d192.168.1.0/24 ('d' stands for data LIF and 192.168.1.0/24 is subnet) c192.168.1.0/24 ('c' stands for cluster LIF and 192.168.1.0/24 is subnet) n192.168.1.0/24 ('n' stands for node management LIF and 192.168.1.0/24 is subnet) dfd20:13::0/50 ('d' stands for data LIF and fd20:13::0/50 is IPv6 subnet) Attributes: optional-for-create, modifiable |
| **service-names** | | lif-service-name[] optional | Specifies the services included in the LIF's service policy. Attributes: non-creatable, non-modifiable |
| | | string | Specifies the service policy of the LIF. The service policy attribute is currently only supported on a limited number of LIF roles, and each supported LIF role corresponds to a specific default service policy. Supported Roles: |

| | | | |
|---|---|---|---|
| **service-policy** | | optional | • 'LIF Role Default Policy'<br>• '------------ -----------------'<br>• 'intercluster net-intercluster'<br>Attributes: optional-for-create, modifiable |
| **subnet-name** | | subnet-name optional | Subnet where the interface address is allocated from. If the option is not used, the IP address will need to be provided by the administrator during configuration. Attributes: optional-for-create, modifiable |
| **use-failover-group** | | string optional | Specifies whether failover rules are automatically created, manually created by the administrator, or disabled. For FCP and iSCSI LIFs, the default policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'system_defined'. Attributes: optional-for-create, modifiable Possible values:<br>• "system_defined" - Failover targets generated automatically by the system,<br>• "disabled" - Failover targets generated manually by the admin,<br>• "enabled" - Failover targets defined by failover-group,<br>• "unused" - Failover targets are not generated based on this field |
| **vserver** | | string optional | Specifies the Vserver name. Attributes: key, non-creatable, non-modifiable |
| **wwpn** | | string optional | Specifies the LIF's WWPN. This element is valid for FCP LIFs only. Attributes: non-creatable, non-modifiable |

# Element definition: **net-interface-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against given network interface object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **net-key** | | net-interface-info | The keys for the given network interface object to which the modify operation applies. |

# Element definition: **net-interface-service-info**

[top]

Network interface service information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **failover-policy** | | svc-failover-policy optional | The policy that defines specific interface failover restrictions for the service. Attributes: non-creatable, non-modifiable Possible values:<br>• "unrestricted" - Service has no restrictions on LIF failover,<br>• "home_port_only" - Service requires that LIFs do not fail off their home port,<br>• "home_node_only" - Service requires that LIFs do not fail off their home node,<br>• "home_pair_only" - Service requires that LIFs do not fail off their home node or sfo partner |
| **ports** | | service-port-info[] optional | TCP/UDP Port Information |
| **service** | | lif-service-name optional | The name of the network interface service. Attributes: key, non-creatable, non-modifiable |
| **vserver-policy** | | svc-vserver-policy optional | The policy that defines specific vserver restrictions for the the service. Attributes: non-creatable, non-modifiable Possible values:<br>• "unrestricted" - Service has no vserver restrictions,<br>• "system_only" - Service is only compatible with system vservers,<br>• "data_only" - Service is only compatible with data vservers,<br>• "cluster_only" - Service is only compatible with cluster vservers |

# Element definition: **net-interface-service-policy-entry-info**

[top]

network interface service policy entry information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **allowed-addresses** | | ip-and-mask[] optional | A list of IP address and IP mask pairs defining which remote addresses are accepted by this policy. Attributes: non-creatable, non-modifiable |
| **policy** | | string optional | The name of the network interface service policy. Attributes: key, non-creatable, non-modifiable |
| **service** | | lif-service-name optional | The name of the network interface service contained in this policy. Attributes: key, non-creatable, non-modifiable |
| | | vserver- | |

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|---|---|---|---|
| **vserver** | | name optional | Vserver name that the network interface service policy belongs to. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-interface-service-policy-info**

[top]

network interface service policy configuration information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-built-in** | | boolean optional | True if the network interface service policy is managed by the system. Attributes: non-creatable, non-modifiable |
| **policy** | | string optional | The name of the network interface service policy. Attributes: key, required-for-create, non-modifiable |
| **services** | | lif-service-name[] optional | Services included in the network interface service policy. Attributes: optional-for-create, non-modifiable |
| **vserver** | | string optional | Vserver name that the network interface service policy belongs to. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-ipspaces-info**

[top]

IPspace Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domains** | | broadcast-domain-name[] optional | The broadcast domains that belong to the IPspace Attributes: non-creatable, non-modifiable |
| **id** | **[0..2^32-1]** | integer optional | The ID of the IPspace. The system will assign a unique id. Attributes: non-creatable, non-modifiable |
| **ipspace** | | string optional | IPspace name Attributes: key, required-for-create, non-modifiable |
| | | net- | |

| | | | |
|---|---|---|---|
| **ports** | | qualified-port-name[] optional | The ports that have been assigned to the IPspace. This field must be specified with the following format: : Attributes: non-creatable, non-modifiable |
| **uuid** | | uuid optional | The uuid of the IPspace. The system will assign a unique uuid. Attributes: non-creatable, non-modifiable |
| **vservers** | | vserver-name[] optional | The vservers that have been assigned to the IPspace Attributes: non-creatable, non-modifiable |

# Element definition: **net-ndp-default-router-info**

[top]

Default Router Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **expire-time** | | ndp-expire-time optional | Specify the expire time of the default router entry. Attributes: non-creatable, non-modifiable |
| **flag** | | ndp-ra-flag optional | Specify the flag of the default router. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" - None,<br>• "managed_address_dhcpv6" - Managed Address from DHCPv6,<br>• "other_dhcpv6" - Other Configuration from DHCPv6 |
| **ipspace** | | string optional | Specify the name of the Ipspace. Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Specify the name of the node. Attributes: key, non-creatable, non-modifiable |
| **port** | | lif-bindable optional | Specify the physical interface. Attributes: key, non-creatable, non-modifiable |
| **router-addr** | | ip-address optional | Specify the default router IPv6 address. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-ndp-neighbor-cache-info**

[top]

Neighbor Cache Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **expire-time** | | ndp-expire-time optional | Specify the expire time of the neighbor cache entry. Attributes: non-creatable, non-modifiable |
| **is-router** | | boolean optional | Specify whether the neighbor is a router. Attributes: non-creatable, non-modifiable |
| **mac-address** | | mac-address optional | Specify the MAC address of the neighbor. Attributes: required-for-create, non-modifiable |
| **neighbor** | | ip-address optional | Specify the neighbor IPv6 address. Example: fd20:13::1 Attributes: key, required-for-create, non-modifiable |
| **node** | | node-name optional | Specify the name of the node. Attributes: key, required-for-create, non-modifiable |
| **port** | | lif-bindable optional | Specify the physical port. Attributes: key, required-for-create, non-modifiable |
| **probe-count** | **[0..2^32-1]** | integer optional | Specify how many times the neighbor MAC are requested for. Attributes: non-creatable, non-modifiable |
| **state** | | nd-state optional | Specify the state of the neighbor cache entry. Attributes: non-creatable, non-modifiable Possible values:<br>• "nostate" - No State,<br>• "incomplete" - Incomplete,<br>• "reachable" - Reachable,<br>• "stale" - Stale,<br>• "delay" - Delay,<br>• "probe" - Probe,<br>• "unknown" - Unknown State |
| **subnet-group** | | ip-and-mask optional | Subnet Group Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vif-owner-name optional | Specify the name of a System or Admin Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-ndp-prefix-info**

[top]

Prefix Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **advertising-router** | | ip-address[] optional | Specify the routers who advertise the prefix. Attributes: non-creatable, non-modifiable |
| **expire-time** | | ndp-expire-time optional | Specify the expire time of the prefix entry. Attributes: non-creatable, non-modifiable |
| **flag** | | ndp-prefix-flag optional | Specify the flag of the prefix entry. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" - None,<br>• "on_link" - On-link Prefix,<br>• "autonomous" - Autonomous Prefix,<br>• "on_link_autonomous" - On-link and Autonomous Prefix |
| **ipspace** | | string optional | Specify the name of the Ipspace. Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Specify the name of the node. Attributes: key, non-creatable, non-modifiable |
| **origin** | | ndp-prefix-origin optional | Specify where the prefix assigned from. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknow,<br>• "router_advertise" - Router Advertise,<br>• "renumber_request" - Renumber Request,<br>• "static" - Static,<br>• "kernel" - Kernel |
| **port** | | lif-bindable optional | Specify the physical port. Attributes: key, non-creatable, non-modifiable |
| **preferred-lifetime** | | ndp-prefix-lifetime optional | Specify the preferred lifetime of the prefix entry. Attributes: non-creatable, non-modifiable |
| **prefix** | | ip-and-mask optional | Specify the prefix. Attributes: key, non-creatable, non-modifiable |
| **valid-lifetime** | | ndp-prefix-lifetime optional | Specify the valid lifetime of the prefix entry. Attributes: non-creatable, non-modifiable |

# Element definition: **net-options**

[top]

Network Options Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **detect-switchless-cluster-info** | | detect-switchless-cluster-info optional | Network options detect-switchless-cluster |
| **ipv6-options-info** | | ipv6-options-info optional | Network options ipv6 |
| **switchless-cluster-info** | | switchless-cluster-info optional | Network options switchless-cluster |

# Element definition: **net-options-hypervisor-uplink-monitoring-info**

[top]

Hypervisor Uplink Monitoring Information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **enabled** | | boolean optional | Hypervisor Uplink Monitoring Attributes: non-creatable, modifiable |

# Element definition: **net-placement-cache**

[top]

Network interface (LIF) placement cached information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | The IP address that was searched. Attributes: key, required-for-create, non-modifiable |
| **found** | | boolean optional | Whether the subnet described was found on this port. Attributes: non-creatable, non-modifiable |
| **netmask-length** | **[0..2^32-1]** | integer optional | The number of bits in the subnet mask (i.e. 24 or 64). Attributes: key, required-for-create, non-modifiable |
| **node** | | string optional | Specifies the name of the node. Attributes: key, required-for-create, non-modifiable |
| **port** | | string optional | The port name on the node. Attributes: key, required-for-create, non-modifiable |

| | | | |
|---|---|---|---|
| **vserver** | | string optional | Vserver Name Attributes: key, required-for-create, non-modifiable |

# Element definition: **net-port**

[top]

Network Port formatted as 1-byte 'type', 4-byte 'slot', 1-byte 'suffix', and 4-byte 'vlan'.

[none]

# Element definition: **net-port-broadcast-domain-info**

[top]

Layer 2 broadcast domain configuration and status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name optional | The name of the layer 2 broadcast domain. Attributes: key, required-for-create, non-modifiable |
| **failover-groups** | | failover-group[] optional | The list of failover groups associated with the layer 2 broadcast domain. Attributes: non-creatable, non-modifiable |
| **ipspace** | | string optional | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. Attributes: key, non-creatable, non-modifiable |
| **is-vip** | | boolean optional | Whether this is a system created VIP broadcast domain. Attributes: non-creatable, non-modifiable |
| **mtu** | **[0..2^32-1]** | integer optional | Maximum Transmission Unit (MTU) of the layer 2 broadcast domain. The MTU will be applied to all ports that belong to the layer 2 broadcast domain. Attributes: required-for-create, modifiable |
| **port-update-status-combined** | | broadcast-domain-port-status optional | Overall status of the port updates. The value is 'in-progress' if any port is in progress, 'complete' if all port updates complete, or 'error' if any port update is unsuccessful. Attributes: non-creatable, non-modifiable Possible values:<br>• "complete" - Port updates are complete and values match the broadcast domain,<br>• "in_progress" - Port values are being updated to match the broadcast domain,<br>• "error" - An error was encountered and values do not match the broadcast domain,<br>• "overridden_while_offline" - Port values were overriden while offline |

| | | | |
|---|---|---|---|
| **ports** | | port-info[] optional | Port information. |
| **subnet-names** | | subnet-name[] optional | The list of subnet names associated with the layer 2 broadcast domain. Attributes: non-creatable, non-modifiable |

# Element definition: **net-port-health-monitor-info**

[top]

Network Port Health Monitor Information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **health-monitors** | | netport-degraded-reason[] optional | List of Enabled Port Health Monitors Attributes: non-creatable, modifiable Possible values:<br>• "l2_reachability" - L2 reachability,<br>• "link_flapping" - Link flapping,<br>• "crc_errors" - CRC errors,<br>• "vswitch_link" - vSwitch link |
| **ipspace** | | string optional | IPspace Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-port-info**

[top]

Network port information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **administrative-duplex** | | string optional | Specifies the user preferred duplex setting of the port. Attributes: required-for-create, modifiable Possible values:<br>• "undef" - No defined duplex,<br>• "auto" - Auto-negotiate duplex setting for link,<br>• "half" - Half-duplex link usage,<br>• "full" - Full-duplex link usage |

| | | | |
|---|---|---|---|
| **administrative-flowcontrol** | | string optional | Specifies the user preferred flow control setting of the port. Attributes: required-for-create, modifiable |
| **administrative-speed** | | string optional | Specifies the user preferred speed setting of the port. Attributes: required-for-create, modifiable Possible values:<br>• "undef" - No defined speed,<br>• "auto" - Auto-negotiate speed for link,<br>• "10" - 10 megabits per second,<br>• "100" - 100 megabits per second,<br>• "1000" - 1 gigabit per second,<br>• "10000" - 10 gigabits per second,<br>• "40000" - 40 gigabits per second,<br>• "100000" - 100 gigabits per second,<br>• "25000" - 25 gigabits per second |
| **autorevert-delay** | **[0..2^32-1]** | integer optional | For a port with role 'cluster', specifies the delay in seconds before autoreverting a LIF to this port. Attributes: optional-for-create, modifiable |
| **broadcast-domain** | | broadcast-domain-name optional | Specifies the port's associated Broadcast Domain. Attributes: non-creatable, non-modifiable |
| **health-degraded-reasons** | | netport-degraded-reason[] optional | Specifies the list of reasons which cause port marked as degraded Attributes: non-creatable, non-modifiable Possible values:<br>• "l2_reachability" - L2 reachability,<br>• "link_flapping" - Link flapping,<br>• "crc_errors" - CRC errors,<br>• "vswitch_link" - vSwitch link |
| **health-status** | | netport-health-status optional | Specifies the health status of the given port. Attributes: non-creatable, non-modifiable Possible values:<br>• "healthy" ,<br>• "degraded" |
| **ifgrp-distribution-function** | | string optional | For a port of type 'ifgrp', specifies the traffic distribution function. Attributes: non-creatable, non-modifiable Possible values:<br>• "mac" - Network traffic is distributed on the basis of MAC addresses,<br>• "ip" - Network traffic is distributed on the basis of IP addresses,<br>• "sequential" - Network traffic is distributed round-robin to each interface,<br>• "port" - Network traffic is distributed by transport layer address 4-tuple |
| **ifgrp-mode** | | string optional | For a port of type 'ifgrp', specifies the link policy. Possible values:<br>• 'multimode - All links are simultaneously active',<br>• 'multimode_lacp - Link state is managed by the switch using link aggregation control protocol (LACP) (IEEE 802.3ad)',<br>• 'singlemode - Only one link is active at a time' |

| | | | |
|---|---|---|---|
| | | | Attributes: non-creatable, non-modifiable |
| **ifgrp-node** | | string optional | For a port of type 'physical' that is a member of an interface group (ifgrp), specifies the name of the node on which the interface group was created. Attributes: non-creatable, non-modifiable |
| **ifgrp-port** | | string optional | For a port of type 'physical' that is a member of an interface group (ifgrp), specifies the name of the interface group. Attributes: non-creatable, non-modifiable |
| **ignore-health-status** | | boolean optional | Use this parameter to specify that the system ignore network port health status of the specified port for the purpose of hosting a logical interface. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **ipspace** | | string optional | Specifies the port's associated IPspace name. Note: the 'Cluster' ipspace is reserved for cluster ports. Attributes: optional-for-create, modifiable |
| **is-administrative-auto-negotiate** | | boolean optional | Enables or disables Ethernet auto-negotiation of speed, duplex and flow control. Attributes: required-for-create, modifiable |
| **is-administrative-up** | | boolean optional | If true, it changes the state of the port to 'up'. Attributes: required-for-create, modifiable |
| **is-operational-auto-negotiate** | | boolean optional | True if Ethernet auto negotiation is successful, false otherwise. Attributes: non-creatable, non-modifiable |
| **link-status** | | string optional | Specifies the link status of the port. Possible values:<br>• 'unknown - Port status unknown',<br>• 'up - Port is up',<br>• 'down - Port is down'<br><br>Attributes: non-creatable, non-modifiable |
| **mac-address** | | string optional | Specifies the MAC address of the port. Attributes: non-creatable, non-modifiable |
| **mtu** | **[0..2^32-1]** | integer optional | Specifies the maximum transmission unit (MTU) reported by the port. Attributes: required-for-create, modifiable |
| **mtu-admin** | **[0..2^32-1]** | integer optional | Specifies the user preferred maximum transmission unit (MTU) of the port. Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Specifies the name of node. Attributes: key, required-for-create, non-modifiable |
| **operational-duplex** | | string optional | Duplex setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable Possible values:<br>• "undef" - No defined duplex,<br>• "auto" - Auto-negotiate duplex setting for link,<br>• "half" - Half-duplex link usage,<br>• "full" - Full-duplex link usage |
| **operational-flowcontrol** | | string optional | Flow control setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable |
| **operational-speed** | | string optional | Speed setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable Possible values:<br>• "undef" - No defined speed,<br>• "auto" - Auto-negotiate speed for link,<br>• "10" - 10 megabits per second,<br>• "100" - 100 megabits per second,<br>• "1000" - 1 gigabit per second, |

| | | | |
|---|---|---|---|
| | | | • "10000" - 10 gigabits per second,<br>• "40000" - 40 gigabits per second,<br>• "100000" - 100 gigabits per second,<br>• "25000" - 25 gigabits per second |
| **port** | | string optional | Specifies the name of port. Attributes: key, required-for-create, non-modifiable |
| **port-type** | | string optional | Specifies the type of port. Attributes: non-creatable, non-modifiable Possible values:<br>• "physical" - Physical network interface,<br>• "if_group" - Logical interface group (IEEE 802.3, section 43),<br>• "vlan" - Virtual LAN (IEEE 802.1Q),<br>• "undef" - No defined port type,<br>• "vip" - Virtual network interface for Virtual IP,<br>• "pvlan" - Pseudo Virtual LAN |
| **remote-device-id** | | string optional | Remote device ID reported by L2 discovery protocol Attributes: non-creatable, non-modifiable |
| **role** | | string optional | This parameter has been deprecated in Data ONTAP 8.3, but is still returned for compatibility and may be removed in a future release. Prefer instead to use the 'ipspace' parameter. Attributes: optional-for-create, modifiable |
| **vlan-id** | **[0..2^32-1]** | integer optional | For a port of type 'vlan', specifies the vlan identification number. Attributes: non-creatable, non-modifiable |
| **vlan-node** | | string optional | Specifies the name of the node on which vlan is created. Attributes: non-creatable, non-modifiable |
| **vlan-port** | | string optional | For a port of type 'vlan', specifies the name of the physical port on which the vlan is created. Attributes: non-creatable, non-modifiable |
| **vm-network-name** | | string optional | Virtual Machine network name Attributes: non-creatable, non-modifiable |

# Element definition: **net-port-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against given network port object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **net-key** | | net-port-info | The keys for the given network port object to which the modify operation applies. |

# Element definition: **net-qualified-port-name**

[top]

A node and port specification in the following format: :.

[none]

# Element definition: **net-subnet-info**

[top]

Layer 3 subnet configuration and status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **available-count** | **[0..2^32-1]** | integer optional | Number of available pre-allocated addresses for the subnet. Attributes: non-creatable, non-modifiable |
| **broadcast-domain** | | broadcast-domain-name optional | Layer 2 broadcast domain name that the subnet belongs to. Attributes: required-for-create, non-modifiable |
| **force-update-lif-associations** | | boolean optional | This command will fail if any service processor interfaces or network interfaces are using the IP addresses in the ranges provided. Setting this value to true will associate any manually addressed interfaces with the subnet and will allow the command to succeed. Attributes: optional-for-create, modifiable |
| **gateway** | | ip-address optional | The gateway for the default route of the subnet. Attributes: optional-for-create, modifiable |
| **ip-ranges** | | ip-range[] optional | The list of IP address ranges associated with the subnet. Attributes: optional-for-create, modifiable |
| **ipspace** | | string optional | IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'. Attributes: key, non-creatable, non-modifiable |
| **subnet** | | ip-and-mask optional | Layer 3 Subnet Attributes: required-for-create, modifiable |
| **subnet-name** | | subnet-name optional | Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed. Attributes: key, required-for-create, non-modifiable |
| **total-count** | **[0..2^32-1]** | integer optional | Number of addresses pre-allocated for the subnet. Attributes: non-creatable, non-modifiable |
| **used-count** | **[0..2^32-1]** | integer optional | Number of addresses used from pre-allocated addresses for the subnet. Attributes: non-creatable, non-modifiable |

# Element definition: **net-subnets-for-broadcast-domain-info**

[top]

Subnets associated with Layer 2 broadcast domain configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name optional | The name of the layer 2 broadcast domain. Attributes: key, non-creatable, non-modifiable |
| **ipspace** | | string optional | IPspace name that the layer 2 broadcast domain belongs to. Attributes: key, non-creatable, non-modifiable |
| **subnets** | | subnets-info[] optional | Subnet information. |

# Element definition: **net-tuning-icmp-options**

[top]

ICMP Tuning Options Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-drop-redirect-enabled** | | boolean optional | Drop redirect ICMP Attributes: non-creatable, modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **redirect-timeout** | **[0..65535]** | integer optional | Maximum seconds for route redirect timeout Attributes: non-creatable, modifiable |
| **tx-icmp-limit** | **[0..2^32-1]** | integer optional | Maximum number of ICMP packets sent per second Attributes: non-creatable, modifiable |

# Element definition: **net-tuning-icmp6-options**

[top]

ICMPv6 Tuning Options Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-v6-redirect-accepted** | | boolean optional | Accept redirects via ICMPv6 Attributes: non-creatable, modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **redirect-v6-timeout** | **[0..65535]** | integer optional | Maximum seconds for route redirect timeout Attributes: non-creatable, modifiable |
| **tx-icmp6-err-limit** | **[0..2^32-1]** | integer optional | Maximum number of ICMPv6 error messages sent per second Attributes: non-creatable, modifiable |

# Element definition: **net-tuning-tcp-options**

[top]

TCP Tuning Options Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-path-mtu-discovery-enabled** | | boolean optional | Path MTU discovery enabled Attributes: non-creatable, modifiable |
| **is-rfc3390-enabled** | | boolean optional | RFC3390 enabled Attributes: non-creatable, modifiable |
| **is-rfc3465-enabled** | | boolean optional | RFC3465 enabled Attributes: non-creatable, modifiable |
| **is-sack-enabled** | | boolean optional | SACK support enabled Attributes: non-creatable, modifiable |
| **max-cwnd-increment** | **[0..2^32-1]** | integer optional | Maximum congestion window segments incrementation Attributes: non-creatable, modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-vs-routes-info**

[top]

Vserver routes information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address-family** | | ipaddresstype optional | Address family of the route Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "ipv4" ,<br>• "ipv6" ,<br>• "ipv4z" ,<br>• "ipv6z" ,<br>• "dns" |
| **destination** | | ip-and-mask optional | Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 Attributes: key, required-for-create, non-modifiable |
| **gateway** | | ip-address optional | Specify the route gateway. Example: 10.7.125.1, fd20:13::1 Attributes: key, required-for-create, non-modifiable |
| **metric** | **[0..2^32-1]** | integer optional | Specify the route metric. If this field is not provided the default will be set to 30 Attributes: optional-for-create, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-vs-routes-lif-info**

[top]

Logical Interfaces associated with a route When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address-family** | | ipaddresstype optional | Address Family Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "ipv4" ,<br>• "ipv6" ,<br>• "ipv4z" ,<br>• "ipv6z" ,<br>• "dns" |
| **destination** | | ip-and-mask optional | Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 Attributes: key, non-creatable, non-modifiable |
| **gateway** | | ip-address optional | Specify the route gateway. Example: 10.7.125.1, fd20:13::1 Attributes: key, non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **lif-names** | | lif-name[] optional | Specify the Logical Interface(s). Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **netport-degraded-reason**

[top]

l2-reachability|link-flapping|crc-errors|vswitch-link Possible values:

- "l2_reachability" - L2 reachability,
- "link_flapping" - Link flapping,
- "crc_errors" - CRC errors,
- "vswitch_link" - vSwitch link

[none]

# Element definition: **netport-ifgrp-name**

[top]

Interface Group Name

[none]

# Element definition: **network-type**

[top]

The network topology classification Possible values:

- "wan" ,
- "lan" ,
- "undefined"

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **protocol-layer4**

[top]

The network layer 4 protocol type Possible values:

- "udp" - UDP,
- "tcp" - TCP,
- "na" - not_available

[none]

# Element definition: **qos-marking**

[top]

QoS Marking Table When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **dscp** | **[0..63]** | integer optional | DSCP marking value. Default value for NFS, CIFS, iSCSI, HTTP-fileserv, NDMP, SnapMirror, and SnapMirror-Sync is 10 and for FTP, HTTP-admin, SSH, Telnet, and SNMP is 48. Attributes: non-creatable, modifiable |
| **ipspace** | | string optional | IPspace Name. Attributes: key, non-creatable, non-modifiable |
| **is-enabled** | | boolean optional | QoS Marking status. Default setting is false. Attributes: non-creatable, modifiable |
| **protocol** | | string optional | Protocol name. Supported values are NFS, CIFS, iSCSI, NVMe-TCP, SnapMirror, SnapMirror-Sync, NDMP, FTP, HTTP-admin, HTTP-fileserv, SSH, Telnet, and SNMP. Attributes: key, non-creatable, non-modifiable |

# Element definition: **receive-buffer**

[top]

Receive buffer window size configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **network** | | network-type | The network topology classification Attributes: key, required-for-create, non-modifiable Possible values:<br>• "wan" , |

| | | | |
|---|---|---|---|
| | | optional | • "lan" ,<br>• "undefined" |
| **protocol** | | protocol-layer4 optional | The network layer 4 protocol type Attributes: key, required-for-create, non-modifiable Possible values:<br>• "udp" - UDP,<br>• "tcp" - TCP,<br>• "na" - not_available |
| **receive-auto-tune** | | boolean optional | If true, allow the system to automatically adjust the receive buffer size. The default value is false for the ctlopcp service using the LAN network type, and true in all other cases. Attributes: required-for-create, modifiable |
| **receive-buffer** | **[256..7168]** | integer optional | If receive-auto-tune is false, receive buffer size in kilobytes (1024). If receive-auto-tune flag is true, this value has no effect. The default value is 2048 for the ctlopcp service using the WAN network type, and 256 in other cases. Attributes: required-for-create, modifiable |
| **service** | | stream-protocol-service optional | The stream protocol connection classification Attributes: key, required-for-create, non-modifiable Possible values:<br>• "mount" - Mount stream protocol,<br>• "nfs" - NFS stream protocol,<br>• "nfs_v3" - NFS version 3 stream protocol,<br>• "nlm_v4" - Network lock manager stream protocol,<br>• "sm" - Session Manager stream protocol,<br>• "ftp_ctrl" - FTP control stream protocol,<br>• "ftp_data" - FTP data stream protocol,<br>• "http_1_0" - HTTP version 1 stream protocol,<br>• "http_1_1" - HTTP version 1.1 stream protocol,<br>• "iscsi" - ISCSI stream protocol,<br>• "cifs_srv" - CIFS server stream protocol,<br>• "cifs_nam" - CIFS name server stream protocol,<br>• "loopback" - loopback stream protocol,<br>• "rf" - RC stream protocol,<br>• "rawscp" - Raw secure copy stream protocol,<br>• "discard" - Discard stream protocol,<br>• "port_map" - Port map stream protocol,<br>• "pass_thru" - Passthru stream protocol,<br>• "rclopcp" - Rc connection stream protocol,<br>• "nfs_v4" - NFS version 4 stream protocol,<br>• "fcache" - 7 Mode FlexCache stream protocol,<br>• "ctlopcp" - Ct connection stream protocol,<br>• "rquota" - Rquota stream protocol,<br>• "cifs_msrpc" - CIFS MsRpc stream protocol,<br>• "http" - HTTP stream protocol,<br>• "unknown" - unknown protocol,<br>• "s3" - S3 stream protocol,<br>• "sdapi" - SDAPI stream protocol |

# Element definition: **remote-inet-address**

[top]

IPv4 Address, IPv6 Address or Host Name

[none]

# Element definition: **stream-protocol-service**

[top]

The stream protocol connection classification Possible values:

- "mount" - Mount stream protocol,
- "nfs" - NFS stream protocol,
- "nfs_v3" - NFS version 3 stream protocol,
- "nlm_v4" - Network lock manager stream protocol,
- "sm" - Session Manager stream protocol,
- "ftp_ctrl" - FTP control stream protocol,
- "ftp_data" - FTP data stream protocol,
- "http_1_0" - HTTP version 1 stream protocol,
- "http_1_1" - HTTP version 1.1 stream protocol,
- "iscsi" - ISCSI stream protocol,
- "cifs_srv" - CIFS server stream protocol,
- "cifs_nam" - CIFS name server stream protocol,
- "loopback" - loopback stream protocol,
- "rf" - RC stream protocol,
- "rawscp" - Raw secure copy stream protocol,
- "discard" - Discard stream protocol,
- "port_map" - Port map stream protocol,
- "pass_thru" - Passthru stream protocol,
- "rclopcp" - Rc connection stream protocol,
- "nfs_v4" - NFS version 4 stream protocol,
- "fcache" - 7 Mode FlexCache stream protocol,
- "ctlopcp" - Ct connection stream protocol,
- "rquota" - Rquota stream protocol,
- "cifs_msrpc" - CIFS MsRpc stream protocol,
- "http" - HTTP stream protocol,
- "unknown" - unknown protocol,
- "s3" - S3 stream protocol,
- "sdapi" - SDAPI stream protocol

[none]

# Element definition: **subnet-name**

[top]

Name of Subnet

[none]

# Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

# Element definition: **vif-owner-name**

[top]

Vserver

[none]

# Element definition: **vip-port-info**

[top]

VIP Port Information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string optional | IPspace Name Attributes: required-for-create, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, required-for-create, non-modifiable |
| **port** | | net-port optional | Network Port Attributes: key, required-for-create, non-modifiable |

# Element definition: **vlan-info**

[top]

vlan

| Name | Range | Type | Description |
|---|---|---|---|
| **gvrp-enabled** | | boolean optional | true: GVRP is enabled. Default is false. GVRP is deprecated and this attribute is ignored in cluster mode. GVRP is a standard vlan trunking protocol that enables a port to advertise which vlans it trunks, thereby decreasing traffic over the trunk. This protocol eliminates the need to manually configure vlan information on each switch in the network. |
| **interface-name** | | string optional | Name of vlan interface. The name must be of the format <parent-inteface>-<vlanid> |
| **node** | | string optional | Node name of vlan interface. |
| **parent-interface** | | string | The interface that hosts the vlan interface. |
| **skip-broadcast-domain-placement** | | boolean optional | true: placement of the vlan port into a broadcast domain will be skipped. Default is false. |
| | | | |

| | | | |
|---|---|---|---|
| **vlanid** | | integer | The vlan id. Range: 1..4094. |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **bgp-session-state**

[top]

BGP Session State Possible values:

- "unknown" ,
- "up" ,
- "down"

[none]

# Element definition: **broadcast-domain-name**

[top]

Broadcast Domain

[none]

# Element definition: **broadcast-domain-port-status**

[top]

Possible port update states for a broadcast domain operation Possible values:

- "complete" - Port updates are complete and values match the broadcast domain,
- "in_progress" - Port values are being updated to match the broadcast domain,
- "error" - An error was encountered and values do not match the broadcast domain,
- "overridden_while_offline" - Port values were overriden while offline

[none]

# Element definition: **data-protocol**

[top]

nfs|cifs|iscsi|fcp|fcache|none|fc-nvme|s3|nvme-tcp Possible values:

- "nfs" - Used for NFS connections,

"cifs" - Used for CIFS connections,
- "iscsi" - Used for iSCSI connections,
- "fcp" - Used for Fibre Channel connections,
- "fcache" - Used for 7-mode FlexCache connections,
- "none" - Used for management. Does not serve any file protocols.,
- "http" - Used for HTTP connections,
- "fc_nvme" - Used for NVMe/FC connections,
- "s3" - Used for S3 connections,
- "nvme_roce" - Used for NVMe/RoCE connections,
- "nvme_tcp" - Used for NVMe/TCP connections

[none]

# Element definition: **detect-switchless-cluster-info**

[top]

Network options detect-switchless-cluster typedef

| Name | Range | Type | Description |
|---|---|---|---|
| **enabled** | | boolean optional | Enable Switchless Cluster Detection Attributes: non-creatable, modifiable |

# Element definition: **device-capability**

[top]

router|trans-bridge|source-route-bridge|switch|host|igmp|repeater|phone Possible values:

- "router" - Router,
- "trans_bridge" - Trans Bridge,
- "source_route_bridge" - Source Route Bridge,
- "switch" - Switch,
- "host" - Host,
- "igmp" - IGMP,
- "repeater" - Repeater,
- "phone" - Phone

[none]

# Element definition: **dns-zone**

[top]

Specifies the unique, fully qualified domain name of the DNS zone of this LIF.

[none]

# Element definition: **enable**

[top]

'enabled' or 'disabled'

[none]

## Element definition: **failover-group** [top]

Specifies the failover group name.

[none]

## Element definition: **filer-id** [top]

Filer UUID

[none]

## Element definition: **fw-service** [top]

[none]

## Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

## Element definition: **ip-and-mask** [top]

4-byte IP address followed by 4-byte mask

[none]

## Element definition: **ip-range** [top]

IPv4 and IPv6 address range containing a start address and an end address. The start and end addresses themselves are included in the range.

An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '4:3:2:1:d:c:b:b-4:3:2:1:d:c:b:c'

[none]

## Element definition: **ipaddresstype**

[top]

ipv4|ipv6|ipv6z Possible values:

- "unknown" ,
- "ipv4" ,
- "ipv6" ,
- "ipv4z" ,
- "ipv6z" ,
- "dns"

[none]

## Element definition: **ipv6-options-info**

[top]

Network options ipv6 typedef

| Name | Range | Type | Description |
|---|---|---|---|
| **enabled** | | boolean optional | IPv6 Enabled Attributes: non-creatable, modifiable |
| **is-ipv6-ra-processing-enabled** | | boolean optional | Router Advertisement (RA) Processing Enabled Attributes: non-creatable, modifiable |

## Element definition: **lif-bindable**

[top]

|

[none]

## Element definition: **lif-name**

[top]

Logical Interface Id

[none]

# Element definition: **lif-service-name**

[top]

The name of network interface service.

[none]

# Element definition: **mac-address**

[top]

MAC Address

[none]

# Element definition: **nd-state**

[top]

Possible values:

- "nostate" - No State,
- "incomplete" - Incomplete,
- "reachable" - Reachable,
- "stale" - Stale,
- "delay" - Delay,
- "probe" - Probe,
- "unknown" - Unknown State

[none]

# Element definition: **ndp-expire-time**

[top]

Expire Time Interval

[none]

# Element definition: **ndp-prefix-flag**

[top]

none|on-link|autonomous|on-link-autonomous Possible values:

- "none" - None,
- "on_link" - On-link Prefix,
- "autonomous" - Autonomous Prefix,
- "on_link_autonomous" - On-link and Autonomous Prefix

[none]

# Element definition: **ndp-prefix-lifetime**

[top]

Prefix Lifetime in seconds

[none]

# Element definition: **ndp-prefix-origin**

[top]

router-advertise|renumber-request|static|kernel|unknown Possible values:

- "unknown" - Unknow,
- "router_advertise" - Router Advertise,
- "renumber_request" - Renumber Request,
- "static" - Static,
- "kernel" - Kernel

[none]

# Element definition: **ndp-ra-flag**

[top]

none|managed-address-DHCPv6|other-DHCPv6 Possible values:

- "none" - None,
- "managed_address_dhcpv6" - Managed Address from DHCPv6,
- "other_dhcpv6" - Other Configuration from DHCPv6

[none]

# Element definition: **net-firewall-config-info**

[top]

Firewall configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-** | | boolean | Specifies whether firewall protection is enabled (true) or disabled (false) for the node's network ports. The default setting is true. Attributes: non- |

| | | | |
|---|---|---|---|
| **enabled** | | optional | creatable, modifiable |
| **is-logging** | | boolean optional | This parameter has been deprecated in Data ONTAP 9.0, but is still returned for compatibility and may be removed in a future release. Specifies whether logging is enabled (true) or disabled (false) for the firewall service. The default setting is false. Attributes: non-creatable, modifiable |
| **node-name** | | node-name optional | Specifies the node on which the firewall configiration is set. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-interface-info**

[top]

Network interface information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | Specifies the LIF's IP address. This element is valid for all data protocols except FCP. Attributes: optional-for-create, modifiable |
| **address-family** | | string optional | Address family Attributes: non-creatable, non-modifiable |
| **administrative-status** | | string optional | Specifies the administrative status of the LIF. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the interface from functioning, the operational status remains as down. Possible values:<br>• 'up',<br>• 'down',<br><br>Attributes: optional-for-create, modifiable |
| **comment** | | string optional | Comment Attributes: optional-for-create, modifiable |
| **current-node** | | string optional | The node on which the LIF currently resides. Upon LIF migration 'current-node' may be different from 'home-node'. Attributes: non-creatable, non-modifiable |
| **current-port** | | string optional | The port on which the LIF currently resides. Upon LIF migration 'current-port' may be different from 'home-port'. Attributes: non-creatable, non-modifiable |
| | | | Specifies the list of data protocols configured on the LIF. By default, the values in this element are nfs, cifs and fcache. Other supported protocols are iscsi and fcp. A LIF can be configured to not support any data protocols by specifying 'none'. Protocol values of none, iscsi or fcp can't be combined with any other data protocol(s). Attributes: optional-for-create, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **data-protocols** | | data-protocol[] optional | • "nfs" - Used for NFS connections,<br>• "cifs" - Used for CIFS connections,<br>• "iscsi" - Used for iSCSI connections,<br>• "fcp" - Used for Fibre Channel connections,<br>• "fcache" - Used for 7-mode FlexCache connections,<br>• "none" - Used for management. Does not serve any file protocols.,<br>• "http" - Used for HTTP connections,<br>• "fc_nvme" - Used for NVMe/FC connections,<br>• "s3" - Used for S3 connections,<br>• "nvme_roce" - Used for NVMe/RoCE connections,<br>• "nvme_tcp" - Used for NVMe/TCP connections |
| **dns-domain-name** | | dns-zone optional | Specifies the unique, fully qualified domain name of the DNS zone of this LIF. Attributes: optional-for-create, modifiable |
| **extended-status** | | string optional | Specifies an extended description of why the LIF has an operational status of down. Attributes: non-creatable, non-modifiable |
| **failover-group** | | failover-group optional | Specifies the failover group name. Attributes: optional-for-create, modifiable |
| **failover-policy** | | string optional | Specifies the failover policy for the LIF. For FCP and iSCSI LIFs, the only failover policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'nextavail'. Attributes: optional-for-create, modifiable |
| **firewall-policy** | | string optional | Specifies the firewall policy for the LIF. Default firewall-policy is set as per the following table:<br><br>• 'LIF Role Protocols Default policy',<br>• '------- --------- --------------',<br>• 'data none mgmt',<br>• 'data any (except fcp) data',<br>• 'node_mgmt any mgmt',<br>• 'cluster_mgmt any mgmt',<br>• 'cluster any cluster',<br>• 'intercluster any intercluster'<br><br>Attributes: optional-for-create, modifiable |
| **force-subnet-association** | | boolean optional | Force the LIF's Subnet Association Attributes: optional-for-create, modifiable |
| **home-node** | | string optional | Specifies the LIF's home node. Attributes: optional-for-create, modifiable |
| **home-port** | | string optional | Specifies the LIF's home port. Attributes: optional-for-create, modifiable |
| **interface-name** | | string optional | Specifies the logical interface (LIF) name. Attributes: key, required-for-create, non-modifiable |
| **ipspace** | | string optional | IPspace of LIF Attributes: non-creatable, non-modifiable |
| **is-auto-revert** | | boolean optional | If true, data LIF will revert to its home node under certain circumstances such as startup, and load balancing migration capability is disabled automatically. Default: false Attributes: optional-for-create, modifiable |
| **is-dns-update-enabled** | | boolean optional | Specifies if DNS update is enabled for this LIF. Dynamic updates will be sent for this LIF if updates are enabled at Vserver level Attributes: optional-for-create, modifiable |
| **is-home** | | boolean optional | True if LIF is currently on 'home-node' and 'home-port'. Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **is-ipv4-link-local** | | boolean optional | If true, automatically configure an interface with an IPv4 address. User can configure an interface by explicitly specifying <address> and <netmask> (or <netmask-length>); or by enabling is-ipv4-link-local to true. Attributes: optional-for-create, non-modifiable |
| **is-vip** | | boolean optional | Specifies if this is a LIF will be hosted on VIP port with /32 or /128 netmask Attributes: optional-for-create, non-modifiable |
| **lif-uuid** | | uuid optional | Available in Data ONTAP 8.2 and later. Attributes: non-creatable, non-modifiable |
| **listen-for-dns-query** | | boolean optional | If True, this IP address will listen for DNS queries for the dns-zone specified. Attributes: optional-for-create, modifiable |
| **netmask** | | ip-address optional | Specifies the LIF's netmask. This element is valid for all data protocols except FCP. Attributes: optional-for-create, modifiable |
| **netmask-length** | **[0..2^32-1]** | integer optional | Specifies number of bits in the netmask. Attributes: optional-for-create, modifiable |
| **operational-status** | | string optional | Specifies the operational status of the LIF. Possible values:<br>• 'up',<br>• 'down',<br><br>Attributes: non-creatable, non-modifiable |
| **probe-port** | **[0..2^32-1]** | integer optional | Probe-port for Cloud Load Balancer Attributes: optional-for-create, non-modifiable |
| **role** | | string optional | Specifies the role of the LIF. Default: data Attributes: optional-for-create, non-modifiable Possible values:<br>• "undef" - No defined role,<br>• "cluster" - Used for communication using the private cluster network,<br>• "data" - Used for communicating with file service clients,<br>• "node_mgmt" - Used by administrators to configure the node,<br>• "intercluster" - Used for communication with a different cluster,<br>• "cluster_mgmt" - Used by administrators to configure the cluster |
| **routing-group-name** | | string optional | Specifies the routing group, which enables multiple logical interfaces to share a set of routing table entries. For example: d192.168.1.0/24 ('d' stands for data LIF and 192.168.1.0/24 is subnet) c192.168.1.0/24 ('c' stands for cluster LIF and 192.168.1.0/24 is subnet) n192.168.1.0/24 ('n' stands for node management LIF and 192.168.1.0/24 is subnet) dfd20:13::0/50 ('d' stands for data LIF and fd20:13::0/50 is IPv6 subnet) Attributes: optional-for-create, modifiable |
| **service-names** | | lif-service-name[] optional | Specifies the services included in the LIF's service policy. Attributes: non-creatable, non-modifiable |
| **service-policy** | | string optional | Specifies the service policy of the LIF. The service policy attribute is currently only supported on a limited number of LIF roles, and each supported LIF role corresponds to a specific default service policy. Supported Roles:<br>• 'LIF Role Default Policy'<br>• '------------ -----------------'<br>• 'intercluster net-intercluster' |

| | | | |
|---|---|---|---|
| | | | Attributes: optional-for-create, modifiable |
| **subnet-name** | | subnet-name optional | Subnet where the interface address is allocated from. If the option is not used, the IP address will need to be provided by the administrator during configuration. Attributes: optional-for-create, modifiable |
| **use-failover-group** | | string optional | Specifies whether failover rules are automatically created, manually created by the administrator, or disabled. For FCP and iSCSI LIFs, the default policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'system_defined'. Attributes: optional-for-create, modifiable Possible values:<br>• "system_defined" - Failover targets generated automatically by the system,<br>• "disabled" - Failover targets generated manually by the admin,<br>• "enabled" - Failover targets defined by failover-group,<br>• "unused" - Failover targets are not generated based on this field |
| **vserver** | | string optional | Specifies the Vserver name. Attributes: key, non-creatable, non-modifiable |
| **wwpn** | | string optional | Specifies the LIF's WWPN. This element is valid for FCP LIFs only. Attributes: non-creatable, non-modifiable |

# Element definition: **net-port**

[top]

Network Port formatted as 1-byte 'type', 4-byte 'slot', 1-byte 'suffix', and 4-byte 'vlan'.

[none]

# Element definition: **net-port-info**

[top]

Network port information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **administrative-duplex** | | string optional | Specifies the user preferred duplex setting of the port. Attributes: required-for-create, modifiable Possible values:<br>• "undef" - No defined duplex,<br>• "auto" - Auto-negotiate duplex setting for link,<br>• "half" - Half-duplex link usage,<br>• "full" - Full-duplex link usage |

| | | | |
|---|---|---|---|
| **administrative-flowcontrol** | | string optional | Specifies the user preferred flow control setting of the port. Attributes: required-for-create, modifiable |
| **administrative-speed** | | string optional | Specifies the user preferred speed setting of the port. Attributes: required-for-create, modifiable Possible values:<br>• "undef" - No defined speed,<br>• "auto" - Auto-negotiate speed for link,<br>• "10" - 10 megabits per second,<br>• "100" - 100 megabits per second,<br>• "1000" - 1 gigabit per second,<br>• "10000" - 10 gigabits per second,<br>• "40000" - 40 gigabits per second,<br>• "100000" - 100 gigabits per second,<br>• "25000" - 25 gigabits per second |
| **autorevert-delay** | **[0..2^32-1]** | integer optional | For a port with role 'cluster', specifies the delay in seconds before autoreverting a LIF to this port. Attributes: optional-for-create, modifiable |
| **broadcast-domain** | | broadcast-domain-name optional | Specifies the port's associated Broadcast Domain. Attributes: non-creatable, non-modifiable |
| **health-degraded-reasons** | | netport-degraded-reason[] optional | Specifies the list of reasons which cause port marked as degraded Attributes: non-creatable, non-modifiable Possible values:<br>• "l2_reachability" - L2 reachability,<br>• "link_flapping" - Link flapping,<br>• "crc_errors" - CRC errors,<br>• "vswitch_link" - vSwitch link |
| **health-status** | | netport-health-status optional | Specifies the health status of the given port. Attributes: non-creatable, non-modifiable Possible values:<br>• "healthy" ,<br>• "degraded" |
| **ifgrp-distribution-function** | | string optional | For a port of type 'ifgrp', specifies the traffic distribution function. Attributes: non-creatable, non-modifiable Possible values:<br>• "mac" - Network traffic is distributed on the basis of MAC addresses,<br>• "ip" - Network traffic is distributed on the basis of IP addresses,<br>• "sequential" - Network traffic is distributed round-robin to each interface,<br>• "port" - Network traffic is distributed by transport layer address 4-tuple |
| **ifgrp-mode** | | string optional | For a port of type 'ifgrp', specifies the link policy. Possible values:<br>• 'multimode - All links are simultaneously active',<br>• 'multimode_lacp - Link state is managed by the switch using link aggregation control protocol (LACP) (IEEE 802.3ad)',<br>• 'singlemode - Only one link is active at a time'<br><br>Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **ifgrp-node** | | string optional | For a port of type 'physical' that is a member of an interface group (ifgrp), specifies the name of the node on which the interface group was created. Attributes: non-creatable, non-modifiable |
| **ifgrp-port** | | string optional | For a port of type 'physical' that is a member of an interface group (ifgrp), specifies the name of the interface group. Attributes: non-creatable, non-modifiable |
| **ignore-health-status** | | boolean optional | Use this parameter to specify that the system ignore network port health status of the specified port for the purpose of hosting a logical interface. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **ipspace** | | string optional | Specifies the port's associated IPspace name. Note: the 'Cluster' ipspace is reserved for cluster ports. Attributes: optional-for-create, modifiable |
| **is-administrative-auto-negotiate** | | boolean optional | Enables or disables Ethernet auto-negotiation of speed, duplex and flow control. Attributes: required-for-create, modifiable |
| **is-administrative-up** | | boolean optional | If true, it changes the state of the port to 'up'. Attributes: required-for-create, modifiable |
| **is-operational-auto-negotiate** | | boolean optional | True if Ethernet auto negotiation is successful, false otherwise. Attributes: non-creatable, non-modifiable |
| **link-status** | | string optional | Specifies the link status of the port. Possible values:<br>• 'unknown - Port status unknown',<br>• 'up - Port is up',<br>• 'down - Port is down'<br>Attributes: non-creatable, non-modifiable |
| **mac-address** | | string optional | Specifies the MAC address of the port. Attributes: non-creatable, non-modifiable |
| **mtu** | **[0..2^32-1]** | integer optional | Specifies the maximum transmission unit (MTU) reported by the port. Attributes: required-for-create, modifiable |
| **mtu-admin** | **[0..2^32-1]** | integer optional | Specifies the user preferred maximum transmission unit (MTU) of the port. Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Specifies the name of node. Attributes: key, required-for-create, non-modifiable |
| **operational-duplex** | | string optional | Duplex setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable Possible values:<br>• "undef" - No defined duplex,<br>• "auto" - Auto-negotiate duplex setting for link,<br>• "half" - Half-duplex link usage,<br>• "full" - Full-duplex link usage |
| **operational-flowcontrol** | | string optional | Flow control setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable |
| **operational-speed** | | string optional | Speed setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable Possible values:<br>• "undef" - No defined speed,<br>• "auto" - Auto-negotiate speed for link,<br>• "10" - 10 megabits per second,<br>• "100" - 100 megabits per second,<br>• "1000" - 1 gigabit per second,<br>• "10000" - 10 gigabits per second, |

| | | | |
|---|---|---|---|
| | | | • "40000" - 40 gigabits per second,<br>• "100000" - 100 gigabits per second,<br>• "25000" - 25 gigabits per second |
| **port** | | string<br>optional | Specifies the name of port. Attributes: key, required-for-create, non-modifiable |
| **port-type** | | string<br>optional | Specifies the type of port. Attributes: non-creatable, non-modifiable Possible values:<br>• "physical" - Physical network interface,<br>• "if_group" - Logical interface group (IEEE 802.3, section 43),<br>• "vlan" - Virtual LAN (IEEE 802.1Q),<br>• "undef" - No defined port type,<br>• "vip" - Virtual network interface for Virtual IP,<br>• "pvlan" - Pseudo Virtual LAN |
| **remote-device-id** | | string<br>optional | Remote device ID reported by L2 discovery protocol Attributes: non-creatable, non-modifiable |
| **role** | | string<br>optional | This parameter has been deprecated in Data ONTAP 8.3, but is still returned for compatibility and may be removed in a future release. Prefer instead to use the 'ipspace' parameter. Attributes: optional-for-create, modifiable |
| **vlan-id** | **[0..2^32-1]** | integer<br>optional | For a port of type 'vlan', specifies the vlan identification number. Attributes: non-creatable, non-modifiable |
| **vlan-node** | | string<br>optional | Specifies the name of the node on which vlan is created. Attributes: non-creatable, non-modifiable |
| **vlan-port** | | string<br>optional | For a port of type 'vlan', specifies the name of the physical port on which the vlan is created. Attributes: non-creatable, non-modifiable |
| **vm-network-name** | | string<br>optional | Virtual Machine network name Attributes: non-creatable, non-modifiable |

# Element definition: **netport-degraded-reason**

[top]

l2-reachability|link-flapping|crc-errors|vswitch-link Possible values:

- "l2_reachability" - L2 reachability,
- "link_flapping" - Link flapping,
- "crc_errors" - CRC errors,
- "vswitch_link" - vSwitch link

[none]

# Element definition: **netport-health-status**

[top]

healthy|degraded Possible values:

- "healthy" ,
- "degraded"

[none]

## Element definition: **network-type** [top]

The network topology classification Possible values:

- "wan" ,
- "lan" ,
- "undefined"

[none]

## Element definition: **node-name** [top]

The node's name

[none]

## Element definition: **port-info** [top]

Port information.

| Name | Range | Type | Description |
|---|---|---|---|
| **port** | | net-qualified-port-name optional | Ports added to the layer 2 broadcast domain. Ports added to a new layer 2 broadcast domain will be removed from their current layer 2 broadcast domain. Format: node-name:port-name Attributes: optional-for-create, non-modifiable |
| **port-update-status** | | broadcast-domain-port-status optional | Status for each port's updates to match the broadcast domain. See port-update-status-details for detailed error text. Attributes: non-creatable, non-modifiable Possible values:<br>• "complete" - Port updates are complete and values match the broadcast domain,<br>• "in_progress" - Port values are being updated to match the broadcast domain,<br>• "error" - An error was encountered and values do not match the broadcast domain,<br>• "overridden_while_offline" - Port values were overriden while offline |
| **port-update-status-details** | | string optional | Descriptions of each port's update status. When the status is 'error', this field will contain text describing the error. Attributes: non-creatable, non-modifiable |

# Element definition: **protocol-layer4**

[top]

The network layer 4 protocol type Possible values:

- "udp" - UDP,
- "tcp" - TCP,
- "na" - not_available

[none]

# Element definition: **service-port-info**

[top]

TCP/UDP Port Information

| Name | Range | Type | Description |
|---|---|---|---|
| **port** | **[0..2^32-1]** | integer optional | The list of TCP and UDP ports that the service will listen on. Attributes: non-creatable, non-modifiable |
| **protocol** | | fw-policy-protocol optional | The IP protocol associated with each port number. Attributes: non-creatable, non-modifiable Possible values:<br>• "tcp" - Applies only to TCP,<br>• "udp" - Applies only to UDP,<br>• "tcp_udp" - Applies to both TCP and UDP,<br>• "icmp" - Applies only to ICMP,<br>• "ipv6_icmp" - Applies only to IPv6-ICMP,<br>• "undef" - Undefined,<br>• "esp" - Applies only to ESP |

# Element definition: **subnet-name**

[top]

Name of Subnet

[none]

# Element definition: **subnets-info**

[top]

Subnet information.

| Name | Range | Type | Description |
|---|---|---|---|
| **subnet** | | ip-and-mask optional | The list of subnets associated with the layer 2 broadcast domain. Attributes: non-creatable, non-modifiable |

# Element definition: **svc-failover-policy**

[top]

svc_failover_policy Possible values:

- "unrestricted" - Service has no restrictions on LIF failover,
- "home_port_only" - Service requires that LIFs do not fail off their home port,
- "home_node_only" - Service requires that LIFs do not fail off their home node,
- "home_pair_only" - Service requires that LIFs do not fail off their home node or sfo partner

[none]

# Element definition: **svc-vserver-policy**

[top]

svc_vserver_policy Possible values:

- "unrestricted" - Service has no vserver restrictions,
- "system_only" - Service is only compatible with system vservers,
- "data_only" - Service is only compatible with data vservers,
- "cluster_only" - Service is only compatible with cluster vservers

[none]

# Element definition: **switchless-cluster-info**

[top]

Network options switchless-cluster typedef

| Name | Range | Type | Description |
|---|---|---|---|
| **enabled** | | boolean<br>optional | Enable Switchless Cluster Attributes: non-creatable, modifiable |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **vserver-bgp-state**

[top]

unknown|unconfigured|up|down Possible values:

- "unknown" - Fail to query BGP sessions state,
- "unconfigured" - BGP is not configured,
- "up" - At lease one BGP session is up,
- "down" - No BGP sessions are up

[none]

## Element definition: **broadcast-domain-name**

[top]

Broadcast Domain

[none]

## Element definition: **broadcast-domain-port-status**

[top]

Possible port update states for a broadcast domain operation Possible values:

- "complete" - Port updates are complete and values match the broadcast domain,
- "in_progress" - Port values are being updated to match the broadcast domain,
- "error" - An error was encountered and values do not match the broadcast domain,
- "overridden_while_offline" - Port values were overriden while offline

[none]

## Element definition: **data-protocol**

[top]

nfs|cifs|iscsi|fcp|fcache|none|fc-nvme|s3|nvme-tcp Possible values:

- "nfs" - Used for NFS connections,
- "cifs" - Used for CIFS connections,
- "iscsi" - Used for iSCSI connections,
- "fcp" - Used for Fibre Channel connections,
- "fcache" - Used for 7-mode FlexCache connections,
- "none" - Used for management. Does not serve any file protocols.,
- "http" - Used for HTTP connections,
- "fc_nvme" - Used for NVMe/FC connections,
- "s3" - Used for S3 connections,
- "nvme_roce" - Used for NVMe/RoCE connections,
- "nvme_tcp" - Used for NVMe/TCP connections

[none]

# Element definition: **dns-zone**

[top]

Specifies the unique, fully qualified domain name of the DNS zone of this LIF.

[none]

# Element definition: **failover-group**

[top]

Specifies the failover group name.

[none]

# Element definition: **fw-policy-protocol**

[top]

fw_policy_protocol Possible values:

- "tcp" - Applies only to TCP,
- "udp" - Applies only to UDP,
- "tcp_udp" - Applies to both TCP and UDP,
- "icmp" - Applies only to ICMP,
- "ipv6_icmp" - Applies only to IPv6-ICMP,
- "undef" - Undefined,
- "esp" - Applies only to ESP

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

# Element definition: **lif-service-name**

[top]

The name of network interface service.

[none]

## Element definition: **net-qualified-port-name**

[top]

A node and port specification in the following format: :.

[none]

# APIs in Category: **netgroup**


netgroups-file-delete
netgroups-file-get
netgroups-file-get-iter


## netgroups-file-delete

[top]

Destroy an existing netgroups file configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **vserver-name** | | vserver-name | Specifies the Vserver for the local netgroup file. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

## netgroups-file-get

[top]

Get netgroups file configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | netgroups-file-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **domain** | | string optional | Specifies the domain name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The domain name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'. |
| **host** | | string optional | Specifies the host name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The host name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'. |
| **member-netgroup** | | string optional | Specifies the name of a member netgroup contained within this netgroup. |
| **netgroup-name** | | string optional | Specifies the name of a netgroup within the Vserver's local netgroup file. Each netgroup is composed of a list of members. Each member can be either the name of another netgroup or a specification of a tuple as follows: (host, user, domain). All of these members are given similar network access. |

| | | | |
|---|---|---|---|
| **user** | | string optional | Specifies the user name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The user name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'. |
| **vserver** | | vserver-name | Specifies the Vserver for the local netgroup file. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | netgroups-file-config-info | The attributes of the netgroup |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# netgroups-file-get-iter

[top]

Iterate over a list of netgroups file configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | netgroups-file-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | netgroups-file-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Netgroups file configuration object. All Netgroups file configuration objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | netgroups-file-config-info[] optional | The list of attributes of Netgroups file configuration objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Netgroups file configuration objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |

# Element definition: **netgroups-file-config-info**

[top]

Netgroups file configuration information When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **domain** | | string optional | Specifies the domain name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The domain name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'. Attributes: non-creatable, non-modifiable |
| **host** | | string optional | Specifies the host name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The host name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'. Attributes: non-creatable, non-modifiable |
| **member-netgroup** | | string optional | Specifies the name of a member netgroup contained within this netgroup. Attributes: non-creatable, non-modifiable |
| **netgroup-name** | | string optional | Specifies the name of a netgroup within the Vserver's local netgroup file. Each netgroup is composed of a list of members. Each member can be either the name of another netgroup or a specification of a tuple as follows: (host, user, domain). All of these members are given similar network access. Attributes: non-creatable, non-modifiable |
| **user** | | string optional | Specifies the user name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The user name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Specifies the Vserver for the local netgroup file. Attributes: key, non-creatable, non-modifiable |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **nfs**


nfs-disable
nfs-enable
nfs-exportfs-append-rules
nfs-exportfs-append-rules-2
nfs-exportfs-check-permission
nfs-exportfs-delete-rules
nfs-exportfs-fence-disable
nfs-exportfs-fence-enable
nfs-exportfs-flush-cache
nfs-exportfs-list-rules
nfs-exportfs-list-rules-2
nfs-exportfs-load-exports
nfs-exportfs-modify-rule
nfs-exportfs-modify-rule-2
nfs-exportfs-storage-path
nfs-get-supported-sec-flavors
nfs-monitor-add
nfs-monitor-list
nfs-monitor-reclaim
nfs-monitor-remove
nfs-monitor-remove-locks
nfs-service-create
nfs-service-destroy
nfs-service-get
nfs-service-get-create-defaults
nfs-service-get-iter
nfs-service-modify
nfs-stats-get-client-stats
nfs-stats-top-clients-list-iter-end
nfs-stats-top-clients-list-iter-next
nfs-stats-top-clients-list-iter-start
nfs-stats-zero-stats
nfs-status


## nfs-disable

[top]

In Data ONTAP 7-Mode, this API will disable NFS server access (effectively same as the CLI command "nfs off") In Data ONTAP Cluster-Mode, this will stop the Vserver's NFS service. If the NFS service was not explicitly created, this API does nothing.

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| nfs |

# nfs-enable

[top]

In Data ONTAP 7-Mode, this API will enable NFS server access (effectively same as the CLI command "nfs on") In Data ONTAP Cluster-Mode, this will start the Vserver's NFS service. If the NFS service was not explicitly created, this API will create one with default options.

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |
| EVSERVERNOTFOUND | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| nfs |

# nfs-exportfs-append-rules

[top]

Enables pathnames for mounting according to the rules specified. New rules for the pathnames take effect immediately, ignoring previous rules for specified pathnames. In the Data ONTAP 7-Mode, set the persistent option to true to save the rule in the etc/exports file and keep the option persistent upon loading or reboot whereas it must be true in Data ONTAP Cluster-Mode as the export entries are always persistent.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| create-multi-clientmatch | | boolean optional | If true, the export rules are created using multiple clientmatches per rule to minimize the number of export rules created. If false, each export rule contains a single clientmatch string. Default value is true. |
| persistent | | boolean optional | In Data ONTAP 7-Mode, default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned. |
| rules | | exports-rule-info[] | List of rules to add to the exports table. |
| verbose | | boolean optional | If true, returns a list of directories which were appended. Errors during the append are recorded in the 'results' field error and 'loaded-pathnames' will contain which pathnames were successfully appended. Default value is false. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |

| | | | |
|---|---|---|---|
| **exported-pathnames** | | pathname-info[] optional | In Data ONTAP 7-Mode, this will return verbose output of what pathnames were successfully saved in the etc/exports file. Only returned if verbose and persistent options are set. In Data ONTAP Cluster-Mode, this will return verbose output of what pathnames were successfully appended. Only returned if verbose option is set. |
| **loaded-pathnames** | | pathname-info[] optional | Verbose output of what pathnames were successfully appended Only returned if verbose option is set. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ENOENT** | |
| **EINVAL** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-append-rules-2

[top]

Enables pathnames for mounting according to the rules specified. New rules for the pathnames take effect immediately, ignoring previous rules for specified pathnames. In the Data ONTAP 7-Mode, set the persistent option to true to save the rule in the etc/exports file and keep the option persistent upon loading or reboot whereas it must be true in Data ONTAP Cluster-Mode as the export entries are always persistent. The new security-rule-info structure contains finer grained information about security rules than exports-rule-info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **create-multi-clientmatch** | | boolean optional | If true, the export rules are created using multiple clientmatches per rule to minimize the number of export rules created. If false, each export rule contains a single clientmatch string. Default value is true. |
| **persistent** | | boolean optional | In Data ONTAP 7-Mode, default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned. |
| **rules** | | exports-rule-info-2[] | List of rules to add to the exports table. |
| **verbose** | | boolean optional | If true, returns a list of directories which were appended. Errors during the append are recorded in the 'results' field error and 'loaded-pathnames' will contain which pathnames were successfully appended. Default value is false. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **exported-pathnames** | | pathname-info[] optional | In Data ONTAP 7-Mode, this will return verbose output of what pathnames were successfully saved in the etc/exports file. Only returned if verbose and persistent options are set. In Data ONTAP Cluster-Mode, this will return verbose output of what pathnames |

| | | | |
|---|---|---|---|
| | | | were successfully appended. Only returned if verbose option is set. |
| **loaded-pathnames** | | pathname-info[] optional | Verbose output of what pathnames were successfully appended Only returned if verbose option is set. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ENOENT** | |
| **EINVAL** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-check-permission

[top]

Returns true if the host IP has mount permissions for a specified path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **host** | | string | IP address of the host to check in dotted decimal format: AAA.BBB.CCC.DDD |
| **pathname** | | string | Returns the permissions for this path. |
| **permission** | | string | Possible values: "read-only", "read-write", and "root". |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-permissible** | | boolean | True if host has permission to the path. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-delete-rules

[top]

Removes the rules for a set of pathnames. This returns an error if any of the pathnames don't have a rule. In the Data ONTAP 7-Mode, set the persistent option to modify the etc/exports file and keep this change persistent upon reboots whereas it must be true in Data ONTAP Cluster-Mode as the export

entries are always persistent.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **all-pathnames** | | boolean optional | Default value is false. Set to true to delete all rules. 'pathnames' option must be left empty if this option is true. |
| **pathnames** | | pathname-info[] optional | In the Data ONTAP 7-Mode, these must be the pathnames to be deleted from the exports table. In Data ONTAP Cluster-Mode the pathname for a volume must be specified using the junction path ("/junction"). The pathname for a qtree must be specified as ("/vol/volname/qtreename0") or ("/junction/qtreename0"). |
| **persistent** | | boolean optional | In Data ONTAP 7-Mode, default value is false. Modify the etc/exports file to delete the rules permanently. CAUTION: If 'all-pathnames' and 'persistent' are both true, all exports are removed permanently. In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned. |
| **verbose** | | boolean optional | Return a verbose output of what occurred. If there is an error after deleting only a few rules, 'deleted-pathnames' will return which rules were deleted. Default value is false. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **deleted-pathnames** | | pathname-info[] optional | In Data ONTAP 7-Mode, this will return the list of pathnames deleted from the exports table in memory. Only returned if verbose option is set. In Data ONTAP Cluster-Mode, this will return the list of pathnames unexported. |
| **unexported-pathnames** | | pathname-info[] optional | In Data ONTAP 7-Mode, this will return the list of pathnames deleted from the exports file. Only returned if verbose and persistent options are set. In Data ONTAP Cluster-Mode, this will return the list of pathnames unexported. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-fence-disable

[top]

Disables fencing to the given exports for the given entry. This means that the entry will have write permission to the exports. The rule changes take effect immediately. Set the persistent option to true to save the rule in the /etc/exports file and keep the option persistent upon loading or reboot.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **all-pathnames** | | boolean optional | Default value is false. Set to true to unfence all rules. 'fenced-paths' option must be left empty if this option is true. |
| **fenced-hosts** | | exports-hostname-info[] | An array of hostnames which are to be fenced off. |

| | | | |
|---|---|---|---|
| **fenced-paths** | | pathname-info[] optional | An array of paths which are to be fenced off. |
| **persistent** | | boolean optional | Default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) If false, only change the exports in memory. |
| **remove-locks** | | boolean optional | Default value is false. Set to true to reclaim locks of the specified fenced-hosts. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-fence-enable

[top]

Enables fencing to the given exports for the given entry. This means that the entry will not have write permission to the exports. The rule changes take effect immediately. Set the persistent option to true to save the rule in the /etc/exports file and keep the option persistent upon loading or reboot.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **all-pathnames** | | boolean optional | Default value is false. Set to true to fence all rules. 'fenced-paths' option must be left empty if this option is true. |
| **fenced-hosts** | | exports-hostname-info[] | An array of hostnames which are to be fenced off. |
| **fenced-paths** | | pathname-info[] optional | An array of paths which are to be fenced off. |
| **persistent** | | boolean optional | Default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) If false, only change the exports in memory. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-flush-cache

[top]

For the given path, renew or flush the access cache.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **pathname** | | string optional | Pathname to flush. If this input is not provided, all of the paths in the exports table are flushed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-list-rules

[top]

Returns the export rules that were configured with a single security flavor. If a pathname is specified, the rules associated with the export matching that pathname are returned; otherwise, rules for all exports are returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **pathname** | | string optional | The pathname, for whose matching export, the client wants a listing of the associated rules. If this parameter is provided, the persistent parameter is ignored. |
| **persistent** | | boolean optional | In Data ONTAP 7-Mode, default value is false. If true, the export entries that are present in the /etc/exports file are returned; otherwise, those loaded in memory are returned. This parameter is ignored, if the pathname parameter is provided. In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an empty list will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **rules** | | exports-rule-info[] | Array of exports rules loaded in memory or found in the etc/exports file. If pathname parameter is provided, returns the corresponding rules that are loaded in memory. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EEXPORTSINCOMPATIBLE** | |
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-list-rules-2

[top]

Returns the export rules that were configured with more than one security flavor, using the new security info structure. If a pathname is specified, the rules associated with the export matching that pathname are returned; otherwise, rules for all exports are returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **pathname** | | string optional | The pathname, for whose matching export, the client wants a listing of the associated rules. If this parameter is provided, the persistent parameter is ignored. |
| **persistent** | | boolean optional | In Data ONTAP 7-Mode, default value is false. If true, the export entries that are present in the /etc/exports file are returned; otherwise, those loaded in memory are returned. This parameter is ignored, if the pathname parameter is provided. In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an empty list will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **rules** | | exports-rule-info-2[] | Array of exports rules loaded in memory or found in the etc/exports file. If pathname parameter is provided, returns the corresponding rules that are loaded in memory. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-load-exports

[top]

Loads the etc/exports file into memory. Replaces exports rules already residing in memory.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **persistent-only** | | boolean optional | Default value is false. If true, atomically reloads each rule from the exports file and unloads all other rules. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-modify-rule

[top]

Functionally similar to append with the following caveats. In Data ONTAP 7-Mode, returns an error if the rule does not exist. In Data ONTAP Cluster-Mode, returns an error if the export policy associated with the path doesn't contain any rules. Only works for one rule at a time.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **create-multi-clientmatch** | | boolean optional | If true, the export rules are created using multiple clientmatches per rule to minimize the number of export rules created. If false, each export rule contains a single clientmatch string. Default value is true. |
| **persistent** | | boolean | In Data ONTAP 7-Mode, default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned. |
| **rule** | | exports-rule-info | The rule to modify. In Data ONTAP 7-mode, returns an error if a previous rule with the same pathname is not already loaded into memory. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ENOENT** | |
| **EINVAL** | |

| Vfiler-enabled |
|---|
| **Yes** |

# nfs-exportfs-modify-rule-2

[top]

Functionally similar to append-2 with the following caveats. In Data ONTAP 7-Mode, returns an error if the rule does not exist. In Data ONTAP Cluster-Mode, returns an error if the export policy associated with the path doesn't contain any rules. Only works for one rule at a time.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **create-multi-clientmatch** | | boolean optional | If true, the export rules are created using multiple clientmatches per rule to minimize the number of export rules created. If false, each export rule contains a single clientmatch string. Default value is true. |
| **persistent** | | boolean | In Data ONTAP 7-Mode, default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned. |
| **rule** | | exports-rule-info-2 | The rule to modify. In Data ONTAP 7-mode, returns an error if a previous rule with the same pathname is not already loaded into memory. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ENOENT** | |
| **EINVAL** | |

| Vfiler-enabled |
|---|
| **Yes** |

## nfs-exportfs-storage-path

[top]

For the given path, determine the actual storage path. Returns an error if the path does not exist.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **pathname** | | string | Virtual pathname which has a rule associated with an actual pathname. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **actual-pathname** | | string | True path name on the filer, which uses a virtual path for interfacing with the NFS. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

## nfs-get-supported-sec-flavors

[top]

Returns a list of currently supported security flavors. Hosts with permmisions and connecting via the proper security flavor have access to directories on the filer. Default security flavor for all exports is "sys".

| Output Name | Range | Type | Description |
|---|---|---|---|
| **sec-flavor** | | sec-flavor-info[] | List of possible security flavors NFS supports. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| |

| License |
| --- |
| nfs |

# nfs-monitor-add

[top]

starts monitoring the specified hosts for NFS lock recovery purposes. The specified hosts are added to the list of of clients that will be notified of lock recovery in the event of an NFS server crash/reboot. For more information, see the sm_mon(1a) manual page.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| hosts | | hostaddr[] | an array of hosts that are to be monitored. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| nfs |

# nfs-monitor-list

[top]

Lists the hosts that are currently being monitored by the NFS status monitor.

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| hosts | | hostaddr[] | an array of hosts that are currently being monitored. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| nfs |

# nfs-monitor-reclaim

[top]

reclaims the NFS locks for the specified client hosts. If no hosts are specified, then all the clients locks are removed and are notified about lock recovery, as if an NFS server crash/reboot had happened. If any hosts are specified, then only those client hosts locks are reclaimed For more information, see the sm_mon(1a) manual page.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |

| | | | |
|---|---|---|---|
| **hosts** | | hostaddr[]<br>optional | hosts whose locks have to be reclaimed. If no hosts are specified, then all the clients locks are reclaimed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-monitor-remove

[top]

Starts unmonitoring the specified hosts for NFS lock recovery purposes. The specified hosts are removed from the list of clients that will be notified of lock recovery in the event of an NFS server crash/reboot. For more information, see the sm_mon(1a) manual page.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hosts** | | hostaddr[] | an array of hosts that are to be unmonitored. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-monitor-remove-locks

[top]

removes the NFS locks of a specfied process of a specified client host.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **owners** | | owner-info[] | List of owners whose locks have to be deleted. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-service-create

[top]

Create a new NFS configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allow-idle-connection-timeout** | | boolean optional | Are Idle NFS Connections Supported |
| **auth-sys-extended-groups** | | boolean optional | If 'true', auxillary groups up to 'extended-groups-limit' are fetched from the name service rather than the RPC header for AUTH_SYS. Default value is 'false'. |
| **cached-cred-harvest-timeout** | **[60000..604800000]** | integer optional | Harvest timeout (in msecs) for a Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms. |
| **cached-cred-negative-ttl** | **[60000..604800000]** | integer optional | Time To Live Value (in msecs) of a Negative Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 7200000 ms. |
| **cached-cred-positive-ttl** | **[60000..604800000]** | integer optional | Time To Live Value (in msecs) of a Positive Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms. |
| **cached-transient-err-ttl** | **[30000..300000]** | integer optional | Time To Live Value (in msecs) of a Cached Entry for a Transient Error. The range is 30000 ms to 300000 ms. The default is 30000 ms. |
| **chown-mode** | | nfschownmode optional | Vserver Change Ownership Mode. Possible values are 'ignore', 'fail', 'use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. Possible values:<br>• "restricted" ,<br>• "unrestricted" ,<br>• "use_export_policy" |
| **default-windows-group** | | string optional | The default windows group for CIFS access. |
| **default-windows-user** | | string optional | The default windows user for CIFS access. |
| **enable-ejukebox** | | boolean optional | If 'true', then the NFS server will send EJUKEBOX error on server delays. |
| **extended-groups-limit** | **[32..1024]** | integer optional | Maximum auxillary groups supported over AUTH_SYS and RPCSEC_GSS. This value always applies for RPCSEC_GSS and applies to AUTH_SYS only when 'auth-sys-extended-groups' is set to 'enabled'. Range is 32 to 1024. Default value is 32. |
| | | | Number of I/O operations on a file to be |

| | | | |
|---|---|---|---|
| **file-session-io-grouping-count** | **[1000..20000]** | integer<br>optional | grouped and considered as one session for event generation applications, such as FPolicy. The range is 1000 to 20000. The default is 5000. |
| **file-session-io-grouping-duration** | **[60..600]** | integer<br>optional | The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy. The range is 60 seconds to 600 seconds. The default is 120s. |
| **hadoop-allow-non-root-mount** | | boolean<br>optional | Whether to allow non-root user doing MOUNT operations from hadoop connector though -mount-rootonly option is enabled. The default value is enabled. |
| **idle-connection-timeout** | **[120..86400]** | integer<br>optional | Idle Connection Timeout Value (in seconds) |
| **ignore-nt-acl-for-root** | | boolean<br>optional | If 'true', then the Vserver allows the 'root' user to ignore the NT ACLs Check. Default value is 'false'. |
| **is-checksum-enabled-for-replay-cache** | | boolean<br>optional | Use Checksum for Replay-Cache, in order to identify invalid retransmitted requests. |
| **is-mount-rootonly-enabled** | | boolean<br>optional | If 'true', then the vserver allows MOUNT protocol calls only from privileged ports (port numbers less than 1024). Default value is 'true'. |
| **is-netgroup-dns-domain-search** | | boolean<br>optional | If 'true', then the Vserver allows for searching various DNS domains during netgroup lookup. Default value is 'true'. |
| **is-nfs-access-enabled** | | boolean<br>optional | If 'true',then NFS server access is enabled. Default value is 'true'. |
| **is-nfs-rootonly-enabled** | | boolean<br>optional | If 'true', then the vserver allows NFS protocol calls only from privileged ports (port numbers less than 1024). Default value is 'false'. |
| **is-nfsv2-enabled** | | boolean<br>optional | Starting Data ONTAP 8.2, NFS v2 is no longer supported. Default value is 'false'. |
| **is-nfsv3-64bit-identifiers-enabled** | | boolean<br>optional | If 'true', then NFSv3 clients see 64-bit values for FSID and File Identifiers. Default value is 'false'. |
| **is-nfsv3-connection-drop-enabled** | | boolean<br>optional | If 'true', then connection is dropped when an NFSv3 request is dropped. Default value is 'true'. |
| **is-nfsv3-enabled** | | boolean<br>optional | If 'true', then NFS version 3 is enabled. Default value is 'true'. |
| **is-nfsv3-fsid-change-enabled** | | boolean<br>optional | If 'true', then NFSv3 clients see change in FSID as they traverse filesystems. Default value is 'true'. |
| **is-nfsv4-64bit-identifiers-enabled** | | boolean<br>optional | If 'true', then NFSv4.x clients see 64-bit values for FSID and File Identifiers. Default value is 'true'. |
| **is-nfsv4-fsid-change-enabled** | | boolean<br>optional | If 'true', then clients see change in FSID as NFSv4 clients traverse filesystems. Default value is 'true'. |
| **is-nfsv4-** | | boolean | If 'true', then NFSv4 support for Numeric |

| | | | |
|---|---|---|---|
| **numeric-ids-enabled** | | optional | Owner IDs is enabled. Default value is 'true'. |
| **is-nfsv40-acl-enabled** | | boolean optional | If 'true', then NFSv4.0 ACL feature is enabled. Default value is 'false'. |
| **is-nfsv40-enabled** | | boolean optional | If 'true', then NFS version 4.0 is enabled. Default value is 'false'. |
| **is-nfsv40-migration-enabled** | | boolean optional | If 'true', then NFSv4.0 Migration feature is enabled. Default value is 'false'. |
| **is-nfsv40-read-delegation-enabled** | | boolean optional | If 'true', NFSv4.0 read delegation feature is enabled. Default value is 'false'. |
| **is-nfsv40-referrals-enabled** | | boolean optional | If 'true', then NFSv4.0 Referrals feature is enabled. Default value is 'false'. |
| **is-nfsv40-req-open-confirm-enabled** | | boolean optional | If 'true', then the server will require an OPEN_CONFIRM operation for all NFSv4.0 clients. Default value is 'false'. |
| **is-nfsv40-write-delegation-enabled** | | boolean optional | If 'true', NFSv4.0 write delegation feature is enabled. Default value is 'false'. |
| **is-nfsv41-acl-enabled** | | boolean optional | If 'true', then NFSv4.1 ACL feature is enabled. Default value is 'false'. |
| **is-nfsv41-acl-preserve-enabled** | | boolean optional | If 'true', the NFSv4 server will preserve and modify ACL when chmod is done. Default value is 'true'. This is applicable to all NFSv4.x instances. |
| **is-nfsv41-enabled** | | boolean optional | If 'true', then NFS version 4.1 is enabled. Default value is 'false'. |
| **is-nfsv41-migration-enabled** | | boolean optional | If 'true', then NFSv4.1 Migration feature is enabled. Default value is 'false'. |
| **is-nfsv41-pnfs-enabled** | | boolean optional | If 'true', then Parallel NFS support for NFS version 4.1 is enabled. Default value is 'true'. |
| **is-nfsv41-read-delegation-enabled** | | boolean optional | If 'true', NFSv4.1 read delegation feature is enabled. Default value is 'false'. |
| **is-nfsv41-referrals-enabled** | | boolean optional | If 'true', then NFSv4.1 Referrals feature is enabled. Default value is 'false'. |
| **is-nfsv41-state-protection-enabled** | | boolean optional | If 'true', then NFSv4.1 State Protection is enabled. Default value is 'true'. |
| **is-nfsv41-trunking-enabled** | | boolean optional | If 'true', then NFS version 4.1 Trunking feature is enabled. Default value is 'false'. |
| **is-nfsv41-write-delegation-enabled** | | boolean optional | If 'true', NFSv4.1 write delegation feature is enabled. Default value is 'false'. |
| **is-nfsv42-seclabel-enabled** | | boolean optional | If 'true', then NFS version 4.2 Security label feature is enabled. Default value is 'false'. |
| **is-nfsv42-sparsefile-ops-enabled** | | boolean optional | If 'true', then NFS version 4.2 Sparse file ops Allocate, Deallocate and Seek are supported. Default value is 'false'. |

| | | | |
|---|---|---|---|
| **is-nfsv42-xattrs-enabled** | | boolean optional | If 'true', then NFS version 4.2 Extended attributes feature is enabled. Default value is 'false'. |
| **is-rdma-enabled** | | boolean optional | If 'true', then enable NFS access over RDMA. Default value is 'true'. |
| **is-restrict-chmod-acl** | | nfsrestrictchmodacl optional | If 'restricted', then the Vserver restricts setting modebits and Acls for non-susperuser. Default value is 'unrestricted'. Possible values:<br>• "unrestricted" ,<br>• "restricted" |
| **is-rquota-enabled** | | boolean optional | If 'true', then rquota is enabled. Default value is 'false'. |
| **is-tcp-enabled** | | boolean optional | If 'true', then enable NFS access over TCP. Default value is 'true'. |
| **is-udp-enabled** | | boolean optional | If 'true', then enable NFS access over UDP. Default value is 'true'. |
| **is-v3-hide-snapshot** | | boolean optional | Hide .snapshot directory under NFSv3 mount point. Default value is disabled. |
| **is-v3-ms-dos-client-enabled** | | boolean optional | If 'true', then the Vserver allows NFSv3 access for Windows clients. Default value is 'true'. |
| **is-validate-qtree-export-enabled** | | boolean optional | If 'true', then the Vserver performs additional validation for qtree. Default value is 'true'. |
| **is-vstorage-enabled** | | boolean optional | If 'true', then enables the usage of vStorage protocol for server side copies, which is mostly used in hypervisors. Default value is 'false'. |
| **map-unknown-uid-to-default-windows-user** | | boolean optional | Map Unknown UID to Default Windows User |
| **mountd-port** | **[0..2^32-1]** | integer optional | Port that NFS mount daemon is listening to. Default value is 635. |
| **name-service-lookup-protocol** | | export-lookup-protos optional | Set the protocol used for name service lookups for exports. Valid inputs are TCP and UDP. Default value is UDP. Possible values:<br>• "tcp" ,<br>• "udp" |
| **netgroup-trust-any-ns-switch-no-match** | | boolean optional | If 'true', then the Vserver will consider a no-match from any one of the netgroup ns-switch sources to be authoritative even though other sources could not be consulted. Default value is 'false'. |
| **nfsv4-acl-max-aces** | **[192..1024]** | integer optional | Maximum Number of ACEs allowed in an ACL. Range is 192 to 1024. Default value is 400. |
| **nfsv4-grace-seconds** | **[0..2^32-1]** | integer optional | NFSv4 Grace timeout value in seconds. Default value is 45 seconds. |
| **nfsv4-id-domain** | | string optional | NFSv4 ID mapping domain. Default value is 'defaultv4iddomain.com'. |
| **nfsv4-lease-** | | integer | NFSv4 Lease timeout value in seconds. |

| | | | |
|---|---|---|---|
| **seconds** | **[0..2^32-1]** | optional | Default value is 30 seconds. |
| **nfsv41-implementation-id-domain** | | string optional | NFSv4.1 Implementation id domain. Default value is 'defaultv41impliddomain.com'. |
| **nfsv41-implementation-id-name** | | string optional | NFSv4.1 Implementation id name. Default value is 'defaultv41implidname'. |
| **nfsv41-implementation-id-time** | | date optional | NFSv4.1 Implementation id time.The number of seconds since January 1, 1970. |
| **nfsv4x-session-num-slots** | **[1..2000]** | integer optional | Number of Slots in the NFSv4.x Session Slot Tables. Default value is 180. |
| **nfsv4x-session-slot-reply-cache-size** | **[512..4096]** | integer optional | Size of the Reply that will be Cached in Each NFSv4.x Session Slot (in bytes). Default value is 640. |
| **nlm-port** | **[0..2^32-1]** | integer optional | Port that network lock manager is listening to. Default value is 4045. |
| **nsm-port** | **[0..2^32-1]** | integer optional | Port that network status monitor is listening to. Default value is 4046. |
| **ntacl-display-permissive-perms** | | boolean optional | This optional parameter controls the permissions that are displayed to NFS clients on a file or directory that has an NT ACL set. If 'true', the displayed permissions are based on the maximum access granted by the NT ACL to any user. When false, the displayed permissions are based on the minimum access granted by the NT ACL to any user. Default value is 'false'. |
| **ntfs-unix-security-ops** | | string optional | Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail','use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. |
| **permitted-enc-types** | | string[] optional | List of permitted encryption types for Kerberos over NFS. Default values are aes-288, aes-256. Valid inputs are des, des-3, aes-128, and aes-256. |
| **return-record** | | boolean optional | If set to true, returns the NFS Server on successful creation. Default: false |
| **rpcsec-ctx-high** | **[0..2^32-1]** | integer optional | High water mark for the RPCSEC_GSS Context Cache. Default value is 0. |
| **rpcsec-ctx-idle** | **[0..2^32-1]** | integer optional | Time in seconds before an idle entry in RPCSEC_GSS context cache is deleted. Default value is 0. |
| **rquotad-port** | **[0..2^32-1]** | integer optional | Port that NFS quota daemon is listening to. Default value is 4049. |
| **showmount** | | boolean optional | If 'true', then the Vserver allows showmount. Default value is 'enabled'. |
| **showmount-rootonly** | | boolean optional | Whether to provide root path as showmount state when -showmount parameter is disabled. The default value is disabled. |
| **skip-root-** | | boolean | If 'true', then permission check will be avoided for NFS Write requests from |

| | | | |
|---|---|---|---|
| **owner-write-perm-check** | | optional | root/owner. For copying read-only files, this must be true. Default value is 'false'. |
| **tcp-max-xfer-size** | **[8192..1048576]** | integer optional | TCP Maximum Transfer Size (bytes). The default value is 65536 |
| **udp-max-xfer-size** | **[8192..57344]** | integer optional | UDP Maximum Transfer Size (bytes). The default value is 32768. |
| **v3-search-unconverted-filename** | | boolean optional | Whether to continue the search as an unconverted name while doing lookup in a directory. Default value is disabled. |
| **v4-inherited-acl-preserve** | | boolean optional | Whether client specified mode bits should be ignored and inherited NFSv4 ACL should be preserved during creation of file or directory. Default value is disabled. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | nfs-info optional | The NFS Server created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nfs-service-destroy

[top]

Delete an NFS configuration.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nfs-service-get

[top]

Get the NFS server configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nfs-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **attributes** | | nfs-info | The attributes of the NFS Server. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# nfs-service-get-create-defaults

[top]

Obtain the default values for NFS server configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | nfs-info optional | Optionally specify the value for attributes if available. The default values for some attributes may depend on the values specified for some other attribute. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **defaults** | | nfs-info | The default attributes for the NFS Server. |

# nfs-service-get-iter

[top]

Iterate over the list of NFS servers.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nfs-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nfs-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NFS Server object. All NFS Server objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nfs-info[] optional | The list of attributes of NFS Server objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more NFS Server objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| | |
|---|---|
| | |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

# nfs-service-modify

[top]

Modify an NFS configuration. If no values are given, the NFS configuration is not modified.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| allow-idle-connection-timeout | | boolean optional | Are Idle NFS Connections Supported |
| auth-sys-extended-groups | | boolean optional | If 'true', auxillary groups up to 'extended-groups-limit' are fetched from the name service rather than the RPC header for AUTH_SYS. Default value is 'false'. |
| cached-cred-harvest-timeout | [60000..604800000] | integer optional | Harvest timeout (in msecs) for a Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms. |
| cached-cred-negative-ttl | [60000..604800000] | integer optional | Time To Live Value (in msecs) of a Negative Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 7200000 ms. |
| cached-cred-positive-ttl | [60000..604800000] | integer optional | Time To Live Value (in msecs) of a Positive Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms. |
| cached-transient-err-ttl | [30000..300000] | integer optional | Time To Live Value (in msecs) of a Cached Entry for a Transient Error. The range is 30000 ms to 300000 ms. The default is 30000 ms. |
| chown-mode | | nfschownmode optional | Vserver Change Ownership Mode. Possible values are 'ignore', 'fail', 'use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. Possible values:<br>• "restricted" ,<br>• "unrestricted" ,<br>• "use_export_policy" |
| default-windows-group | | string optional | The default windows group for CIFS access. |
| default-windows-user | | string optional | The default windows user for CIFS access. |
| enable-ejukebox | | boolean optional | If 'true', then the NFS server will send EJUKEBOX error on server delays. |
| extended-groups-limit | [32..1024] | integer optional | Maximum auxillary groups supported over AUTH_SYS and RPCSEC_GSS. This value always applies for RPCSEC_GSS and applies to AUTH_SYS only when 'auth-sys-extended-groups' is set to |

| | | | |
|---|---|---|---|
| | | | 'enabled'. Range is 32 to 1024. Default value is 32. |
| **file-session-io-grouping-count** | **[1000..20000]** | integer optional | Number of I/O operations on a file to be grouped and considered as one session for event generation applications, such as FPolicy. The range is 1000 to 20000. The default is 5000. |
| **file-session-io-grouping-duration** | **[60..600]** | integer optional | The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy. The range is 60 seconds to 600 seconds. The default is 120s. |
| **hadoop-allow-non-root-mount** | | boolean optional | Whether to allow non-root user doing MOUNT operations from hadoop connector though -mount-rootonly option is enabled. The default value is enabled. |
| **idle-connection-timeout** | **[120..86400]** | integer optional | Idle Connection Timeout Value (in seconds) |
| **ignore-nt-acl-for-root** | | boolean optional | If 'true', then the Vserver allows the 'root' user to ignore the NT ACLs Check. Default value is 'false'. |
| **is-checksum-enabled-for-replay-cache** | | boolean optional | Use Checksum for Replay-Cache, in order to identify invalid retransmitted requests. |
| **is-mount-rootonly-enabled** | | boolean optional | If 'true', then the vserver allows MOUNT protocol calls only from privileged ports (port numbers less than 1024). Default value is 'true'. |
| **is-netgroup-dns-domain-search** | | boolean optional | If 'true', then the Vserver allows for searching various DNS domains during netgroup lookup. Default value is 'true'. |
| **is-nfs-access-enabled** | | boolean optional | If 'true',then NFS server access is enabled. Default value is 'true'. |
| **is-nfs-rootonly-enabled** | | boolean optional | If 'true', then the vserver allows NFS protocol calls only from privileged ports (port numbers less than 1024). Default value is 'false'. |
| **is-nfsv2-enabled** | | boolean optional | Starting Data ONTAP 8.2, NFS v2 is no longer supported. Default value is 'false'. |
| **is-nfsv3-64bit-identifiers-enabled** | | boolean optional | If 'true', then NFSv3 clients see 64-bit values for FSID and File Identifiers. Default value is 'false'. |
| **is-nfsv3-connection-drop-enabled** | | boolean optional | If 'true', then connection is dropped when an NFSv3 request is dropped. Default value is 'true'. |
| **is-nfsv3-enabled** | | boolean optional | If 'true', then NFS version 3 is enabled. Default value is 'true'. |
| **is-nfsv3-fsid-change-enabled** | | boolean optional | If 'true', then NFSv3 clients see change in FSID as they traverse filesystems. Default value is 'true'. |
| **is-nfsv4-64bit-identifiers-enabled** | | boolean optional | If 'true', then NFSv4.x clients see 64-bit values for FSID and File Identifiers. Default value is 'true'. |
| **is-nfsv4-fsid-** | | boolean | If 'true', then clients see change in FSID |

| | | | |
|---|---|---|---|
| **change-enabled** | | optional | as NFSv4 clients traverse filesystems. Default value is 'true'. |
| **is-nfsv4-numeric-ids-enabled** | | boolean optional | If 'true', then NFSv4 support for Numeric Owner IDs is enabled. Default value is 'true'. |
| **is-nfsv40-acl-enabled** | | boolean optional | If 'true', then NFSv4.0 ACL feature is enabled. Default value is 'false'. |
| **is-nfsv40-enabled** | | boolean optional | If 'true', then NFS version 4.0 is enabled. Default value is 'false'. |
| **is-nfsv40-migration-enabled** | | boolean optional | If 'true', then NFSv4.0 Migration feature is enabled. Default value is 'false'. |
| **is-nfsv40-read-delegation-enabled** | | boolean optional | If 'true', NFSv4.0 read delegation feature is enabled. Default value is 'false'. |
| **is-nfsv40-referrals-enabled** | | boolean optional | If 'true', then NFSv4.0 Referrals feature is enabled. Default value is 'false'. |
| **is-nfsv40-req-open-confirm-enabled** | | boolean optional | If 'true', then the server will require an OPEN_CONFIRM operation for all NFSv4.0 clients. Default value is 'false'. |
| **is-nfsv40-write-delegation-enabled** | | boolean optional | If 'true', NFSv4.0 write delegation feature is enabled. Default value is 'false'. |
| **is-nfsv41-acl-enabled** | | boolean optional | If 'true', then NFSv4.1 ACL feature is enabled. Default value is 'false'. |
| **is-nfsv41-acl-preserve-enabled** | | boolean optional | If 'true', the NFSv4 server will preserve and modify ACL when chmod is done. Default value is 'true'. This is applicable to all NFSv4.x instances. |
| **is-nfsv41-enabled** | | boolean optional | If 'true', then NFS version 4.1 is enabled. Default value is 'false'. |
| **is-nfsv41-migration-enabled** | | boolean optional | If 'true', then NFSv4.1 Migration feature is enabled. Default value is 'false'. |
| **is-nfsv41-pnfs-enabled** | | boolean optional | If 'true', then Parallel NFS support for NFS version 4.1 is enabled. Default value is 'true'. |
| **is-nfsv41-read-delegation-enabled** | | boolean optional | If 'true', NFSv4.1 read delegation feature is enabled. Default value is 'false'. |
| **is-nfsv41-referrals-enabled** | | boolean optional | If 'true', then NFSv4.1 Referrals feature is enabled. Default value is 'false'. |
| **is-nfsv41-state-protection-enabled** | | boolean optional | If 'true', then NFSv4.1 State Protection is enabled. Default value is 'true'. |
| **is-nfsv41-trunking-enabled** | | boolean optional | If 'true', then NFS version 4.1 Trunking feature is enabled. Default value is 'false'. |
| **is-nfsv41-write-delegation-enabled** | | boolean optional | If 'true', NFSv4.1 write delegation feature is enabled. Default value is 'false'. |
| **is-nfsv42-seclabel-enabled** | | boolean optional | If 'true', then NFS version 4.2 Security label feature is enabled. Default value is 'false'. |

| | | | |
|---|---|---|---|
| **is-nfsv42-sparsefile-ops-enabled** | | boolean optional | If 'true', then NFS version 4.2 Sparse file ops Allocate, Deallocate and Seek are supported. Default value is 'false'. |
| **is-nfsv42-xattrs-enabled** | | boolean optional | If 'true', then NFS version 4.2 Extended attributes feature is enabled. Default value is 'false'. |
| **is-rdma-enabled** | | boolean optional | If 'true', then enable NFS access over RDMA. Default value is 'true'. |
| **is-restrict-chmod-acl** | | nfsrestrictchmodacl optional | If 'restricted', then the Vserver restricts setting modebits and Acls for non-susperuser. Default value is 'unrestricted'. Possible values:<br>• "unrestricted" ,<br>• "restricted" |
| **is-rquota-enabled** | | boolean optional | If 'true', then rquota is enabled. Default value is 'false'. |
| **is-tcp-enabled** | | boolean optional | If 'true', then enable NFS access over TCP. Default value is 'true'. |
| **is-udp-enabled** | | boolean optional | If 'true', then enable NFS access over UDP. Default value is 'true'. |
| **is-v3-hide-snapshot** | | boolean optional | Hide .snapshot directory under NFSv3 mount point. Default value is disabled. |
| **is-v3-ms-dos-client-enabled** | | boolean optional | If 'true', then the Vserver allows NFSv3 access for Windows clients. Default value is 'true'. |
| **is-validate-qtree-export-enabled** | | boolean optional | If 'true', then the Vserver performs additional validation for qtree. Default value is 'true'. |
| **is-vstorage-enabled** | | boolean optional | If 'true', then enables the usage of vStorage protocol for server side copies, which is mostly used in hypervisors. Default value is 'false'. |
| **map-unknown-uid-to-default-windows-user** | | boolean optional | Map Unknown UID to Default Windows User |
| **mountd-port** | **[0..2^32-1]** | integer optional | Port that NFS mount daemon is listening to. Default value is 635. |
| **name-service-lookup-protocol** | | export-lookup-protos optional | Set the protocol used for name service lookups for exports. Valid inputs are TCP and UDP. Default value is UDP. Possible values:<br>• "tcp" ,<br>• "udp" |
| **netgroup-trust-any-ns-switch-no-match** | | boolean optional | If 'true', then the Vserver will consider a no-match from any one of the netgroup ns-switch sources to be authoritative even though other sources could not be consulted. Default value is 'false'. |
| **nfsv4-acl-max-aces** | **[192..1024]** | integer optional | Maximum Number of ACEs allowed in an ACL. Range is 192 to 1024. Default value is 400. |
| **nfsv4-grace-seconds** | **[0..2^32-1]** | integer optional | NFSv4 Grace timeout value in seconds. Default value is 45 seconds. |

| | | | |
|---|---|---|---|
| **nfsv4-id-domain** | | string<br>optional | NFSv4 ID mapping domain. Default value is 'defaultv4iddomain.com'. |
| **nfsv4-lease-seconds** | **[0..2^32-1]** | integer<br>optional | NFSv4 Lease timeout value in seconds. Default value is 30 seconds. |
| **nfsv41-implementation-id-domain** | | string<br>optional | NFSv4.1 Implementation id domain. Default value is 'defaultv41impliddomain.com'. |
| **nfsv41-implementation-id-name** | | string<br>optional | NFSv4.1 Implementation id name. Default value is 'defaultv41implidname'. |
| **nfsv41-implementation-id-time** | | date<br>optional | NFSv4.1 Implementation id time.The number of seconds since January 1, 1970. |
| **nfsv4x-session-num-slots** | **[1..2000]** | integer<br>optional | Number of Slots in the NFSv4.x Session Slot Tables. Default value is 180. |
| **nfsv4x-session-slot-reply-cache-size** | **[512..4096]** | integer<br>optional | Size of the Reply that will be Cached in Each NFSv4.x Session Slot (in bytes). Default value is 640. |
| **nlm-port** | **[0..2^32-1]** | integer<br>optional | Port that network lock manager is listening to. Default value is 4045. |
| **nsm-port** | **[0..2^32-1]** | integer<br>optional | Port that network status monitor is listening to. Default value is 4046. |
| **ntacl-display-permissive-perms** | | boolean<br>optional | This optional parameter controls the permissions that are displayed to NFS clients on a file or directory that has an NT ACL set. If 'true', the displayed permissions are based on the maximum access granted by the NT ACL to any user. When false, the displayed permissions are based on the minimum access granted by the NT ACL to any user. Default value is 'false'. |
| **ntfs-unix-security-ops** | | string<br>optional | Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail','use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. |
| **permitted-enc-types** | | string[]<br>optional | List of permitted encryption types for Kerberos over NFS. Default values are aes-288, aes-256. Valid inputs are des, des-3, aes-128, and aes-256. |
| **rpcsec-ctx-high** | **[0..2^32-1]** | integer<br>optional | High water mark for the RPCSEC_GSS Context Cache. Default value is 0. |
| **rpcsec-ctx-idle** | **[0..2^32-1]** | integer<br>optional | Time in seconds before an idle entry in RPCSEC_GSS context cache is deleted. Default value is 0. |
| **rquotad-port** | **[0..2^32-1]** | integer<br>optional | Port that NFS quota daemon is listening to. Default value is 4049. |
| **showmount** | | boolean<br>optional | If 'true', then the Vserver allows showmount. Default value is 'enabled'. |
| **showmount-rootonly** | | boolean<br>optional | Whether to provide root path as showmount state when -showmount parameter is disabled. The default value is disabled. |
| **skip-root-** | | | If 'true', then permission check will be |

| | | | |
|---|---|---|---|
| **owner-write-perm-check** | | boolean optional | avoided for NFS Write requests from root/owner. For copying read-only files, this must be true. Default value is 'false'. |
| **tcp-max-xfer-size** | **[8192..1048576]** | integer optional | TCP Maximum Transfer Size (bytes). The default value is 65536 |
| **udp-max-xfer-size** | **[8192..57344]** | integer optional | UDP Maximum Transfer Size (bytes). The default value is 32768. |
| **v3-search-unconverted-filename** | | boolean optional | Whether to continue the search as an unconverted name while doing lookup in a directory. Default value is disabled. |
| **v4-inherited-acl-preserve** | | boolean optional | Whether client specified mode bits should be ignored and inherited NFSv4 ACL should be preserved during creation of file or directory. Default value is disabled. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nfs-stats-get-client-stats

[top]

Collects NFS statistics for a specified client

| Input Name | Range | Type | Description |
|---|---|---|---|
| **host** | | string | Hostname or IP address of client |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **client-info** | | string | Hostname or IP address of client |
| **nfs-stats** | | nfs-stats-info | detailed statistics for each NFS operation |
| **rpc-stats** | | rpc-stats-info | detailed statistics for RPC operations |
| **tcp-flowcontrol-stats** | | tcp-flowcontrol-stats-info | detailed statistics for TCP flowcontrol |

| Errno | Description |
|---|---|
| **ENFS_CLIENT_STATS_NOT_ENABLED** | |
| **ENOACTIVECLIENTS** | |
| **EHOSTNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

[top]

# nfs-stats-top-clients-list-iter-end

Terminate NFS client statistics iteration and cleanup any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from a previous nfs-stats-top-clients-list-iter-start |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-stats-top-clients-list-iter-next

[top]

Continues the nfs-stats-top-clients-list-iter-start iteration through the top NFS clients, ordered by total NFS operations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maximum** | | integer | The maximum number of entries to retrieve. Range : [0..2^32-1]. |
| **tag** | | string | Tag from a previous nfs-stats-top-iter-start |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **nfs-top** | | nfs-top-info[] | An array, one entry per nfs top. |
| **records** | | integer | This tells you how many records are being returned from this particular call to nfs-stats-top-client-list-iter-next When this value is 0, you have retrieved everything. Range : [0..2^32-1]. |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-stats-top-clients-list-iter-start

[top]

Starts an iteration through the top NFS clients, ordered by total NFS operations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maxclients** | | integer optional | Specifies the maximum number of top clients to retrieve (the default is 20) Range : [1..2^32-1]. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number which tells you how many items have been saved for future retrieval with nfs-stats-top-clients-list-iter-next Range : [0..2^32-1] |
| **tag** | | string | Tag to be used in subsequent calls to nfs-stats-top-clients-list-iter-next |

| Errno | Description |
|---|---|
| **ENFS_CLIENT_STATS_NOT_ENABLED** | |
| **ECLIENTSTATSVFILER** | |
| **ENOACTIVECLIENTS** | |
| **EAPIERROR** | |
| **EINVALIDINPUTERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-stats-zero-stats

[top]

Set all NFS statistcs to zero

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-status

[top]

Returns the status of the NFS server.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-drained** | | boolean | If true, then the NFS server has been disabled and all NFS messages have been drained. In Data ONTAP Cluster-Mode, there is no way of finding out if the NFS messages have been drained. Hence this field will always be false. |
| **is-enabled** | | boolean | True if NFS server is running. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
|---|

**Yes**

**License**
**nfs**

## Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

## Element definition: **export-lookup-protos**

[top]

TCP|UDP Possible values:

- "tcp" ,
- "udp"

[none]

## Element definition: **exports-hostname-info**

[top]

Structure containing information pertaining to a host.

| Name | Range | Type | Description |
|---|---|---|---|
| **all-hosts** | | boolean optional | Default value is false. If true, enables all hosts to have this rule's access rights. A hostname of 'all-hosts' must exist as the only non-negated element in a hostname array. |
| **name** | | string optional | A hostname can be ONE of the following formats. If 'all-hosts' is true, 'name' must not have a value. machine-name: Alphanumeric string based on DNS. netgroup: Alphanumeric string describing a group of machine names ip: An IP address in dotted decimal format AAA.BBB.CCC.DDD subnet: "[network] subnet [netmask] netmask" ip-subnet: IP/numbits. The IP is a subnet number and the numbits specifies the size of the subnet by the number of leading bits of the netmask. dns: A DNS domain. An Alphanumeric starting with a '.' |
| **negate** | | boolean optional | In Data ONTAP 7-Mode, default is false. If true, the rule applies to every host but this one. Used most commonly when adding a group minus a few hosts. In Data ONTAP Cluster-Mode, negations are not supported. An error will be returned if true. |

## Element definition: **exports-rule-info**

[top]

Information necessary to create a new rule in the etc/exports file or for just adding a rule similar to the

exportfs command. ORDER MATTERS for the hostnames in 'read-only' and 'read-write' privileges. Please see documentation for exportfs command or etc/exports file for complete details.

| Name | Range | Type | Description |
|---|---|---|---|
| **actual-pathname** | | string optional | In Data ONTAP 7-Mode, it must be pathname inside of the filer which is being exported. The default for this is value in 'pathname'. In Data ONTAP Cluster-Mode, this value must be an empty string. |
| **anon** | | string optional | All hosts with this user-id or username have root access to this directory. |
| **nosuid** | | boolean optional | If true, causes the server file system to silently ignore any attempt to enable the setuid or setgid mode bits. Default value is false. |
| **pathname** | | string | In Data ONTAP 7-Mode, it must be directory name or file to export. In Data ONTAP Cluster-Mode the pathname for a volume must be specified using the junction path ("/junction"). The pathname for a qtree must be specified as ("/vol/volname/qtreename0") or ("/junction/qtreename0"). |
| **read-only** | | exports-hostname-info[] optional | An array of hostnames which only have read privileges. |
| **read-write** | | exports-hostname-info[] optional | An array of hostnames which have read and write privileges. Any hostname in read-only must not be in read-write also. By default, if no 'read-only' or 'read-write' hosts are given, then 'read-write' contains a hostname of 'all-hosts'. |
| **root** | | exports-hostname-info[] optional | Array of hostnames which have roots with 'read-write' or 'read-only' privileges. |
| **sec-flavor** | | sec-flavor-info[] optional | List of possible security flavors this rule supports. Default security is "sys". Possible values are:<br>• "none"<br>• "sys"<br>• "krb5"<br>• "krb5i"<br>• "krb5p" |

# Element definition: **exports-rule-info-2**

[top]

Information necessary to create a new rule in the etc/exports file or for just adding a rule similar to the exportfs command.

| Name | Range | Type | Description |
|---|---|---|---|
| **actual-pathname** | | string optional | In Data ONTAP 7-Mode, it must be pathname inside of the filer which is being exported. The default for this is value in 'pathname'. In Data ONTAP Cluster-Mode, this value must be an empty string. |
| **pathname** | | string | In Data ONTAP 7-Mode, it must be directory name or file to export. In Data ONTAP Cluster-Mode the pathname for a volume must be specified using the junction path ("/junction"). The pathname for a qtree must be specified as ("/vol/volname/qtreename0") or ("/junction/qtreename0"). |
| **security-rules** | | security-rule-info[] | Access block information for lists of hosts. |

# Element definition: **hostaddr**

[top]

the individual client hosts. could be a hostname or an IP address.

[none]

# Element definition: **nfs-info**

[top]

Information about NFS server configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **allow-idle-connection-timeout** | | boolean optional | Are Idle NFS Connections Supported Attributes: optional-for-create, modifiable |
| **auth-sys-extended-groups** | | boolean optional | If 'true', auxillary groups up to 'extended-groups-limit' are fetched from the name service rather than the RPC header for AUTH_SYS. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **cached-cred-harvest-timeout** | **[60000..604800000]** | integer optional | Harvest timeout (in msecs) for a Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms. Attributes: optional-for-create, modifiable |
| **cached-cred-negative-ttl** | **[60000..604800000]** | integer optional | Time To Live Value (in msecs) of a Negative Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 7200000 ms. Attributes: optional-for-create, modifiable |
| **cached-cred-positive-ttl** | **[60000..604800000]** | integer optional | Time To Live Value (in msecs) of a Positive Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms. Attributes: optional-for-create, modifiable |
| **cached-transient-err-ttl** | **[30000..300000]** | integer optional | Time To Live Value (in msecs) of a Cached Entry for a Transient Error. The range is 30000 ms to 300000 ms. The default is 30000 ms. Attributes: optional-for-create, modifiable |
| | | | Vserver Change Ownership Mode. Possible values are 'ignore', 'fail', |

| | | | |
|---|---|---|---|
| **chown-mode** | | nfschownmode optional | 'use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. Attributes: optional-for-create, modifiable Possible values:<br>• "restricted" ,<br>• "unrestricted" ,<br>• "use_export_policy" |
| **default-windows-group** | | string optional | The default windows group for CIFS access. Attributes: optional-for-create, modifiable |
| **default-windows-user** | | string optional | The default windows user for CIFS access. Attributes: optional-for-create, modifiable |
| **enable-ejukebox** | | boolean optional | If 'true', then the NFS server will send EJUKEBOX error on server delays. Attributes: optional-for-create, modifiable |
| **extended-groups-limit** | **[32..1024]** | integer optional | Maximum auxillary groups supported over AUTH_SYS and RPCSEC_GSS. This value always applies for RPCSEC_GSS and applies to AUTH_SYS only when 'auth-sys-extended-groups' is set to 'enabled'. Range is 32 to 1024. Default value is 32. Attributes: optional-for-create, modifiable |
| **file-session-io-grouping-count** | **[1000..20000]** | integer optional | Number of I/O operations on a file to be grouped and considered as one session for event generation applications, such as FPolicy. The range is 1000 to 20000. The default is 5000. Attributes: optional-for-create, modifiable |
| **file-session-io-grouping-duration** | **[60..600]** | integer optional | The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy. The range is 60 seconds to 600 seconds. The default is 120s. Attributes: optional-for-create, modifiable |
| **hadoop-allow-non-root-mount** | | boolean optional | Whether to allow non-root user doing MOUNT operations from hadoop connector though -mount-rootonly option is enabled. The default value is enabled. Attributes: optional-for-create, modifiable |
| **idle-connection-timeout** | **[120..86400]** | integer optional | Idle Connection Timeout Value (in seconds) Attributes: optional-for-create, modifiable |
| **ignore-nt-acl-for-root** | | boolean optional | If 'true', then the Vserver allows the 'root' user to ignore the NT ACLs Check. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-checksum-enabled-for-replay-cache** | | boolean optional | Use Checksum for Replay-Cache, in order to identify invalid retransmitted requests. Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **is-mount-rootonly-enabled** | | boolean optional | If 'true', then the vserver allows MOUNT protocol calls only from privileged ports (port numbers less than 1024). Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-netgroup-dns-domain-search** | | boolean optional | If 'true', then the Vserver allows for searching various DNS domains during netgroup lookup. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfs-access-enabled** | | boolean optional | If 'true',then NFS server access is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfs-rootonly-enabled** | | boolean optional | If 'true', then the vserver allows NFS protocol calls only from privileged ports (port numbers less than 1024). Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv2-enabled** | | boolean optional | Starting Data ONTAP 8.2, NFS v2 is no longer supported. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv3-64bit-identifiers-enabled** | | boolean optional | If 'true', then NFSv3 clients see 64-bit values for FSID and File Identifiers. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv3-connection-drop-enabled** | | boolean optional | If 'true', then connection is dropped when an NFSv3 request is dropped. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfsv3-enabled** | | boolean optional | If 'true', then NFS version 3 is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfsv3-fsid-change-enabled** | | boolean optional | If 'true', then NFSv3 clients see change in FSID as they traverse filesystems. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfsv4-64bit-identifiers-enabled** | | boolean optional | If 'true', then NFSv4.x clients see 64-bit values for FSID and File Identifiers. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfsv4-fsid-change-enabled** | | boolean optional | If 'true', then clients see change in FSID as NFSv4 clients traverse filesystems. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfsv4-numeric-ids-enabled** | | boolean optional | If 'true', then NFSv4 support for Numeric Owner IDs is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfsv40-acl-enabled** | | boolean optional | If 'true', then NFSv4.0 ACL feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv40-enabled** | | boolean optional | If 'true', then NFS version 4.0 is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **is-nfsv40-migration-enabled** | | boolean optional | If 'true', then NFSv4.0 Migration feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv40-read-delegation-enabled** | | boolean optional | If 'true', NFSv4.0 read delegation feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv40-referrals-enabled** | | boolean optional | If 'true', then NFSv4.0 Referrals feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv40-req-open-confirm-enabled** | | boolean optional | If 'true', then the server will require an OPEN_CONFIRM operation for all NFSv4.0 clients. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv40-write-delegation-enabled** | | boolean optional | If 'true', NFSv4.0 write delegation feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv41-acl-enabled** | | boolean optional | If 'true', then NFSv4.1 ACL feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv41-acl-preserve-enabled** | | boolean optional | If 'true', the NFSv4 server will preserve and modify ACL when chmod is done. Default value is 'true'. This is applicable to all NFSv4.x instances. Attributes: optional-for-create, modifiable |
| **is-nfsv41-enabled** | | boolean optional | If 'true', then NFS version 4.1 is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv41-migration-enabled** | | boolean optional | If 'true', then NFSv4.1 Migration feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv41-pnfs-enabled** | | boolean optional | If 'true', then Parallel NFS support for NFS version 4.1 is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfsv41-read-delegation-enabled** | | boolean optional | If 'true', NFSv4.1 read delegation feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv41-referrals-enabled** | | boolean optional | If 'true', then NFSv4.1 Referrals feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv41-state-protection-enabled** | | boolean optional | If 'true', then NFSv4.1 State Protection is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfsv41-trunking-enabled** | | boolean optional | If 'true', then NFS version 4.1 Trunking feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |

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|---|---|---|---|
| **is-nfsv41-write-delegation-enabled** | | boolean optional | If 'true', NFSv4.1 write delegation feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv42-seclabel-enabled** | | boolean optional | If 'true', then NFS version 4.2 Security label feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv42-sparsefile-ops-enabled** | | boolean optional | If 'true', then NFS version 4.2 Sparse file ops Allocate, Deallocate and Seek are supported. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv42-xattrs-enabled** | | boolean optional | If 'true', then NFS version 4.2 Extended attributes feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-qtree-export-enabled** | | boolean optional | If 'true', then the Vserver allows qtree exports (read-only). Default value is 'false'. Attributes: non-creatable, non-modifiable |
| **is-qtree-qos-enabled** | | boolean optional | If 'true', then the Vserver allows qtree QoS (read-only). Default value is 'false'. Attributes: non-creatable, non-modifiable |
| **is-rdma-enabled** | | boolean optional | If 'true', then enable NFS access over RDMA. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-restrict-chmod-acl** | | nfsrestrictchmodacl optional | If 'restricted', then the Vserver restricts setting modebits and Acls for non-susperuser. Default value is 'unrestricted'. Attributes: optional-for-create, modifiable Possible values:<br>• "unrestricted" ,<br>• "restricted" |
| **is-rquota-enabled** | | boolean optional | If 'true', then rquota is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-tcp-enabled** | | boolean optional | If 'true', then enable NFS access over TCP. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-udp-enabled** | | boolean optional | If 'true', then enable NFS access over UDP. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-v3-hide-snapshot** | | boolean optional | Hide .snapshot directory under NFSv3 mount point. Default value is disabled. Attributes: optional-for-create, modifiable |
| **is-v3-ms-dos-client-enabled** | | boolean optional | If 'true', then the Vserver allows NFSv3 access for Windows clients. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-validate-qtree-export-enabled** | | boolean optional | If 'true', then the Vserver performs additional validation for qtree. Default value is 'true'. Attributes: optional-for- |

| | | | |
|---|---|---|---|
| | | | create, modifiable |
| **is-vstorage-enabled** | | boolean optional | If 'true', then enables the usage of vStorage protocol for server side copies, which is mostly used in hypervisors. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **map-unknown-uid-to-default-windows-user** | | boolean optional | Map Unknown UID to Default Windows User Attributes: optional-for-create, modifiable |
| **mountd-port** | **[0..2^32-1]** | integer optional | Port that NFS mount daemon is listening to. Default value is 635. Attributes: optional-for-create, modifiable |
| **name-service-lookup-protocol** | | export-lookup-protos optional | Set the protocol used for name service lookups for exports. Valid inputs are TCP and UDP. Default value is UDP. Attributes: optional-for-create, modifiable Possible values:<br>• "tcp" ,<br>• "udp" |
| **netgroup-trust-any-ns-switch-no-match** | | boolean optional | If 'true', then the Vserver will consider a no-match from any one of the netgroup ns-switch sources to be authoritative even though other sources could not be consulted. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **nfsv4-acl-max-aces** | **[192..1024]** | integer optional | Maximum Number of ACEs allowed in an ACL. Range is 192 to 1024. Default value is 400. Attributes: optional-for-create, modifiable |
| **nfsv4-grace-seconds** | **[0..2^32-1]** | integer optional | NFSv4 Grace timeout value in seconds. Default value is 45 seconds. Attributes: optional-for-create, modifiable |
| **nfsv4-id-domain** | | string optional | NFSv4 ID mapping domain. Default value is 'defaultv4iddomain.com'. Attributes: optional-for-create, modifiable |
| **nfsv4-lease-seconds** | **[0..2^32-1]** | integer optional | NFSv4 Lease timeout value in seconds. Default value is 30 seconds. Attributes: optional-for-create, modifiable |
| **nfsv41-implementation-id-domain** | | string optional | NFSv4.1 Implementation id domain. Default value is 'defaultv41impliddomain.com'. Attributes: optional-for-create, modifiable |
| **nfsv41-implementation-id-name** | | string optional | NFSv4.1 Implementation id name. Default value is 'defaultv41implidname'. Attributes: optional-for-create, modifiable |
| **nfsv41-implementation-id-time** | | date optional | NFSv4.1 Implementation id time.The number of seconds since January 1, 1970. Attributes: optional-for-create, modifiable |
| **nfsv4x-session-num-slots** | **[1..2000]** | integer optional | Number of Slots in the NFSv4.x Session Slot Tables. Default value is 180. Attributes: optional-for-create, |

| | | | |
|---|---|---|---|
| | | | modifiable |
| **nfsv4x-session-slot-reply-cache-size** | **[512..4096]** | integer optional | Size of the Reply that will be Cached in Each NFSv4.x Session Slot (in bytes). Default value is 640. Attributes: optional-for-create, modifiable |
| **nlm-port** | **[0..2^32-1]** | integer optional | Port that network lock manager is listening to. Default value is 4045. Attributes: optional-for-create, modifiable |
| **nsm-port** | **[0..2^32-1]** | integer optional | Port that network status monitor is listening to. Default value is 4046. Attributes: optional-for-create, modifiable |
| **ntacl-display-permissive-perms** | | boolean optional | This optional parameter controls the permissions that are displayed to NFS clients on a file or directory that has an NT ACL set. If 'true', the displayed permissions are based on the maximum access granted by the NT ACL to any user. When false, the displayed permissions are based on the minimum access granted by the NT ACL to any user. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **ntfs-unix-security-ops** | | string optional | Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail','use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. Attributes: optional-for-create, modifiable |
| **permitted-enc-types** | | string[] optional | List of permitted encryption types for Kerberos over NFS. Default values are aes-288, aes-256. Valid inputs are des, des-3, aes-128, and aes-256. Attributes: optional-for-create, modifiable |
| **rpcsec-ctx-high** | **[0..2^32-1]** | integer optional | High water mark for the RPCSEC_GSS Context Cache. Default value is 0. Attributes: optional-for-create, modifiable |
| **rpcsec-ctx-idle** | **[0..2^32-1]** | integer optional | Time in seconds before an idle entry in RPCSEC_GSS context cache is deleted. Default value is 0. Attributes: optional-for-create, modifiable |
| **rquotad-port** | **[0..2^32-1]** | integer optional | Port that NFS quota daemon is listening to. Default value is 4049. Attributes: optional-for-create, modifiable |
| **showmount** | | boolean optional | If 'true', then the Vserver allows showmount. Default value is 'enabled'. Attributes: optional-for-create, modifiable |
| **showmount-rootonly** | | boolean optional | Whether to provide root path as showmount state when -showmount parameter is disabled. The default value is disabled. Attributes: optional-for-create, modifiable |
| | | | timestamp to indicate whether we want |

| | | | |
|---|---|---|---|
| **showmount-timestamp** | **[0..2^31-1]** | integer optional | to update exports data file or not Attributes: non-creatable, non-modifiable |
| **skip-root-owner-write-perm-check** | | boolean optional | If 'true', then permission check will be avoided for NFS Write requests from root/owner. For copying read-only files, this must be true. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **tcp-max-xfer-size** | **[8192..1048576]** | integer optional | TCP Maximum Transfer Size (bytes). The default value is 65536 Attributes: optional-for-create, modifiable |
| **udp-max-xfer-size** | **[8192..57344]** | integer optional | UDP Maximum Transfer Size (bytes). The default value is 32768. Attributes: optional-for-create, modifiable |
| **v3-search-unconverted-filename** | | boolean optional | Whether to continue the search as an unconverted name while doing lookup in a directory. Default value is disabled. Attributes: optional-for-create, modifiable |
| **v4-inherited-acl-preserve** | | boolean optional | Whether client specified mode bits should be ignored and inherited NFSv4 ACL should be preserved during creation of file or directory. Default value is disabled. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver name Attributes: key, non-creatable, non-modifiable |

# Element definition: **nfs-stats-info**

[top]

structure containing statistics for each NFS version

| Name | Range | Type | Description |
|---|---|---|---|
| **badcalls-total** | | integer | total bad NFS calls Range : [0..2^32-1]. |
| **calls-total** | | integer | total NFS calls Range : [0..2^64-1]. |
| **nfsv2-client-stats** | | nfsv2-client-stats-info | detailed statistics for NFSv2 operations |
| **nfsv3-client-stats** | | nfsv3-client-stats-info | detailed statistics for NFSv3 operations |
| **nfsv4-client-stats** | | nfsv4-client-stats-info | detailed statistics for NFSv4 operations |

# Element definition: **nfs-top-info**

[top]

Information about a single nfs top.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-info** | | string | Client IP address |
| **create-ops** | | integer | The number of nfs CREATE operations Range : [0..2^64-1]. |
| **getattr-ops** | | integer | The number of nfs GETATTR operations Range : [0..2^64-1]. |
| | | | |

| | | | |
|---|---|---|---|
| **lookup-ops** | | integer | The number of nfs LOOKUP operations Range : [0..2^64-1]. |
| **read-ops** | | integer | The number of nfs READ operations Range : [0..2^64-1]. |
| **readdir-ops** | | integer | The number of nfs READDIR and READIDRPLUS operations Range : [0..2^64-1]. |
| **readlink-ops** | | integer | The number of nfs READLINK operations Range : [0..2^64-1]. |
| **remove-ops** | | integer | The number of nfs REMOVE operations Range : [0..2^64-1]. |
| **total-ops** | | integer | The number of nfs operations Range : [0..2^64-1]. |
| **write-ops** | | integer | The number of nfs WRITE operations Range : [0..2^64-1]. |

# Element definition: **nfschownmode**

[top]

restricted|unrestricted|use-export-policy Possible values:

- "restricted" ,
- "unrestricted" ,
- "use_export_policy"

[none]

# Element definition: **nfsrestrictchmodacl**

[top]

unrestricted|restricted Possible values:

- "unrestricted" ,
- "restricted"

[none]

# Element definition: **owner-info**

[top]

Information about the client host and the owner process on the client host whose locks have to be removed.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-host** | | string | client host on which the locks have to be removed. |
| **client-host-pid** | | string | process owner on the above client host whose locks have to be removed. |

# Element definition: **pathname-info**

[top]

Information about a pathname.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | In Data ONTAP 7-Mode, it must be the name of the path, such as "/vol/vol0". In Data ONTAP Cluster-Mode the pathname for a volume must be specified using the junction path ("/junction"). The pathname for a qtree must be specified as ("/vol/volname/qtreename0") or ("/junction/qtreename0"). |

# Element definition: **rpc-stats-info**

[top]

structure containing statistics for RPC operations

| Name | Range | Type | Description |
|---|---|---|---|
| **tcp-info** | | rpc-data-info | detailed statistics for RPC over TCP operations |
| **udp-info** | | rpc-data-info | detailed statistics for RPC over UDP operations |

# Element definition: **sec-flavor-info**

[top]

Sec flavor info

| Name | Range | Type | Description |
|---|---|---|---|
| **flavor** | | string optional | Security_Flavor Attributes: key, non-creatable, non-modifiable |

# Element definition: **tcp-flowcontrol-stats-info**

[top]

structure containing statistics for tcp flowcontrol

| Name | Range | Type | Description |
|---|---|---|---|
| **receive-out-total** | | integer | total number of times output was flow controlled on receive Range : [0..2^32-1]. |
| **receive-total** | | integer | total number of times input was flow controlled on receive Range : [0..2^32-1]. |
| **transmit-out-total** | | integer | total number of times output was flow controlled on transmit Range : [0..2^32-1]. |
| **transmit-total** | | integer | total number of times input was flow controlled on transmit Range : [0..2^32-1]. |

# Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

# Element definition: **export-lookup-protos**

[top]

TCP|UDP Possible values:

- "tcp" ,
- "udp"

[none]

# Element definition: **exports-hostname-info**

[top]

Structure containing information pertaining to a host.

| Name | Range | Type | Description |
|---|---|---|---|
| **all-hosts** | | boolean optional | Default value is false. If true, enables all hosts to have this rule's access rights. A hostname of 'all-hosts' must exist as the only non-negated element in a hostname array. |
| **name** | | string optional | A hostname can be ONE of the following formats. If 'all-hosts' is true, 'name' must not have a value. machine-name: Alphanumeric string based on DNS. netgroup: Alphanumeric string describing a group of machine names ip: An IP address in dotted decimal format AAA.BBB.CCC.DDD subnet: "[network] subnet [netmask] netmask" ip-subnet: IP/numbits. The IP is a subnet number and the numbits specifies the size of the subnet by the number of leading bits of the netmask. dns: A DNS domain. An Alphanumeric starting with a '.' |
| **negate** | | boolean optional | In Data ONTAP 7-Mode, default is false. If true, the rule applies to every host but this one. Used most commonly when adding a group minus a few hosts. In Data ONTAP Cluster-Mode, negations are not supported. An error will be returned if true. |

# Element definition: **nfsv2-client-stats-info**

[top]

structure containing statistics for NFSv2 operations

| Name | Range | Type | Description |
|---|---|---|---|
| **create-ops** | | integer | total 'create' NFSv2 operations Range : [0..2^64-1]. |
| **getattr-ops** | | integer | total 'getattr' NFSv2 operation Range : [0..2^64-1]. |
| **link-ops** | | integer | total 'link' NFSv2 operations Range : [0..2^64-1]. |
| **lookup-ops** | | integer | total 'lookup' NFSv2 operations Range : [0..2^64-1]. |
| **mkdir-ops** | | integer | total 'mkdir' NFSv2 operations Range : [0..2^64-1]. |
| **null-ops** | | integer | total 'null' NFSv2 operations Range : [0..2^64-1]. |
| **read-ops** | | integer | total 'read' NFSv2 operations Range : [0..2^64-1]. |
| **readdir-ops** | | integer | total 'readdir' NFSv2 operations Range : [0..2^64-1]. |
| **readlink-ops** | | integer | total 'readlink' NFSv2 operations Range : [0..2^64-1]. |

| | | | |
|---|---|---|---|
| **remove-ops** | | integer | total 'remove' NFSv2 operations Range : [0..2^64-1]. |
| **rename-ops** | | integer | total 'rename' NFSv2 operations Range : [0..2^64-1]. |
| **rmdir-ops** | | integer | total 'rmdir' NFSv2 operations Range : [0..2^64-1]. |
| **root-ops** | | integer | total 'root' NFSv2 operations Range : [0..2^64-1]. |
| **setattr-ops** | | integer | total 'setattr' NFSv2 operations Range : [0..2^64-1]. |
| **statfs-ops** | | integer | total 'statfs' NFSv2 operations Range : [0..2^64-1]. |
| **symlink-ops** | | integer | total 'symlink' NFSv2 operations Range : [0..2^64-1]. |
| **wrcache-ops** | | integer | total 'wrcache' NFSv2 operations Range : [0..2^64-1]. |
| **write-ops** | | integer | total 'write' NFSv2 operations Range : [0..2^64-1]. |

# Element definition: **nfsv3-client-stats-info**

[top]

structure containing statistics for NFSv3 operations

| Name | Range | Type | Description |
|---|---|---|---|
| **access-ops** | | integer | total 'access' NFSv3 operations Range : [0..2^64-1]. |
| **commit-ops** | | integer | total 'commit' NFSv3 operations Range : [0..2^64-1]. |
| **create-ops** | | integer | total 'create' NFSv3 operations Range : [0..2^64-1]. |
| **fsinfo-ops** | | integer | total 'fsinfo' NFSv3 operations Range : [0..2^64-1]. |
| **fsstat-ops** | | integer | total 'fsstat' NFSv3 operations Range : [0..2^64-1]. |
| **getattr-ops** | | integer | total 'getattr' NFSv3 operations Range : [0..2^64-1]. |
| **link-ops** | | integer | total 'link' NFSv3 operations Range : [0..2^64-1]. |
| **lookup-ops** | | integer | total 'lookup' NFSv3 operations Range : [0..2^64-1]. |
| **mkdir-ops** | | integer | total 'mkdir' NFSv3 operations Range : [0..2^64-1]. |
| **mknod-ops** | | integer | total 'mknod' NFSv3 operations Range : [0..2^64-1]. |
| **null-ops** | | integer | total 'null' NFSv3 operations Range : [0..2^64-1]. |
| **pathconf-ops** | | integer | total 'pathconf' NFSv3 operations Range : [0..2^64-1]. |
| **read-ops** | | integer | total 'read' NFSv3 operations Range : [0..2^64-1]. |
| **readdir-ops** | | integer | total 'readdir' NFSv3 operations Range : [0..2^64-1]. |
| **readdirplus-ops** | | integer | total 'readdirplus' NFSv3 operations Range : [0..2^64-1]. |
| **readlink-ops** | | integer | total 'readlink' NFSv3 operations Range : [0..2^64-1]. |
| **remove-ops** | | integer | total 'remove' NFSv3 operations Range : [0..2^64-1]. |
| **rename-ops** | | integer | total 'rename' NFSv3 operations Range : [0..2^64-1]. |
| **rmdir-ops** | | integer | total 'rmdir' NFSv3 operations Range : [0..2^64-1]. |
| **setattr-ops** | | integer | total 'setattr' NFSv3 operations Range : [0..2^64-1]. |
| **symlink-ops** | | integer | total 'symlink' NFSv3 operations Range : [0..2^64-1]. |
| **write-ops** | | integer | total 'write' NFSv3 operations Range : [0..2^64-1]. |

# Element definition: **nfsv4-client-stats-info**

[top]

structure containing statistics for NFSv4 operations

| Name | Range | Type | Description |
|---|---|---|---|
| | | integer | |

| | | | |
|---|---|---|---|
| **access-ops** | | optional | total 'access' NFSv4 operations Range : [0..2^64-1]. |
| **acls-set-total** | | integer optional | number of ACLs set on files Range : [0..2^32-1]. |
| **badproc2-ops** | | integer optional | total 'badproc2' NFSv4 operations Range : [0..2^64-1]. |
| **close-ops** | | integer optional | total 'close' NFSv4 operations Range : [0..2^64-1]. |
| **commit-ops** | | integer optional | total 'commit' NFSv4 operations Range : [0..2^64-1]. |
| **compound-ops** | | integer optional | total 'compound' NFSv4 operations Range : [0..2^64-1]. |
| **create-ops** | | integer optional | total 'create' NFSv4 operations Range : [0..2^64-1]. |
| **delegpurge** | | integer optional | total 'delegpurge' NFSv4 operations Range : [0..2^64-1]. |
| **delegret-ops** | | integer optional | total 'delegret' NFSv4 operations Range : [0..2^64-1]. |
| **getattr-ops** | | integer optional | total 'getattr' NFSv4 operations Range : [0..2^64-1]. |
| **getfh-ops** | | integer optional | total 'getfh' NFSv4 operations Range : [0..2^64-1]. |
| **link-ops** | | integer optional | total 'link' NFSv4 operations Range : [0..2^64-1]. |
| **lock-ops** | | integer optional | total 'lock' NFSv4 operations Range : [0..2^64-1]. |
| **lockt-ops** | | integer optional | total 'lockt' NFSv4 operations Range : [0..2^64-1]. |
| **locku-ops** | | integer optional | total 'locku' NFSv4 operations Range : [0..2^64-1]. |
| **lookup-ops** | | integer optional | total 'lookup' NFSv4 operations Range : [0..2^64-1]. |
| **lookupp-ops** | | integer optional | total 'lookupp' NFSv4 operations Range : [0..2^64-1]. |
| **no-delegation-total** | | integer optional | total calls where a delegation could not be granted Range : [0..2^32-1]. |
| **null-ops** | | integer optional | total 'null' NFSv4 operations Range : [0..2^64-1]. |
| **nverify-ops** | | integer optional | total 'nverify' NFSv4 operations Range : [0..2^64-1]. |
| **open-confirm-ops** | | integer optional | total 'open_confirm' NFSv4 operations Range : [0..2^64-1]. |
| **open-downgrade-ops** | | integer optional | total 'open_downgrade' NFSv4 operations Range : [0..2^64-1]. |
| **open-ops** | | integer optional | total 'open' NFSv4 operations Range : [0..2^64-1]. |
| **openattr-ops** | | integer optional | total 'openattr' NFSv4 operations Range : [0..2^64-1]. |
| **putfh-ops** | | integer optional | total 'putfh' NFSv4 operations Range : [0..2^64-1]. |
| **putpubfh-ops** | | integer optional | total 'putpubfh' NFSv4 operations Range : [0..2^64-1]. |
| **putrootfh-ops** | | integer optional | total 'putrootfh' NFSv4 operations Range : [0..2^64-1]. |

| | | | |
|---|---|---|---|
| **read-delegation-total** | | integer optional | total calls where a read delegation was granted Range : [0..2^32-1]. |
| **read-ops** | | integer optional | total 'read' NFSv4 operations Range : [0..2^64-1]. |
| **readdir-ops** | | integer optional | total 'readdir' NFSv4 operations Range : [0..2^64-1]. |
| **readlink-ops** | | integer optional | total 'readlink' NFSv4 operations Range : [0..2^64-1]. |
| **remove-ops** | | integer optional | total 'remove' NFSv4 operations Range : [0..2^64-1]. |
| **rename-ops** | | integer optional | total 'rename' NFSv4 operations Range : [0..2^64-1]. |
| **renew-ops** | | integer optional | total 'renew' NFSv4 operations Range : [0..2^64-1]. |
| **restorefh-ops** | | integer optional | total 'restorefh' NFSv4 operations Range : [0..2^64-1]. |
| **rlsowner-ops** | | integer optional | total 'rlsowner' NFSv4 operations Range : [0..2^64-1]. |
| **savefh-ops** | | integer optional | total 'savefh' NFSv4 operations Range : [0..2^64-1]. |
| **secinfo-ops** | | integer optional | total 'secinfo' NFSv4 operations Range : [0..2^64-1]. |
| **setattr-ops** | | integer optional | total 'setattr' NFSv4 operations Range : [0..2^64-1]. |
| **setclntid-cfm-ops** | | integer optional | total 'setclntid_cfm' NFSv4 operations Range : [0..2^64-1]. |
| **setclntid-ops** | | integer optional | total 'setclntid' NFSv4 operations Range : [0..2^64-1]. |
| **verify-ops** | | integer optional | total 'verify' NFSv4 operations Range : [0..2^64-1]. |
| **write-delegation-total** | | integer optional | total calls where a write delegation was granted Range : [0..2^32-1]. |
| **write-ops** | | integer optional | total 'write' NFSv4 operations Range : [0..2^64-1]. |

# Element definition: **rpc-data-info**

[top]

structure containing statisticcs for RPC operations

| Name | Range | Type | Description |
|---|---|---|---|
| **badcalls-total** | | integer | total bad RPC calls Range : [0..2^32-1]. |
| **badlen-total** | | integer | total badlen RPC calls Range : [0..2^32-1]. |
| **calls-total** | | integer | total RPC calls Range : [0..2^64-1]. |
| **nullrecv-total** | | integer | total nullrecv RPC calls Range : [0..2^32-1]. |
| **xdrcall-total** | | integer | total badhdr RPC calls Range : [0..2^32-1]. |

# Element definition: **security-rule-info**

[top]

Information on hostnames and security availability for the hosts. ORDER MATTERS for the hostnames in 'read-only' and 'read-write' privileges. Please see documentation for exportfs command or etc/exports file for complete details.

| Name | Range | Type | Description |
|---|---|---|---|
| **anon** | | string optional | All hosts with this user-id or username have root access to this directory. |
| **nosuid** | | boolean optional | If true, causes the server file system to silently ignore any attempt to enable the setuid or setgid mode bits. Default value is false. |
| **read-only** | | exports-hostname-info[] optional | An array of hostnames which only have read privileges for all the security flavors found in the sec-flavor list. |
| **read-write** | | exports-hostname-info[] optional | An array of hostnames which have read and write privileges for all the security flavors found in the 'sec-flavor list'. Any hostname in 'read-only' must not be in 'read-write' also. By default, if no 'read-only' or 'read-write' hosts are given, then 'read-write' contains a hostname of 'all-hosts'. |
| **root** | | exports-hostname-info[] optional | Array of hostnames which have roots with 'read-write' or 'read-only' privileges. |
| **sec-flavor** | | sec-flavor-info[] optional | List of possible security flavors this rule supports. Default security is "sys". Possible values are:<br>• "none"<br>• "sys"<br>• "krb5"<br>• "krb5i"<br>• "krb5p" |

# Element definition: **exports-hostname-info**

[top]

Structure containing information pertaining to a host.

| Name | Range | Type | Description |
|---|---|---|---|
| **all-hosts** | | boolean optional | Default value is false. If true, enables all hosts to have this rule's access rights. A hostname of 'all-hosts' must exist as the only non-negated element in a hostname array. |
| **name** | | string optional | A hostname can be ONE of the following formats. If 'all-hosts' is true, 'name' must not have a value. machine-name: Alphanumeric string based on DNS. netgroup: Alphanumeric string describing a group of machine names ip: An IP address in dotted decimal format AAA.BBB.CCC.DDD subnet: "[network] subnet [netmask] netmask" ip-subnet: IP/numbits. The IP is a subnet number and the numbits specifies the size of the subnet by the number of leading bits of the netmask. dns: A DNS domain. An Alphanumeric starting with a '.' |
| **negate** | | boolean optional | In Data ONTAP 7-Mode, default is false. If true, the rule applies to every host but this one. Used most commonly when adding a group minus a few hosts. In Data ONTAP Cluster-Mode, negations are not supported. An error will be returned if true. |

# Element definition: **sec-flavor-info**

[top]

Sec flavor info

| Name | Range | Type | Description |
|---|---|---|---|
| **flavor** | | string optional | Security_Flavor Attributes: key, non-creatable, non-modifiable |

# APIs in Category: **nis**


nis-create
nis-destroy
nis-get
nis-get-iter
nis-modify


## nis-create

[top]

Create an NIS domain configuration. Multiple NIS domains can be configured on a single Vserver, but only one NIS domain can be active at any given time.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-active** | | boolean optional | (DEPRECATED)-Specifies whether the NIS domain configuration is active or inactive. |
| **nis-domain** | | string | Specifies the NIS domain. For example: 'example.com' |
| **nis-fqdn** | | string[] optional | Specifies the hostname/IP address of one or more NIS servers in the domain. |
| **nis-servers** | | ip-address[] optional | (DEPRECATED)-Specifies the IP address of one or more NIS servers in the domain. |
| **return-record** | | boolean optional | If set to true, returns the NIS domain configuration on successful creation. Default: false |
| **skip-config-validation** | | boolean optional | If true, validation of the the corresponding NIS configuration will be skipped. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | nis-domain-config-info optional | The NIS domain configuration created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **E_NIS_CONFIGURATION_EXISTS** | |
| **E_NIS_ACTIVE_FALSE_NOT_SUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

## nis-destroy

[top]

Destroy an existing NIS configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **nis-domain** | | string | Specifies the NIS domain. For example: 'example.com' |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nis-get

[top]

Get NIS domain configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nis-domain-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **nis-domain** | | string | Specifies the NIS domain. For example: 'example.com' |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | nis-domain-config-info | The attributes of the NIS domain configuration. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# nis-get-iter

[top]

Iterate over a list of NIS configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nis-domain-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | nis-domain-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NIS domain configuration object. All NIS domain configuration objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nis-domain-config-info[] optional | The list of attributes of NIS domain configuration objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more NIS domain configuration objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |

# nis-modify

[top]

Modify the attributes of NIS configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-active** | | boolean optional | (DEPRECATED)-Specifies whether the NIS domain configuration is active or inactive. |
| **nis-domain** | | string | Specifies the NIS domain. For example: 'example.com' |
| **nis-fqdn** | | string[] optional | Specifies the hostname/IP address of one or more NIS servers in the domain. |
| **nis-servers** | | ip-address[] optional | (DEPRECATED)-Specifies the IP address of one or more NIS servers in the domain. |
| **skip-config-validation** | | boolean optional | If true, validation of the the corresponding NIS configuration will be skipped. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **E_NIS_ACTIVE_FALSE_NOT_SUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **nis-domain-config-info**

[top]

NIS domain configuration information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-active** | | boolean optional | (DEPRECATED)-Specifies whether the NIS domain configuration is active or inactive. Attributes: optional-for-create, modifiable |
| **nis-domain** | | string optional | Specifies the NIS domain. For example: 'example.com' Attributes: key, required-for-create, non-modifiable |
| **nis-fqdn** | | string[] optional | Specifies the hostname/IP address of one or more NIS servers in the domain. Attributes: optional-for-create, modifiable |
| **nis-servers** | | ip-address[] optional | (DEPRECATED)-Specifies the IP address of one or more NIS servers in the domain. Attributes: optional-for-create, modifiable |
| **skip-config-validation** | | boolean optional | If true, validation of the the corresponding NIS configuration will be skipped. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Specifies the Vserver for the NIS domain configuration. Attributes: key, non-creatable, non-modifiable |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# APIs in Category: **ntp-server**


ntp-server-create
ntp-server-delete
ntp-server-get
ntp-server-get-iter
ntp-server-key-create
ntp-server-key-delete
ntp-server-key-get-iter
ntp-server-key-modify
ntp-server-modify
ntp-server-reset
ntp-server-security-get
ntp-server-security-set
ntp-server-status-get
ntp-server-status-get-iter
ntp-server-validate


This is an auto generated category.

## ntp-server-create

[top]

Creates a configuration for an external time server to be used by NTP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-preferred** | | boolean optional | Specifies whether the server is preferred as a time source. By default, this value is false. Only one NTP server may be preferred. All other servers will have preferred set to false when this is set. |
| **key-id** | **[1..65535]** | integer optional | Specifies the symmetric authentication key ID being used for this time server. |
| **return-record** | | boolean optional | If set to true, returns the ntp server configuration on successful creation. Default: false |
| **server-name** | | string | Host name, IPv4 address or IPv6 address for the external NTP time server |
| **version** | | string optional | NTP protocol version which can be '3', '4' or 'auto'. The 'auto' value uses Data ONTAP's best practice value. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | ntp-server-info optional | The ntp server configuration created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAPIPRIVILEGE** | |
| **EOBJECTNOTFOUND** | |
| **EDUPLICATEENTRY** | |

| | |
|---|---|
| **ENTP_USE_NODE_SCOPE** | |
| **ENTP_INVALID_SERVER_NAME** | |
| **ENTP_INVALID_IPV4_ADDR** | |
| **ENTP_INVALID_IPV6_ADDR** | |
| **ENTP_SERVER_NAME_NOTFOUND** | |
| **ENTP_SERVER_NAME_ADDRS** | |
| **ENTP_NO_CONNECT** | |
| **ENTP_NO_QUICKREPLY** | |
| **ENTP_REPLY_NO_SYNC** | |
| **ENTP_REPLY_NO_ACCES** | |
| **ENTP_REPLY_NO_CRYPTO** | |
| **ENTP_REPLY_PROTOCOL** | |
| **ENTP_REPLY_ROOT_DIST** | |
| **ENTP_REPLY_ROOT_DISP** | |
| **ENTP_REPLY_PEER_DIST** | |
| **ENTP_REPLY_PEER_DISP** | |
| **ENTP_REPLY_PEER_STRATUM** | |
| **ENTP_NEEDS_9_5_0** | |
| **ENTP_INVALID_FIELD_AUTH_ENABLED** | |
| **ENTP_AUTH_NOT_IN_CLUSTER** | |
| **ENTP_AUTH_UNKNOWN_KEY** | |
| **ENTP_AUTH_FAILED** | |

# ntp-server-delete

[top]

Remove a configuration for an external time server used by NTP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **server-name** | | string | Host name, IPv4 address or IPv6 address for the external NTP time server |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAPIPRIVILEGE** | |
| **EOBJECTNOTFOUND** | |
| **ENTP_USE_NODE_SCOPE** | |

# ntp-server-get

[top]

Get the configuration of an external time server used by NTP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ntp-server-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be |

| | | | |
|---|---|---|---|
| | | optional | returned. |
| **server-name** | | string | Host name, IPv4 address or IPv6 address for the external NTP time server |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ntp-server-info | The attributes of the ntp server configuration. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAPIPRIVILEGE** | |
| **EOBJECTNOTFOUND** | |
| **ENTP_USE_NODE_SCOPE** | |

# ntp-server-get-iter

[top]

Get the configuration of all the external time servers used by NTP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ntp-server-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ntp-server-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ntp server configuration object. All ntp server configuration objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ntp-server-info[] optional | The list of attributes of ntp server configuration objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ntp server configuration objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAPIPRIVILEGE** | |
| **EOBJECTNOTFOUND** | |

| Errno | Description |
|---|---|
| **ENTP_USE_NODE_SCOPE** | |

## ntp-server-key-create

[top]

Create an NTP symmetric authentication key.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **id** | **[1..65535]** | integer | NTP symmetric authentication key ID. The ID must be in the range 1-65535. |
| **return-record** | | boolean optional | If set to true, returns the ntp authentication key on successful creation. Default: false |
| **type** | | ntp-key-type | NTP symmetric authentication key type. Only SHA1 currently supported. Possible values:<br>• "sha1" |
| **value** | | string | NTP symmetric authentication key value. The value must be exactly 40 hexadecimal digits for SHA1 keys. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | ntp-key-info optional | The ntp authentication key created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **ENTP_INVALID_SHA1_KEY** | |
| **ENTP_TOO_MANY_KEYS** | |

## ntp-server-key-delete

[top]

Remove an NTP symmetric authentication key.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **id** | **[1..65535]** | integer | NTP symmetric authentication key ID. The ID must be in the range 1-65535. |

| Errno | Description |
|---|---|
| **ENTP_KEY_IN_USE** | |

## ntp-server-key-get-iter

[top]

Get the configuration of all NTP symmetric authentication keys.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **desired-attributes** | | ntp-key-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ntp-key-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ntp authentication key object. All ntp authentication key objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ntp-key-info[] optional | The list of attributes of ntp authentication key objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ntp authentication key objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ntp-server-key-modify

[top]

Modify an NTP symmetric authentication key.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **id** | **[1..65535]** | integer | NTP symmetric authentication key ID. The ID must be in the range 1-65535. |
| **type** | | ntp-key-type optional | NTP symmetric authentication key type. Only SHA1 currently supported. Possible values:<br>• "sha1" |
| **value** | | string optional | NTP symmetric authentication key value. The value must be exactly 40 hexadecimal digits for SHA1 keys. |

| Errno | Description |
|---|---|
| **ENTP_INVALID_SHA1_KEY** | |

# ntp-server-modify

[top]

Modify a configuration for an external time server used by NTP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-authentication-enabled** | | boolean optional | Specifies if symmetric key authentication is in use for this time server. |
| **is-preferred** | | boolean optional | Specifies whether the server is preferred as a time source. By default, this value is false. Only one NTP server may be preferred. All other servers will have preferred set to false when this is set. |
| **key-id** | **[1..65535]** | integer optional | Specifies the symmetric authentication key ID being used for this time server. |
| **server-name** | | string | Host name, IPv4 address or IPv6 address for the external NTP time server |
| **version** | | string optional | NTP protocol version which can be '3', '4' or 'auto'. The 'auto' value uses Data ONTAP's best practice value. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAPIPRIVILEGE** | |
| **EOBJECTNOTFOUND** | |
| **ENTP_USE_NODE_SCOPE** | |
| **ENTP_NEEDS_9_5_0** | |
| **ENTP_INVALID_FIELD_AUTH_ENABLED** | |
| **ENTP_AUTH_NOT_IN_CLUSTER** | |
| **ENTP_AUTH_UNKNOWN_KEY** | |
| **ENTP_AUTH_FAILED** | |

# ntp-server-reset

[top]

Reset the external NTP server list to the desired default values. The table is emptied and then populated to the desired default values.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **use-public** | | boolean optional | Reset server list to public identified defaults |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAPIPRIVILEGE** | |
| **ENTP_USE_NODE_SCOPE** | |
| **ENTP_NO_RESET_SELECTED** | |

# ntp-server-security-get

[top]

Get the NTP security settings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ntp-server-security-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ntp-server-security-info | The attributes of the ntp-server. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ntp-server-security-set

[top]

Set the NTP security settings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-query-enabled** | | boolean optional | Is Querying of NTP Server Enabled? |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ntp-server-status-get

[top]

Get the status of the selection of an external time server.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ntp-server-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |
| **server** | | string | Host name, IPv4 address or IPv6 address for the external NTP time server |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | ntp-server- | |

| | | | |
|---|---|---|---|
| **attributes** | | status-info | The attributes of the ntp-server. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## ntp-server-status-get-iter

[top]

Get the status of the selection of all configured external time servers.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ntp-server-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ntp-server-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ntp-server object. All ntp-server objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ntp-server-status-info[] optional | The list of attributes of ntp-server objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ntp-server objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## ntp-server-validate

[top]

Validate an existing NTP external time server and report any validation problems

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **server-name** | | string | Host name, IPv4 address or IPv6 address for the NTP external time server |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAPIPRIVILEGE** | |
| **EOBJECTNOTFOUND** | |
| **EDUPLICATEENTRY** | |
| **ENTP_USE_NODE_SCOPE** | |
| **ENTP_INVALID_SERVER_NAME** | |
| **ENTP_INVALID_IPV4_ADDR** | |
| **ENTP_INVALID_IPV6_ADDR** | |
| **ENTP_SERVER_NAME_NOTFOUND** | |
| **ENTP_SERVER_NAME_ADDRS** | |
| **ENTP_NO_CONNECT** | |
| **ENTP_NO_QUICKREPLY** | |
| **ENTP_REPLY_NO_SYNC** | |
| **ENTP_REPLY_NO_ACCES** | |
| **ENTP_REPLY_NO_CRYPTO** | |
| **ENTP_REPLY_PROTOCOL** | |
| **ENTP_REPLY_ROOT_DIST** | |
| **ENTP_REPLY_ROOT_DISP** | |
| **ENTP_REPLY_PEER_DIST** | |
| **ENTP_REPLY_PEER_DISP** | |
| **ENTP_REPLY_PEER_STRATUM** | |
| **ENTP_AUTH_FAILED** | |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **ntp-key-info**

[top]

Network Time Protocol (NTP) Key When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| | | | |
|---|---|---|---|

| Name | Range | Type | Description |
|---|---|---|---|
| **id** | **[1..65535]** | integer optional | NTP symmetric authentication key ID. The ID must be in the range 1-65535. Attributes: key, required-for-create, non-modifiable |
| **type** | | ntp-key-type optional | NTP symmetric authentication key type. Only SHA1 currently supported. Attributes: required-for-create, modifiable Possible values:<br>• "sha1" |
| **value** | | string optional | NTP symmetric authentication key value. The value must be exactly 40 hexadecimal digits for SHA1 keys. Attributes: required-for-create, modifiable |

# Element definition: **ntp-key-type**

[top]

sha1 Possible values:

- "sha1"

[none]

# Element definition: **ntp-server-info**

[top]

Network Time Protocol (NTP) Server Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-authentication-enabled** | | boolean optional | Specifies if symmetric key authentication is in use for this time server. Attributes: non-creatable, modifiable |
| **is-preferred** | | boolean optional | Specifies whether the server is preferred as a time source. By default, this value is false. Only one NTP server may be preferred. All other servers will have preferred set to false when this is set. Attributes: optional-for-create, modifiable |
| **is-public-default** | | boolean optional | Specifies if the time server was provided as a default public NTP server by Data ONTAP. Attributes: non-creatable, non-modifiable |
| **key-id** | **[1..65535]** | integer optional | Specifies the symmetric authentication key ID being used for this time server. Attributes: optional-for-create, modifiable |
| **server-name** | | string optional | Host name, IPv4 address or IPv6 address for the external NTP time server Attributes: key, required-for-create, non-modifiable |
| **version** | | string optional | NTP protocol version which can be '3', '4' or 'auto'. The 'auto' value uses Data ONTAP's best practice value. Attributes: optional-for-create, modifiable |

# Element definition: **ntp-server-security-info**

[top]

NTP Server Security Settings When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-query-enabled** | | boolean optional | Is Querying of NTP Server Enabled? Attributes: non-creatable, modifiable |

# Element definition: **ntp-server-status-info**

[top]

NTP Server Status Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-peer-reachable** | | boolean optional | Is Peer Reachable and Responding to Polls? Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **offset** | | double-hundredths optional | Offset from Server Time (ms) Attributes: non-creatable, non-modifiable |
| **selection-state** | | string optional | Description of Server Selection State Attributes: non-creatable, non-modifiable |
| **server** | | string optional | Host name, IPv4 address or IPv6 address for the external NTP time server Attributes: key, non-creatable, non-modifiable |

# Element definition: **double-hundredths**

[top]

Floating point number rounded to two decimals

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

# APIs in Category: **nvme**


nvme-create
nvme-delete
nvme-feature-get
nvme-get-iter
nvme-interface-get-iter
nvme-modify
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nvme-subsystem-host-remove
nvme-subsystem-map-add
nvme-subsystem-map-get-iter
nvme-subsystem-map-remove
nvme-subsystem-modify
nvme-subsystem-os-type-list


Provides mechanisms to manage access to NVMe targets within Data ONTAP.

## nvme-create

[top]

Create a new NVMe target service.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-available** | | boolean optional | Is Available |
| **return-record** | | boolean optional | If set to true, returns the NVMe target service on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | nvme-target-service-info | The NVMe target service created (keys or the entire object if requested) |

| | | | |
|---|---|---|---|
| | | optional | |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EONTAPI_EEXIST** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVERNOTRUNNING** | |
| **E_NVMF_EXCLUSIVE_VSERVER** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nvme-delete

[top]

Delete an existing NVMe target service object.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EONTAPI_EEXIST** | |
| **EVSERVERNOTFOUND** | |
| **E_NVMF_EXCLUSIVE_VSERVER** | |
| **E_NVMF_SERVICE_IN_USE** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nvme-feature-get

[top]

Get the enabled NVMe over Fabrics features

| Output Name | Range | Type | Description |
|---|---|---|---|
| **features** | | nvme-feature[]<br>optional | Enabled NVMe over Fabrics features |
| **max-anagrpid** | | integer<br>optional | Maximum supported ANAGRPID |
| **max-namespace-size** | | size<br>optional | Maximum supported namespace size |
| **max-nsid** | | integer<br>optional | Maximum supported NSID |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# nvme-get-iter

[top]

Iterate over a list of NVMe target service objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nvme-target-service-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nvme-target-service-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe target service object. All NVMe target service objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nvme-target-service-info[] optional | The list of attributes of NVMe target service objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more NVMe target service objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# nvme-interface-get-iter

[top]

Iterate over a list of NVMe Interface objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nvme-interface-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nvme-interface-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe Interface object. All NVMe Interface objects matching this query up to 'max-records' will be returned. |
| | | | Specify the tag from the last call. It is usually not specified for the |

| | | | |
|---|---|---|---|
| **tag** | | string optional | first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nvme-interface-info[] optional | The list of attributes of NVMe Interface objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more NVMe Interface objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# nvme-modify

[top]

Modify the attributes of NVMe target service object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-available** | | boolean optional | Is Available |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nvme-namespace-create

[top]

Create a new NVMe target namespace.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string optional | Application |
| **block-size** | | vdisk-block-size optional | Size in bytes of a logical block. Possible values: 512 (Data ONTAP 9.6 and later), 4096. The default value is 4096. |
| **comment** | | string optional | Comment |
| | | nvme- | OS Type Possible values:<br>• "vmware" - The namespace contains VMware file system data,<br>• "hyper_v" - The namespace contains Windows Hyper-V file |

| | | | |
|---|---|---|---|
| **ostype** | | namespace-os | system data,<br>• "windows" - The namespace contains Windows file system data,<br>• "linux" - The namespace contains Linux file system data,<br>• "xen" - The namespace contains Xen file system data,<br>• "aix" - The namespace contains AIX file system data |
| **path** | | lun-path | Namespace Path |
| **return-record** | | boolean optional | If set to true, returns the NVMe target namespace on successful creation. Default: false |
| **size** | | size | Size |
| **uuid** | | uuid optional | Namespace UUID |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | nvme-namespace-info optional | The NVMe target namespace created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINVALIDINPUTERROR** | |
| **EOP_DISALLOWED_VSERVER_ROOT** | |
| **EVDISK_ERROR_FLEXGROUP** | |
| **EVDISK_ERROR_LUN_TOO_LARGE** | |
| **EVDISK_ERROR_NO_SUCH_VOLUME** | |
| **EVDISK_ERROR_SIZE_TOO_SMALL** | |
| **EVDISK_ERROR_VDISK_EXISTS** | |
| **EVDISK_SNAPSHOT_PATH_DISALLOWED** | |
| **EVDISK_VOLUME_UNSUPPORTED** | |
| **EVOLUMEDOESNOTEXIST** | |
| **E_NVMF_NS_TOO_LARGE** | |
| **E_NVMF_NS_TOO_SMALL** | |

# nvme-namespace-delete

[top]

Delete the namespace

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destroy-application-namespace** | | boolean optional | Delete a Namespace Belonging to an Application |
| **path** | | lun-path | Namespace Path |
| **skip-mapped-check** | | boolean optional | Skip Mapped Check |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINVALIDINPUTERROR** | |

| | |
|---|---|
| **E_NVMF_NS_IN_USE** | |
| **EVDISK_SNAPSHOT_PATH_DISALLOWED** | |

# nvme-namespace-get-iter

[top]

Iterate over a list of NVMe target namespace objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nvme-namespace-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nvme-namespace-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe target namespace object. All NVMe target namespace objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nvme-namespace-info[] optional | The list of attributes of NVMe target namespace objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more NVMe target namespace objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |
| **volume-errors** | | volume-error[] optional | List of errors encountered while retrieving namespace inventory |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# nvme-namespace-modify

[top]

Modify the attributes of NVMe target namespace object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string | Comment |
| **path** | | lun-path | Namespace Path |

| Errno | Description |
|---|---|
| | |

| | |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINVALIDINPUTERROR** | |
| **EVDISK_SNAPSHOT_PATH_DISALLOWED** | |
| **E_NVMF_NS_TOO_LARGE** | |
| **E_NVMF_NS_TOO_SMALL** | |

# nvme-namespace-os-type-list

[top]

Displays the supported values and descriptions for nvme-namespace-os.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **ostypes** | | system-api-enum-value-info[] optional | Enumeration type name/value pair |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# nvme-subsystem-controller-get-iter

[top]

Iterate over a list of NVMe subsystem controllers objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nvme-target-subsystem-controller-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nvme-target-subsystem-controller-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe subsystem controllers object. All NVMe subsystem controllers objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nvme-target-subsystem-controller-info[] optional | The list of attributes of NVMe subsystem controllers objects. |
| **next-tag** | | string | Tag for the next call. Not present when there are no more NVMe |

| | | | |
|---|---|---|---|
| | | optional | subsystem controllers objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# nvme-subsystem-create

[top]

Create a new NVMe target subsystem.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | Comment |
| **delete-on-unmap** | | boolean optional | Delete on Unmap |
| **ostype** | | nvme-subsystem-os | OS Type Possible values:<br>• "windows" - The initiators belong to a Windows host,<br>• "aix" - The initiators belong to an AIX host,<br>• "linux" - The initiators belong to a Linux host,<br>• "vmware" - The initiators belong to a VMware ESX host,<br>• "xen" - The initiators belong to a Xen hypervisor host,<br>• "hyper_v" - The initiators belong to a Hyper-V parent host |
| **return-record** | | boolean optional | If set to true, returns the NVMe target subsystem on successful creation. Default: false |
| **subsystem** | | string | Subsystem |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | nvme-subsystem-info optional | The NVMe target subsystem created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EEXIST** | |
| **EVSERVERNOTFOUND** | |
| **E_NVMF_EXCLUSIVE_VSERVER** | |
| **E_NVMF_SERVICE_REQUIRED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nvme-subsystem-delete

[top]

Delete the subsystem

| Input Name | Range | Type | Description |
|---|---|---|---|
| **skip-host-check** | | boolean optional | Skip Host Check |
| **skip-mapped-check** | | boolean optional | Skip Mapped Namespace Check |
| **subsystem** | | string | Subsystem |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **E_NVMF_SUBSYSTEM_IN_USE** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nvme-subsystem-get-iter

[top]

Iterate over a list of NVMe target subsystem objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nvme-subsystem-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nvme-subsystem-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe target subsystem object. All NVMe target subsystem objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nvme-subsystem-info[] optional | The list of attributes of NVMe target subsystem objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more NVMe target subsystem objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# nvme-subsystem-host-add

[top]

Add a host to the subsystem

| Input Name | Range | Type | Description |
|---|---|---|---|
| **host-nqn** | | string | Host NQN |
| **subsystem** | | string | Subsystem |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **EONTAPI_EEXIST** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nvme-subsystem-host-get-iter

[top]

Iterate over a list of NVMe subsystem hosts objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nvme-target-subsystem-host-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nvme-target-subsystem-host-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe subsystem hosts object. All NVMe subsystem hosts objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nvme-target-subsystem-host-info[] optional | The list of attributes of NVMe subsystem hosts objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more NVMe subsystem hosts objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# nvme-subsystem-host-remove

[top]

Remove a host from the subsystem

| Input Name | Range | Type | Description |
|---|---|---|---|
| **host-nqn** | | string | Host NQN |
| **subsystem** | | string | Subsystem |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **EONTAPI_EEXIST** | |
| **EVSERVERNOTFOUND** | |

# nvme-subsystem-map-add

[top]

Add a namespace map

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | lun-path | Namespace Path |
| **subsystem** | | string | Subsystem |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **namespace-uuid** | | uuid | Namespace UUID |
| **nsid** | **[0..2^32-1]** | integer | NSID |

| Errno | Description |
|---|---|
| **EVDISK_SNAPSHOT_PATH_DISALLOWED** | |
| **E_NVMF_NS_IN_USE** | |
| **E_NVMF_LIF_REQUIRED** | |
| **E_NVMF_SUBSYSTEM_MAP_LIMIT** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nvme-subsystem-map-get-iter

[top]

Iterate over a list of NVMe attached namespace objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nvme-target-subsystem-map-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nvme-target-subsystem-map-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe attached namespace object. All NVMe attached namespace objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nvme-target-subsystem-map-info[] optional | The list of attributes of NVMe attached namespace objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more NVMe attached namespace objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# nvme-subsystem-map-remove

[top]

Remove a namespace map

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | lun-path | Namespace Path |
| **subsystem** | | string | Subsystem |

| Errno | Description |
|---|---|
| **EVDISK_SNAPSHOT_PATH_DISALLOWED** | |
| **E_NVMF_NS_NOT_MAPPED** | |

# nvme-subsystem-modify

[top]

Modify the attributes of NVMe target subsystem object.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **comment** | | string optional | Comment |
| **delete-on-unmap** | | boolean optional | Delete on Unmap |
| **subsystem** | | string | Subsystem |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

## nvme-subsystem-os-type-list

[top]

Displays the supported values and descriptions for nvme-subsystem-os.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **ostypes** | | system-api-enum-value-info[] optional | Enumeration type name/value pair |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## Element definition: **lun-path**

[top]

LUN Path

[none]

## Element definition: **nvme-feature**

[top]

nvmf|fc-nvme|multi-path|multi-node|multi-protocol|volume-move|block-size-512|nvme-roce|nvme-tcp|subsystem-vendor-uuids|namespace-resize|namespace-transition|mcc-fc-nvme|inband-authentication|nodes-per-vserver-12 Possible values:

- "nvmf" - NVMe over Fabrics Base Feature,
- "fc_nvme" - NVMe/FC Transport,
- "multi_path" - Multi-Path,
- "multi_node" - Multi-Node,
- "multi_protocol" - Multi-Protocol Vserver,
- "no_node_lif_limit" - Allow More Than 2 LIFs per Node,
- "volume_move" - Volume Move of Mapped Namespaces,
- "block_size_512" - 512-byte Block Size Namespaces,

"large_namespace" - Large Namespaces,
- "nvme_roce" - NVMe/RoCE Transport,
- "nvme_tcp" - NVMe/TCP Transport,
- "subsystem_vendor_uuids" - Vendor-Specific UUIDs in Subsystems,
- "aix" - AIX host support,
- "namespace_resize" - Namespace resize support,
- "lun_to_namespace_transition" - Transition from LUN to Namespace support,
- "nsid_1024" - Support 1024 Namespaces per Subsystem,
- "unique_discovery_nqn" - Unique Discovery Subsystem NQN,
- "mcc_fc_nvme" - FC NVMe on MCC,
- "inband_authentication" - In-band Authentication,
- "nodes_per_vserver_12" - Allow 12 Nodes with LIFs in a Vserver

[none]

# Element definition: **nvme-interface-info**

[top]

NVMe target interface configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | Comment Attributes: non-creatable, non-modifiable |
| **fc-wwnn** | | string optional | FC WWNN Attributes: non-creatable, non-modifiable |
| **fc-wwpn** | | string optional | FC WWPN Attributes: non-creatable, non-modifiable |
| **home-node** | | filer-id optional | Home Node Attributes: non-creatable, non-modifiable |
| **home-port** | | lif-bindable optional | Home Port Attributes: non-creatable, non-modifiable |
| **lif** | | lif-name optional | Logical Interface Attributes: key, non-creatable, non-modifiable |
| **lif-uuid** | | uuid optional | LIF UUID Attributes: non-creatable, non-modifiable |
| **physical-protocol** | | nvme-physical-protocol optional | Physical Protocol Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "fibre_channel" ,<br>• "ethernet" |
| **status-admin** | | vif-status optional | Status Admin Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "up" ,<br>• "down" |

| | | | |
|---|---|---|---|
| **transport-address** | | string optional | Transport Address Attributes: non-creatable, non-modifiable |
| **transport-protocols** | | nvme-transport[] optional | Transport Protocol Attributes: non-creatable, non-modifiable Possible values:<br>• "fc_nvme" - NVMe/FC,<br>• "nvme_roce" - NVMe/RoCE,<br>• "nvme_tcp" - NVMe/TCP |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |
| **vserver-uuid** | | uuid optional | Vserver UUID Attributes: non-creatable, non-modifiable |

# Element definition: **nvme-namespace-info**

[top]

NVMe target namespace When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **anagrpid** | **[0..2^32-1]** | integer optional | ANA Group ID Attributes: non-creatable, non-modifiable |
| **application** | | string optional | Application Attributes: optional-for-create, non-modifiable |
| **application-uuid** | | uuid optional | Application UUID Attributes: non-creatable, non-modifiable |
| **block-size** | | vdisk-block-size optional | Size in bytes of a logical block. Possible values: 512 (Data ONTAP 9.6 and later), 4096. The default value is 4096. Attributes: optional-for-create, non-modifiable |
| **comment** | | string optional | Comment Attributes: optional-for-create, modifiable |
| **creation-timestamp** | | datetime optional | Creation Time Attributes: non-creatable, non-modifiable |
| **is-read-only** | | boolean optional | Is Read Only Attributes: non-creatable, non-modifiable |
| **node** | | filer-id optional | Node Hosting the Namespace Attributes: non-creatable, non-modifiable |
| **nsid** | **[0..2^32-1]** | integer optional | Namespace ID Attributes: non-creatable, non-modifiable |
| | | nvme- | OS Type Attributes: required-for-create, non-modifiable Possible values:<br>• "vmware" - The namespace contains VMware file system data,<br>• "hyper_v" - The namespace contains Windows Hyper-V file |

| | | | |
|---|---|---|---|
| **ostype** | | namespace-os optional | system data,<br>• "windows" - The namespace contains Windows file system data,<br>• "linux" - The namespace contains Linux file system data,<br>• "xen" - The namespace contains Xen file system data,<br>• "aix" - The namespace contains AIX file system data |
| **path** | | lun-path optional | Namespace Path Attributes: key, required-for-create, non-modifiable |
| **qtree** | | qtree-name optional | Qtree Name Attributes: non-creatable, non-modifiable |
| **restore-inaccessible** | | boolean optional | Restore Inaccessible Attributes: non-creatable, non-modifiable |
| **size** | | size optional | Size Attributes: required-for-create, modifiable |
| **size-used** | | size optional | Size Used Attributes: non-creatable, non-modifiable |
| **state** | | nvme-namespace-state optional | State Attributes: non-creatable, modifiable Possible values:<br>• "online" - Namespace is administratively online,<br>• "offline" - Namespace is adminitratively offline or the reason is unknown,<br>• "nvfail" - Namespace was automatically taken offline due to NVRAM failure,<br>• "space_error" - Namespace was automatically taken offline due to insufficient space |
| **subsystem** | | string optional | Mapped Subsystem Attributes: non-creatable, non-modifiable |
| **uuid** | | uuid optional | Namespace UUID Attributes: optional-for-create, non-modifiable |
| **volume** | | volume-name optional | Volume Name Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |
| **vserver-uuid** | | uuid optional | Vserver UUID Attributes: non-creatable, non-modifiable |

# Element definition: **nvme-namespace-os**

[top]

aix|linux|vmware|windows Possible values:

- "vmware" - The namespace contains VMware file system data,
- "hyper_v" - The namespace contains Windows Hyper-V file system data,
- "windows" - The namespace contains Windows file system data,
- "linux" - The namespace contains Linux file system data,
- "xen" - The namespace contains Xen file system data,
- "aix" - The namespace contains AIX file system data

[none]

# Element definition: **nvme-subsystem-info**

[top]

NVMe target subsystem configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | Comment Attributes: optional-for-create, modifiable |
| **default-io-queue-count** | **[1..15]** | integer optional | Default Number of Host I/O Queue Pairs Attributes: optional-for-create, modifiable |
| **default-io-queue-depth** | **[16..128]** | integer optional | Default Host I/O Queue Depth Attributes: optional-for-create, modifiable |
| **delete-on-unmap** | | boolean optional | Delete on Unmap Attributes: optional-for-create, modifiable |
| **ostype** | | nvme-subsystem-os optional | OS Type Attributes: required-for-create, non-modifiable Possible values:<br>• "windows" - The initiators belong to a Windows host,<br>• "aix" - The initiators belong to an AIX host,<br>• "linux" - The initiators belong to a Linux host,<br>• "vmware" - The initiators belong to a VMware ESX host,<br>• "xen" - The initiators belong to a Xen hypervisor host,<br>• "hyper_v" - The initiators belong to a Hyper-V parent host |
| **serial-number** | | string optional | Serial Number Attributes: non-creatable, non-modifiable |
| **subsystem** | | string optional | Subsystem Attributes: key, required-for-create, non-modifiable |
| **target-nqn** | | string optional | Target NQN Attributes: non-creatable, non-modifiable |
| **uuid** | | uuid optional | UUID Attributes: optional-for-create, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |
| **vserver-uuid** | | uuid optional | Vserver UUID Attributes: non-creatable, non-modifiable |

# Element definition: **nvme-subsystem-os**

[top]

aix|linux|vmware|windows Possible values:

- "windows" - The initiators belong to a Windows host,
- "aix" - The initiators belong to an AIX host,
- "linux" - The initiators belong to a Linux host,
- "vmware" - The initiators belong to a VMware ESX host,
- "xen" - The initiators belong to a Xen hypervisor host,
- "hyper_v" - The initiators belong to a Hyper-V parent host

[none]

# Element definition: **nvme-target-service-info**

[top]

NVMe target service configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-available** | | boolean optional | Is Available Attributes: optional-for-create, modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |
| **vserver-uuid** | | uuid optional | Vserver UUID Attributes: non-creatable, non-modifiable |

# Element definition: **nvme-target-subsystem-controller-info**

[top]

NVMe subsystem controller When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **admin-queue-depth** | **[0..2^32-1]** | integer optional | Admin Queue Depth Attributes: non-creatable, non-modifiable |
| **controller-id** | **[0..2^16-1]** | integer optional | Controller ID Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **data-digest-enabled** | | boolean optional | Data Digest Enabled Attributes: non-creatable, non-modifiable |
| **header-digest-enabled** | | boolean optional | Header Digest Enabled Attributes: non-creatable, non-modifiable |
| **host-nqn** | | string optional | Host NQN Attributes: non-creatable, non-modifiable |
| **initiator-transport-address** | | string optional | Initiator Transport Address Attributes: non-creatable, non-modifiable |
| **io-queue-count** | **[0..65535]** | integer optional | Number of I/O Queues Attributes: non-creatable, non-modifiable |
| **io-queue-depth** | **[0..65535]** | integer[] optional | I/O Queue Depths Attributes: non-creatable, non-modifiable |
| **kato** | **[0..2^32-1]** | integer optional | Keep Alive Time Out(msec) Attributes: non-creatable, non-modifiable |
| **lif** | | string optional | Logical Interface Attributes: non-creatable, non-modifiable |
| **lif-uuid** | | uuid optional | Logical Interface UUID Attributes: non-creatable, non-modifiable |
| **max-io-size** | **[0..2^32-1]** | integer optional | Max IO Size in Bytes Attributes: non-creatable, non-modifiable |
| **node** | | filer-id optional | Node Attributes: non-creatable, non-modifiable |
| **subsystem** | | string optional | Subsystem Attributes: key, non-creatable, non-modifiable |
| **subsystem-uuid** | | uuid optional | Subsystem UUID Attributes: non-creatable, non-modifiable |
| **transport-protocol** | | nvme-transport optional | Transport Protocol Attributes: non-creatable, non-modifiable Possible values:<br>• "fc_nvme" - NVMe/FC,<br>• "nvme_roce" - NVMe/RoCE,<br>• "nvme_tcp" - NVMe/TCP |
| **trsvcid** | | string optional | Transport Service Identifier Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |
| **vserver-uuid** | | uuid optional | Vserver UUID Attributes: non-creatable, non-modifiable |

# Element definition: **nvme-target-subsystem-host-info**

[top]

NVMe subsystem host When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **host-nqn** | | string optional | Host NQN Attributes: key, non-creatable, non-modifiable |
| **io-queue-count** | **[1..15]** | integer optional | Number of I/O Queue Pairs Attributes: non-creatable, non-modifiable |
| **io-queue-depth** | **[16..128]** | integer optional | I/O Queue Depth Attributes: non-creatable, non-modifiable |
| **subsystem** | | string optional | Subsystem Attributes: key, non-creatable, non-modifiable |
| **subsystem-uuid** | | uuid optional | Subsystem UUID Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |
| **vserver-uuid** | | uuid optional | Vserver UUID Attributes: non-creatable, non-modifiable |

# Element definition: **nvme-target-subsystem-map-info**

[top]

NVMe attached namespace When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **anagrpid** | **[0..2^32-1]** | integer optional | ANA Group ID Attributes: non-creatable, non-modifiable |
| **namespace-uuid** | | uuid optional | Namespace UUID Attributes: non-creatable, non-modifiable |
| **nsid** | **[0..2^32-1]** | integer optional | NSID Attributes: key, non-creatable, non-modifiable |
| **path** | | lun-path optional | Namespace Path Attributes: non-creatable, non-modifiable |
| **subsystem** | | string optional | Subsystem Attributes: key, non-creatable, non-modifiable |
| **subsystem-uuid** | | uuid optional | Subsystem UUID Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |
| **vserver-uuid** | | uuid optional | Vserver UUID Attributes: non-creatable, non-modifiable |

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **system-api-enum-value-info**

[top]

Enumeration type name/value pair When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | Description of the enumeration value Attributes: non-creatable, non-modifiable |
| **value** | | string optional | Name of the enumeration value Attributes: key, non-creatable, non-modifiable |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **vdisk-block-size**

[top]

The size in bytes of a logical block. Possible values: 512, 4096.

[none]

# Element definition: **volume-error**

[top]

The error code of a given volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **errno** | | integer optional | The error code of the snapshot operation for a given volume. It is returned only when an error is found. |
| **name** | | volume-name | Name of a volume. |
| **reason** | | string optional | Description of the error. It is returned only when an error is found. |
| **vserver** | | string optional | Virtual server containing the volume. |

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **filer-id**

[top]

Filer UUID

[none]

# Element definition: **lif-bindable**

[top]

|

[none]

# Element definition: **lif-name**

[top]

Logical Interface Id

[none]

# Element definition: **lun-path**

[top]

LUN Path

[none]

## Element definition: **nvme-namespace-state** [top]

online|offline|nvfail|space-error Possible values:

- "online" - Namespace is administratively online,
- "offline" - Namespace is adminitratively offline or the reason is unknown,
- "nvfail" - Namespace was automatically taken offline due to NVRAM failure,
- "space_error" - Namespace was automatically taken offline due to insufficient space

[none]

## Element definition: **nvme-physical-protocol** [top]

fibre-channel|ethernet Possible values:

- "fibre_channel" ,
- "ethernet"

[none]

## Element definition: **nvme-transport** [top]

fc-nvme|nvme-tcp Possible values:

- "fc_nvme" - NVMe/FC,
- "nvme_roce" - NVMe/RoCE,
- "nvme_tcp" - NVMe/TCP

[none]

## Element definition: **qtree-name** [top]

Qtree Name

[none]

## Element definition: **vif-status** [top]

up|down Possible values:

- "up" ,
- "down"

[none]

## Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **options**


options-get
options-get-iter
options-list-info
options-modify-iter
options-set


## options-get

[top]

Get the value of a single option.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the option. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **cluster-constraint** | | string | Indicates the cluster-specific constraints of option.<br>• "none" - no constraint.<br>• "same_preferred" - same value should be used on both nodes of a HA pair.<br>• "same_required" - same value must be used on both nodes of a HA pair.<br>• "only_one" - value is used for both nodes of a HA pair, when in takeover mode.<br>• "unknown" - value is not valid.<br>In Data ONTAP Cluster-Mode, this field will always be "none". |
| **value** | | string | Value of the option. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

## options-get-iter

[top]

Iterate over a list of options objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | option-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available |

| | | | |
|---|---|---|---|
| | | optional | will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | option-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the options object. All options objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | option-info[] optional | The list of attributes of options objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more options objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# options-list-info

[top]

Get a list of all options

| Output Name | Range | Type | Description |
|---|---|---|---|
| **options** | | option-info[] optional | |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# options-modify-iter

[top]

Modify the attributes of options or a group of options objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | option-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-** | | boolean | This input element is useful when multiple options objects match a given query. If set to true, the API will continue modifying the next |

| | | | |
|---|---|---|---|
| **failure** | | optional | matching options even when modification of a previous options fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching options even when the modification of a previous matching options fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | option-info | If modifying a specific options, this input element must specify all keys. If modifying options objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of options objects (just keys) that were not modified due to some error. If set to false, the list of options objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of options objects (just keys) that were successfully updated. If set to false, the list of options objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | options-modify-iter-info[] optional | Information about options objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching options objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of options objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of options objects that matched the query and were successfully updated. |
| **success-list** | | options-modify-iter-info[] optional | The options objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# options-set

[top]

Set the value of a single option. For complete list of names and values of options, please refer to

options man pages.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the option. |
| **value** | | string | Value of the option. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **cluster-constraint** | | string | Cluster-specific constraint of the option.<br><br>• "none" - no constraint.<br>• "same_preferred" - same value should be used on both nodes of a HA pair.<br>• "same_required" - same value must be used on both nodes of a HA pair.<br>• "only_one" - value is used for both nodes of a HA pair, when in takeover mode.<br>• "unknown" - value is not valid.<br><br>In Data ONTAP Cluster-Mode, this field will always be "none". |
| **message** | | string optional | Informative message that was issued as a result of setting (or trying to set) the option. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# Element definition: **option-info**

[top]

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster-constraint** | | string optional | Indicates the cluster-specific constraints of option.<br><br>• "none" - no constraint.<br>• "same_preferred" - same value should be used on both nodes of a HA pair.<br>• "same_required" - same value must be used on both nodes of a HA pair.<br>• "only_one" - value is used for both nodes of a HA pair, when in takeover mode.<br>• "unknown" - value is not valid.<br><br>In Data ONTAP Cluster-Mode, this field will always be "none". This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode. |
| **data-type** | | string optional | Data type of the option 'name'. Possible values are:<br><br>• "bool" - A boolean true / false value,<br>• "integer" - A decimal integer value,<br>• "unsigned" - A non-negative decimal integer value,<br>• "string" - A UTF-8 character string. |

| | | | |
|---|---|---|---|
| **default-value** | | string optional | Default initial value of this option. The field 'value' contains the current set value and could be different from this. |
| **description** | | string optional | Brief description of this option. |
| **name** | | string optional | Name of the option. This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode. |
| **priv-level** | | string optional | The privilege level of this option. Possible values are:<br>• admin<br>• advanced<br>• diagnostic<br>• test |
| **value** | | string optional | Value of the option. This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode. |
| **vserver** | | string optional | The name of the vserver to which this option belongs to. |

# Element definition: **options-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against options object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **options-key** | | option-info | The keys for the options object to which the modify operation applies. |

# Element definition: **option-info**

[top]

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster-constraint** | | string optional | Indicates the cluster-specific constraints of option.<br>• "none" - no constraint.<br>• "same_preferred" - same value should be used on both nodes of a HA pair.<br>• "same_required" - same value must be used on both nodes of a HA pair.<br>• "only_one" - value is used for both nodes of a HA pair, when in takeover mode.<br>• "unknown" - value is not valid.<br><br>In Data ONTAP Cluster-Mode, this field will always be "none". This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode. |
| | | | Data type of the option 'name'. Possible values are:<br>• "bool" - A boolean true / false value, |

| | | | |
|---|---|---|---|
| **data-type** | | string optional | • "integer" - A decimal integer value,<br>• "unsigned" - A non-negative decimal integer value,<br>• "string" - A UTF-8 character string. |
| **default-value** | | string optional | Default initial value of this option. The field 'value' contains the current set value and could be different from this. |
| **description** | | string optional | Brief description of this option. |
| **name** | | string optional | Name of the option. This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode. |
| **priv-level** | | string optional | The privilege level of this option. Possible values are:<br>• admin<br>• advanced<br>• diagnostic<br>• test |
| **value** | | string optional | Value of the option. This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode. |
| **vserver** | | string optional | The name of the vserver to which this option belongs to. |

# APIs in Category: **perf**


perf-archive-config-get
perf-archive-config-modify
perf-archive-datastore-get-iter
perf-awa-start
perf-awa-stop
perf-object-counter-list-info
perf-object-get-instances
perf-object-instance-list-info-iter
perf-object-list-info
perf-object-start
perf-object-stop
perf-preset-create
perf-preset-delete
perf-preset-detail-get
perf-preset-get-iter
perf-preset-modify
perf-samples-delete
perf-samples-get-iter


The perf APIs enable monitoring of system performance. They provide a single interface to performance data across various subsystems in the appliance. Data are organized hierarchically, with objects, instances, and counters. An object generally represents a subsystem, an instance represents a single physical or logical entity within the subsystem, and a counter is a datum specific to the instance.

An example of the object-instance-counter hierarchy is processor:processor0:processor_busy. Each CPU in the system is an instance of the 'processor' object. The processor_busy counter of the processor0 instance reports the time during which this processor has been active since an arbitrary point in the past. A second counter, processor_elapsed_time, reports the total time, so the change in processor_busy divided by the change in processor_elapsed_time over an interval can be used to compute the average utilization of the processor. Processor_elapsed_time is referred to as the 'base counter' of processor_busy since it is needed to compute a useful value from processor_busy.

A typical user of these APIs will initially request a list of objects using the perf-object-list-info call. The user may then request a list of counters available for instances of an object by calling perf-object-counter-list-info for each interesting object. The sets of objects and counters are static, so these calls will not need to be made again.

The core perf API call is perf-object-get-instances. This API returns the names and raw counter values of instances of an object at the time of the call. Unlike objects and counters, the set of instances is not always fixed, and the values of counters will vary across calls. Typically this API must be called at least twice over some interval in order to evaluate subsystem performance during that interval. Depending on counter properties, the user may need to perform additional computation on the raw value in order to correctly interpret it.

Each counter has a property which indicates how it's raw value should be interpreted. This property is available as part of the static counter metadata returned by a call to perf-object-counter-list-info. Possible properties are 'raw', 'rate', 'delta', 'average', 'percent', 'string', and 'no-display'. String counters report textual information, such as volume or disk identifiers. No-display counters are not intended for direct use, and this property is typically assigned to base counters. The other properties are interpreted as follows:

- raw: single counter value is used
- delta: change in counter value between two samples is used
- rate: delta divided by the time in seconds between samples is used
- average: delta divided by the delta of a base counter is used
- percent: 100*average is used

For 'average' and 'percent' counters, the 'base-counter' element will be set to the name of the base counter. Some counters are multidimensional, and for these the counter description includes a list of labels of the counter subelements, and a 'type' element indicating the counter is an array.

For example, again consider the processor::processor_busy counter. The description and properties of this counter state that it is a percentage, but a call to perf-object-get-instances will return a raw number which must be further processed by the user. Because the counter is a percentage, the user must note the value of its base counter, (processor::processor_elapsed_time) and then make a second call to perf-object-get-instances and again note the raw value of the counter and base counter. Suppose the user made the calls at time T1 and later at time T2, and these raw values were returned (the object and instance name are not shown):

- (T1) processor_busy=2000000, processor_elapsed_time=3000000
- (T2) processor_busy=2400000 ,processor_elapsed_time=4000000

The user must then perform the following computation to determine processor utilization: 100*(2400000-2000000)/(4000000-3000000) = 40%

The perf-object-instance-list-info-iter API may be used to list the names of current instances of an object. It does not return any counter values.

# perf-archive-config-get

[top]

Display Cluster-Wide Performance Archive Configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | archive-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | archive-config-info | The attributes of the perf-archive-config. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# perf-archive-config-modify

[top]

Modify Cluster-Wide Performance Archive Configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **asup-file-rotation** | **[1..1440]** | integer optional | Minutes Between ASUP Data File Rotations |
| **asup-max-retention** | **[1..365]** | integer optional | Days to Retain ASUP Archive Data |
| **datastore-file-rotation** | **[1..120]** | integer optional | Minutes Between Performance Archive Data File Rotations |
| **datastore-max-percent** | **[0..100]** | integer optional | Maximum Percentage of Root Volume Used for Performance Archive Data |
| **datastore-max-retention** | **[1..365]** | integer optional | Days to Retain Performance Archive Data |
| **is-enabled** | | boolean optional | Is the Performance Archive Enabled? |
| **opm-file-rotation** | **[1..120]** | integer optional | Minutes Between OPM Data File Rotations |
| **perfstat-duration** | **[0..168]** | integer optional | Minutes after Which Perfstat Collection Is Stopped |
| **perfstat-sampling-period** | **[0..60]** | integer optional | Minutes Between Perfstat Collections |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# perf-archive-datastore-get-iter

[top]

API retrieves information about all the performance archive datastores in the cluster and their datafiles.

Each performance archive-enabled process in the Data ONTAP cluster will have one or more datastores in which the archive datafiles are stored. These datastores encapsulate the archived performance data in groupings specified by the Data ONTAP cluster's performance preset configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **age-filter** | | perf-archive-datafile-age-filter optional | Filters the retrieved information to only include specific datafiles. By default, all datafiles within each datastore are retrieved. |
| **desired-attributes** | | perf-archive-datastore-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **is-partial-shown** | | boolean optional | Specifies whether or not to include partial datafiles. By default, all datafiles within each datastore are retrieved. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | perf- | A query that specifies which objects to return. A query could be |

| | | | |
|---|---|---|---|
| **query** | | archive-datastore-info optional | specified on any number of attributes in the perf-archive-datastore object. All perf-archive-datastore objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | perf-archive-datastore-info[] optional | The list of attributes of perf-archive-datastore objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more perf-archive-datastore objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# perf-awa-start

[top]

Starting AWA

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | aggr-name optional | Aggregate |
| **debug-level** | | integer optional | Debug Level |
| **flash-cache** | | boolean optional | Flash Cache Node-wide Modeling |
| **interval-length** | | integer optional | Interval Length (secs) |
| **node** | | string | Node Name |
| **num-intervals** | | integer optional | Number of Intervals |
| **pcache-size** | | integer optional | Pseudo Cache Size (MB) |
| **sampling-factor** | | integer optional | Sampling Factor |
| **size-limit** | | integer optional | Size-limit (Mega-Blocks) |
| **sync** | | boolean optional | Perf Run Sync |
| **working-set-size** | | boolean optional | Working Set Size |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

| Errno | Description |
| --- | --- |
| **EINTERNALERROR** | |

# perf-awa-stop

[top]

Stoping AWA

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **aggregate** | | aggr-name optional | Aggregate |
| **flash-cache** | | boolean optional | Flash cache node-wide modeling |
| **node** | | string | Node Name |

| Errno | Description |
| --- | --- |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# perf-object-counter-list-info

[top]

Get information about the counters of an object. This information is static and independent of any particular instance of the object. It includes counter names and descriptions, as well as properties which are necessary to to interpret counter values.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **filter-data** | | filter-data optional | Allows selecting counters from a particular node. An example filter is "node_name=hostname".<br><br>This element is **deprecated** in Data ONTAP 8.2 and later, as filtering by node is no longer necessary. Each node contains the same set of counter definitions, so filtering by node yields the same results as not filtering at all. |
| **objectname** | | string | Name of the object to get information for. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **counters** | | counter-info[] | List of counters available for instances of this object. |

# perf-object-get-instances

[top]

Get a list of current counter values of instances of an object. This will return the values of all specified counters and instances of the specified object with one call.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |

| | | | |
|---|---|---|---|
| **counters** | | counter[]<br>optional | List of counters whose values will be retrieved. This element can be used to limit data collection to a specified subset of the counters of instances of the object. If this element is absent, values of all counters will be retrieved. |
| **filter-data** | | filter-data<br>optional | Filter to apply to the performance data. |
| **instance-uuids** | | instance-uuid[]<br>optional | List of instance UUIDs for which to get counter values. This element can be used to limit data collection to a specified subset of the instances of the object. Either instances or instance-uuids input must be provided. The API errors out if both of these inputs are provided or neither of these inputs is provided, or if more than 500 instances are requested. |
| **instances** | | instance[]<br>optional | List of instance names for which to get counter values. This element can be used to limit data collection to a specified subset of the instances of the object.<br><br>Either instances or instance-uuids input must be provided. The API errors out if both of these inputs are provided or neither of these inputs is provided, or if more than 500 instances are requested. |
| **max** | **[0..499]** | integer<br>optional | Maximum number of instances. |
| **objectname** | | string | Name of the object to get counter values for. |
| **privilege-level** | | string<br>optional | Name of the privilege level. Possible values: "basic", "admin", "advanced", "diag" If the element is absent, the default privilege of the object will be used. |
| **sample-id** | | string<br>optional | Name of the sample. |
| **sort-key** | | string<br>optional | Counter used for sorting instances. |
| **sort-order** | | string<br>optional | Sort order. Possible values are 'ascending' and 'descending'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **instances** | | instance-data[] | List of instances of the object. Each element of this list |
| **timestamp** | | string | Timestamp in seconds since January 1, 1970. |

# perf-object-instance-list-info-iter

[top]

Gets the list of names and UUIDs of current instances of an object. This iterative API will return names and UUIDs of the current instances of the specified object; the number of records returned is specified by the max-records input element.

To retrieve all the instances of the specified object, the value of the next-tag output element should be passed in as the value of the tag input element on the subsequent API call.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | instance-info<br>optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| | | | |

| | | | |
|---|---|---|---|
| **filter-data** | | string optional | Filter to apply to instance list; see filter-data type for details. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 1000 |
| **objectname** | | string | Name of the object for which to get instance information. |
| **query** | | instance-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the perf object. All perf objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | instance-info[] optional | The list of attributes of perf objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more perf objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# perf-object-list-info

[top]

Get list of performance objects in the system.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **filter-data** | | filter-data optional | Allows selecting objects from a particular node. An example filter is "node_name=hostname".<br><br>This element is **deprecated** in Data ONTAP 8.2 and later as filtering by node is no longer necessary. Each node contains the same set of object definitions, so filtering by node yields the same results as not filtering at all. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **objects** | | object-info[] | List of performance objects. |

# perf-object-start

[top]

| Input Name | Range | Type | Description |
|---|---|---|---|
| **counter** | | string optional | Counter |

| | | | |
|---|---|---|---|
| **duration** | | integer optional | Sample Duration in Minutes |
| **filter** | | string optional | Filter |
| **instance** | | string optional | Instance |
| **max** | | integer optional | Tracker Size |
| **object** | | string optional | Object |
| **preset** | | string optional | Preset |
| **sample-id** | | string | Sample Identifier |
| **sample-type** | | sample-type optional | Sample Type |
| **sort-key** | | string optional | Counter Used For Sorting |
| **sort-order** | | sort-order optional | Sort Order |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# perf-object-stop

[top]

| Input Name | Range | Type | Description |
|---|---|---|---|
| **sample-id** | | string | Sample Identifier |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# perf-preset-create

[top]

Create a single Performance Preset configuration and all of its details

| Input Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | Preset Description |
| **expiration-length** | **[5..1440]** | integer optional validate | Default expiration length (in minutes) until the Performance Preset will be automatically disabled. |
| **is-archive-enabled** | | boolean optional | Is Preset Enabled? |
| **preset** | | string | Preset Name |

| | | | |
|---|---|---|---|
| **preset-detail-infos** | | preset-detail-info[] optional | Details of the Performance Preset |
| **privilege** | | string optional | Privilege level<br>Possible Values: admin, advanced, diagnostic |

# perf-preset-delete

[top]

Delete a Performance Preset and all of its Preset Details

| Input Name | Range | Type | Description |
|---|---|---|---|
| **preset** | | string | Preset Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# perf-preset-detail-get

[top]

Get detailed information about a single Performance Preset configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **preset** | | string | Preset Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | Preset Description |
| **expiration-end-date** | **[0..2^32-1]** | integer optional | Date when the Preset will be automatically disabled, represented as the number of seconds since January 1, 1970. |
| **expiration-length** | **[5..1440]** | integer optional | Default expiration length (in minutes) until the Performance Preset will be automatically disabled. |
| **generation-id** | **[0..2^32-1]** | integer | Preset Generation ID |
| **is-archive-enabled** | | boolean | Is Preset Archive-Enabled? |
| **is-read-only** | | boolean | Is Preset Read-Only? |
| **preset** | | string | Preset Name |
| **preset-detail-infos** | | preset-detail-info[] | The details of the Performance Preset configuration |
| **privilege** | | string optional | Preset Privilege Level<br>Possible Values: admin, advanced, diagnostic |
| **uuid** | | uuid | Preset UUID |

# perf-preset-get-iter

[top]

Iteratively get information about Performance Presets

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | preset-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | preset-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the perf-preset object. All perf-preset objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | preset-info[] optional | The list of attributes of perf-preset objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more perf-preset objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# perf-preset-modify

[top]

Modify a Performance Preset

| Input Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | Preset Description |
| **expiration-length** | **[0..1440]** | integer optional | Default Expiration Length (Minutes) |
| **is-archive-enabled** | | boolean optional | Is Preset Archive-Enabled? |
| **new-name** | | string optional | New Preset Name |
| **preset** | | string | Preset Name |
| **privilege** | | privilege-level optional | Preset Privilege Level |

| Errno | Description |
|---|---|

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# perf-samples-delete

[top]

| Input Name | Range | Type | Description |
|---|---|---|---|
| force | | boolean optional | Force Delete |
| sample-id | | string | Sample Identifier |
| vserver | | vserver-name | Vserver |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# perf-samples-get-iter

[top]

Returns list of samples

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | sample-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | sample-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the perf object. All perf objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | sample-info[] optional | The list of attributes of perf objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more perf objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **archive-config-info**

[top]

Performance Archive Configuration Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **asup-file-rotation** | **[1..1440]** | integer optional | Minutes Between ASUP Data File Rotations Attributes: non-creatable, modifiable |
| **asup-max-retention** | **[1..365]** | integer optional | Days to Retain ASUP Archive Data Attributes: non-creatable, modifiable |
| **datastore-file-rotation** | **[1..120]** | integer optional | Minutes Between Performance Archive Data File Rotations Attributes: non-creatable, modifiable |
| **datastore-max-percent** | **[0..100]** | integer optional | Maximum Percentage of Root Volume Used for Performance Archive Data Attributes: non-creatable, modifiable |
| **datastore-max-retention** | **[1..365]** | integer optional | Days to Retain Performance Archive Data Attributes: non-creatable, modifiable |
| **datastore-path** | | string optional | Base Path of Performance Archive Datastore Attributes: non-creatable, non-modifiable |
| **enabled-presets** | | enabled-preset[] optional | Archive-Enabled Performance Preset Info |
| **is-enabled** | | boolean optional | Is the Performance Archive Enabled? Attributes: non-creatable, modifiable |
| **opm-file-rotation** | **[1..120]** | integer optional | Minutes Between OPM Data File Rotations Attributes: non-creatable, modifiable |
| **perfstat-duration** | **[0..168]** | integer optional | Minutes after Which Perfstat Collection Is Stopped Attributes: non-creatable, modifiable |
| **perfstat-end-date** | | datetime optional | Date Perfstat Collection Will Be Turned off Attributes: non-creatable, non-modifiable |
| **perfstat-sampling-period** | **[0..60]** | integer optional | Minutes Between Perfstat Collections Attributes: non-creatable, modifiable |
| **sw-image-client** | | string optional | Software Client of Installed Image Attributes: non-creatable, non-modifiable |
| **version** | | string | This field is deprecated in ONTAP 9.8.0 and later. Please use sw- |

| | | | |
|---|---|---|---|
| | | optional | image-client instead. Attributes: non-creatable, non-modifiable |

# Element definition: **counter**

[top]

Counter Name

[none]

# Element definition: **counter-info**

[top]

Information about a single counter.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregation-style** | | string optional | For counters that can be aggregated, this element decribes the style. If the element is absent, no aggregation is available for this counter. Valid values include: [ strict, permissive ]. "strict" aggregation requires all items of a set to perform aggregation. If any item is missing, the aggregation will be rejected. "permissive" aggregation is a best effort aggregation. All available items of a set will be aggregated.<br><br>Aggregation-style is **deprecated** in Data ONTAP 8.2 and later. This field has never been used. |
| **base-counter** | | string optional | Name of the counter used as the denominator to calculate values of counters involving averages and percentages. |
| **desc** | | string | Description of the counter |
| **is-deprecated** | | boolean optional | True if the counter is deprecated. |
| **is-key** | | boolean optional | True if the counter is a key counter. A set of key counters for an object can be used to uniquely identify instances of an object. |
| **labels** | | label-info[] optional | List of labels of an array type counter. |
| **name** | | string | Name of the counter. |
| **privilege-level** | | string | Privilege level of the counter. Any counter with a privilege level of "diag" is not guaranteed to work, to exist in future releases, or to remain unchanged.<br>Possible values: basic, admin, advanced or diag. |
| **properties** | | string optional | Comma separated list of properties of the counter. The counter properties determine how raw counter values should be interpreted. Possible values: raw, rate, delta, percent, string, no-display and no-zero-values. |
| **replaced-by** | | string optional | Replacement counter if this counter is deprecated. |
| **translation-input-counter** | | string optional | Name of counter that is used as input for translation. Translation is needed for some counters because the precise value is unknown at the moment of sampling, and must be determined from another counter at a later time. Note that the time frame is still within a single request and response from the ZAPI client's point of view.<br><br>Translation-input-counter is **deprecated** in Data ONTAP 8.2 and later. |

| | | | |
|---|---|---|---|
| | | | This field does not convey necessary information for about counters. It was previously used for diagnostic purposes, but it is no longer needed. |
| **type** | | string optional | Indicator for whether counter is a scalar or array. If this element is absent,the counter is a scalar.<br>Possible values: array |
| **unit** | | string optional | Unit of the counter<br>Possible values: per_sec, b_per_sec (bytes/s), kb_per_sec (Kbytes/s), mb_per_sec (Mbytes/s), percent, millisec, microsec, nanosec, sec, or none |

# Element definition: **filter-data**

[top]

A string, representing filter data, in the format of key=value pairs. Multiple pairs can be specified via comma (",") or pipe ("|") separation. The applied filter is a combination of ANDing and ORing the key-value pairs.

A comma indicates ANDing, a pipe indicates ORing, and the order of precedence is AND and then OR. For example, "`instance_name=volA,vserver_name=vs1|vserver_name=vs2`" equates to "`(instance_name=volA && vserver_name=vs1) | (vserver_name=vs2)`". This would return instances on Vserver `vs1` with name `volA` and all instances on Vserver `vs2`.

[none]

# Element definition: **instance**

[top]

Instance name.

[none]

# Element definition: **instance-data**

[top]

Instance name and counter values.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregation** | | aggregation-data optional | Information related to aggregation that was done. If element is absent, no aggregation was performed on this instance. |
| **counters** | | counter-data[] | List of counter values of this instance. Each element of this list contains the value of a single counter. |
| **name** | | string | Name of the instance |
| **sort-id** | | integer | Sort ID of the instance |
| **uuid** | | string | UUID of the instance |

[top]

# Element definition: **instance-info**

Information about an object's instance When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | Name of the instance Attributes: key, non-creatable, non-modifiable |
| **uuid** | | string optional | UUID of the instance Attributes: key, non-creatable, non-modifiable |

# Element definition: **instance-uuid**

[top]

Instance UUID.

[none]

# Element definition: **object-info**

[top]

Description of a performance object.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | Description of the object |
| **get-instances-preferred-counter** | | string optional | Name of the counter, either instance_name or instance_uuid, which should be used for perf-object-get-instances ZAPI for optimal performance. If this element is absent for an object, the value of this element defaults to instance_name counter. This element is a performance hint for getting optimal performance for the perf-object-get-instances ZAPI. If the value of this element is set to instance UUID counter of an object, using the instance UUID counter in the perf-object-get-instances query will return the counter information faster than using instance name counter. Otherwise, instance_name will yield faster results. |
| **is-deprecated** | | boolean optional | True if the object is deprecated. |
| **name** | | string | Name of the object |
| **privilege-level** | | string | The object privilege level. Any object with a privilege level of "diag" is not guaranteed to work, to exist in future releases, or to remain unchanged. Possible values: basic, admin, advanced or diag. |
| **replaced-by** | | string optional | Replacement object if this object is deprecated. |

# Element definition: **perf-archive-datafile-age-filter**

[top]

The filter limits output such that all datafiles, only the newest datafile, or only the oldest datafile is returned. Possible values:

- "all" - no filter--return all datafiles,
- "newest" - only return newest datafile,
- "oldest" - only return oldest datafile

[none]

# Element definition: **perf-archive-datastore-info**

[top]

Information about a single performance archive datastore in the Data ONTAP cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **datastore** | | string optional | Name of the datastore. Attributes: key, non-creatable, non-modifiable |
| **is-enabled** | | boolean optional | Is the datastore currently collecting data? Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Name of Data ONTAP node owning the datastore. Attributes: key, non-creatable, non-modifiable |
| **oldest-timestamp** | | datetime optional | Timestamp of the oldest datafile in the datastore (UTC). Attributes: non-creatable, non-modifiable |
| **path** | | string optional | Path to the datastore directory on the owning node's root volume. For example: /mroot/etc/log/stats/ccma/kernel/ Attributes: non-creatable, non-modifiable |
| **perf-archive-datafile-infos** | | perf-archive-datafile-info[] optional | Information about a single performance archive datafile within a datastore. |
| **process** | | string optional | Name of Data ONTAP system process owning the datastore. Attributes: key, non-creatable, non-modifiable |
| **size** | | size optional | Total size of the datastore (bytes). Attributes: non-creatable, non-modifiable |

# Element definition: **preset-detail-info**

[top]

Performance Preset Detail information, including specific objects, counter sets, instance filters, and associated sample period information for the Performance Archive.

| Name | Range | Type | Description |
|---|---|---|---|
| **counter-set** | | counter[] | Counter Name Set |
| **generation-id** | **[0..2^32-1]** | integer optional | Preset Detail Generation ID<br>As input, this field must not be specified; as output, this field is always present. |
| **instance-filters** | | filter[] optional | Instance Filters |
| **object** | | string | Performance Object |
| **sample-period** | | string optional | Performance Archive Sample Period<br>As input, this field is optional; as output, this field is always present.<br>Possible Values: none, 1s, 5s, 10s, 30s, 1m, 5m, 10m, 30m, 1h, 6h, 12h, 1d, 1w, config<br>Default: none |

# Element definition: **preset-info**

[top]

Performance Preset information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | Preset Description Attributes: optional-for-create, modifiable |
| **expiration-end-date** | | datetime optional | Date/Time Preset Expires Attributes: non-creatable, non-modifiable |
| **expiration-length** | **[0..1440]** | integer optional | Default Expiration Length (Minutes) Attributes: optional-for-create, modifiable |
| **generation-id** | **[0..2^32-1]** | integer optional | Preset Generation ID Attributes: non-creatable, non-modifiable |
| **is-archive-enabled** | | boolean optional | Is Preset Archive-Enabled? Attributes: non-creatable, modifiable |
| **is-read-only** | | boolean optional | Is Preset Read-Only? Attributes: non-creatable, non-modifiable |
| **new-name** | | string optional | New Preset Name Attributes: non-creatable, modifiable |
| **preset** | | string optional | Preset Name Attributes: key, required-for-create, non-modifiable |
| **privilege** | | privilege-level | Preset Privilege Level Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| | | optional | |
| **uuid** | | uuid optional | Preset UUID Attributes: non-creatable, non-modifiable |

# Element definition: **privilege-level**

[top]

Level of Privilege

[none]

# Element definition: **sample-info**

[top]

Sample Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **counter** | | string[] optional | List of Counters Attributes: non-creatable, non-modifiable |
| **duration** | **[0..2^32-1]** | integer optional | Sample Duration in Minutes Attributes: non-creatable, non-modifiable |
| **error-description** | | string optional | Error in Sample Collection Attributes: non-creatable, non-modifiable |
| **filter** | | string optional | Filter Data Attributes: non-creatable, non-modifiable |
| **instance** | | string[] optional | List of Instances Attributes: non-creatable, non-modifiable |
| **max** | **[0..2^32-1]** | integer optional | Maximum Number of Instances Attributes: non-creatable, non-modifiable |
| **object** | | string[] optional | List of Objects Attributes: non-creatable, non-modifiable |
| **privilege** | | privilege-level optional | Privilege Level Attributes: non-creatable, non-modifiable |
| **sample-id** | | string optional | Sample Identifier Attributes: key, non-creatable, non-modifiable |
| **sample-status** | | sample-status optional | Sample Collection Status Attributes: non-creatable, non-modifiable Possible values:<br>• "ready" ,<br>• "processing" ,<br>• "error" ,<br>• "deleting" |

| | | | |
|---|---|---|---|
| **sample-type** | | sample-type optional | Sample Type Attributes: non-creatable, non-modifiable Possible values:<br>• "user" ,<br>• "system" |
| **sort-key** | | string optional | Counter Used For Sorting Attributes: non-creatable, non-modifiable |
| **sort-order** | | sort-order optional | Sort Order Attributes: non-creatable, non-modifiable Possible values:<br>• "ascending" - Ascending,<br>• "descending" - Descending |
| **start-time** | **[0..2^31-1]** | integer optional | Sample Start Time Attributes: non-creatable, non-modifiable |
| **stop-time** | **[0..2^31-1]** | integer optional | Sample Stop Time Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **sample-type**

[top]

User|System Possible values:

- "user" ,
- "system"

[none]

# Element definition: **sort-order**

[top]

ascending|descending Possible values:

- "ascending" - Ascending,
- "descending" - Descending

[none]

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex

characters. Note that a leading '0x' is not used.

[none]

## Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

## Element definition: **aggregation-data** [top]

Information related to aggregation that was done.

| Name | Range | Type | Description |
|---|---|---|---|
| **constituent-count** | **[0..2^32-1]** | integer optional | Number of constituents used to aggregate this instance. |
| **result** | | string optional | Each counter for an instance can be part of an aggregation set. Each counter can either have a strict or permissive aggregation. (Basically whether an aggregation with missing data samples in the aggregation set can be considered valid.)<br>Possible values: "complete_aggregation", "partial_aggregation"<br>• If aggregation is 'strict', and we have all of the data samples, we return: complete_aggregation<br>• If aggregation is 'strict' and we DON'T have all of the data samples, we return: partial_aggregation<br>• If aggregation is 'strict' and we only have one instance (such as a flex vole) we return: complete_aggregation<br>• If aggregation is 'permissive', we always return: complete_aggregation (since the results are always valid)<br>NOTE: Since a given node DOES NOT have enough information to determine all of the members of the set, we have to assume if we can't contact a given node/process that may contain a piece to be aggregated, the aggregation is incomplete. (For example, if we're trying to aggregate 'volume' stats, and we can't contact the local dblade or a remote node, we'll mark it as incomplete.) |

## Element definition: **counter** [top]

Counter Name

[none]

# Element definition: **counter-data**

[top]

Value of a single counter of an instance of an object at the time of the call.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the counter |
| **value** | | string | Value of the counter. If the counter type is array, this is a comma separated list of values. The counter properties and units must be known in order to interpret this value. Refer to the perf API discussion for details on how raw counter values are interpreted. |

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **enabled-preset**

[top]

Archive-Enabled Performance Preset Info

| Name | Range | Type | Description |
|---|---|---|---|
| **preset** | | string optional | Enabled Performance Preset Names Attributes: non-creatable, non-modifiable |

# Element definition: **filter**

[top]

Instance filter specified as a comma-seperated list of "counter=value" pairs.

[none]

# Element definition: **label-info**

[top]

Comma separated list of labels of an array type counter.

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **perf-archive-datafile-info**

[top]

Information about a single performance archive datafile within a datastore.

| Name | Range | Type | Description |
|---|---|---|---|
| **duration** | **[0..2^32-1]** | integer optional | Length of time between the first and last record stored in the datafile (ms). Attributes: non-creatable, non-modifiable |
| **filenames** | | filename[] optional | Names of the individual files which comprise the datafile. Attributes: non-creatable, non-modifiable |
| **index** | **[0..2^32-1]** | integer optional | Internal quota management index of the datafile. Attributes: non-creatable, non-modifiable |
| **max-period** | | perf-archive-sample-period optional | Longest performance archive sample period stored in the datafile--all shorter periods will also be in the datafile. Attributes: non-creatable, non-modifiable |
| **size** | | size optional | Size of the datafile (bytes). Attributes: non-creatable, non-modifiable |
| **state** | | ccma-datafile-state optional | State of the datafile. Attributes: non-creatable, non-modifiable Possible values:<br>• "partial" - datafile is incomplete,<br>• "unlocked" - datafile is complete but may be deleted,<br>• "locked" - datafile is complete and protected from deletion |
| **timestamp** | | datetime optional | Timestamp of when the datafile was written to disk (UTC). Attributes: non-creatable, non-modifiable |

## Element definition: **privilege-level**

[top]

Level of Privilege

[none]

## Element definition: **sample-status**

[top]

Ready|Processing|Error|Deleting Possible values:

- "ready" ,
- "processing" ,
- "error" ,
- "deleting"

[none]

## Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **ccma-datafile-state** [top]

Performance Archive Datafile State Possible values:

- "partial" - datafile is incomplete,
- "unlocked" - datafile is complete but may be deleted,
- "locked" - datafile is complete and protected from deletion

[none]

## Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

## Element definition: **filename** [top]

File Name (including extension)

[none]

## Element definition: **perf-archive-sample-period** [top]

The performance archive sample period is the amount of time between data samples in the performance archive.

[none]

# APIs in Category: **platform-cap**

| | |
|---|---|
| platform-cap-get-iter | This interface is used to access information about the Controllers capabilities in the system. |

## platform-cap-get-iter

[top]

Iterate over a list of Platform Capability Support objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | platform-cap-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | platform-cap-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Platform Capability Support object. All Platform Capability Support objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | platform-cap-info[] optional | The list of attributes of Platform Capability Support objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Platform Capability Support objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **platform-cap-info**

[top]

Platform Capability Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **capability-id** | **[0..2^32-1]** | integer optional | Capability ID Attributes: key, non-creatable, non-modifiable |
| **name** | | string optional | Capability Name Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **supported** | | string optional | Supported? Attributes: non-creatable, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# APIs in Category: **portset**


portset-add
portset-create
portset-destroy
portset-get-iter
portset-list-info
portset-remove


Portsets are associated with igroups. If an igroup is not associated with a portset then an initiator that belongs to that igroup can see its target luns on all ports. If a portset is bound to an igroup then the initiator that belongs to that igroup can only see its target luns on the ports that belong to the portset.

## portset-add

[top]

Add a port to an existing portset

| Input Name | Range | Type | Description |
|---|---|---|---|
| **portset-name** | | string | Name of portset. |
| **portset-port-name** | | string | This is the name of the port that is to be added to the portset. In Data ONTAP 7-Mode, it can be input in two styles. The filername:slotletter format will add the port from a specific filer. For example: "buxton:4a" The slotletter format will add the port from both the local and partner filers. For example: "4a" In Data ONTAP Cluster-Mode, the port name is the name of either an FCP data lif or an iSCSI target portal group. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_PORTSET_NO_SUCH_SET** | |
| **EVDISK_ERROR_PORTSET_HAS_PORT** | |
| **EVDISK_ERROR_PORTSET_TOO_MANY_PORTS** | |
| **EVDISK_ERROR_PORTSET_INVALID_PORT_NAME** | |
| **EVDISK_ERROR_PORTSET_THROTTLE_EXCEEDED** | |
| **EVDISK_ERROR_PORTSET_INVALID_PARTNER_PORT_NAME** | |
| **EVDISK_ERROR_PORTSET_BOTH_INVALID_PORT_NAMES** | |
| **EVDISK_ERROR_PORTSET_TOO_FEW_PORTS** | |
| **EVDISK_ERROR_PORTSET_WRONG_TYPE** | |
| **E_SAN_NOT_READY** | |

## portset-create

[top]

Create a portset

| Input Name | Range | Type | Description |
|---|---|---|---|
| **portset-name** | | string | Name of the portset to create. |
| **portset-** | | string | Protocols accepted for this portset. Possible values: "fcp", "iscsi", "mixed". |

| | | | |
|---|---|---|---|
| **type** | | | "iscsi" and "mixed" are available in Data ONTAP Cluster-Mode only. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_PORTSET_ALREADY_EXIST** | |
| **EVDISK_ERROR_PORTSET_INVALID_TYPE** | |
| **EVDISK_ERROR_PORTSET_IC_DOWN** | |
| **EVDISK_ERROR_PORTSET_NO_SUCH_PORT** | |
| **EVDISK_ERROR_PORTSET_WRONG_TYPE** | |
| **EVDISK_ERROR_PORTSET_INVALID_PARTNER_PORT_NAME** | |
| **EVDISK_ERROR_PORTSET_BOTH_INVALID_PORT_NAMES** | |
| **EVDISK_ERROR_PORTSET_TOO_FEW_PORTS** | |
| **E_SAN_NOT_READY** | |

# portset-destroy

[top]

Destroys an existing portset. By default a set cannot be destroyed if there are existing igroup associated with that portset.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | If 'false' or not specified, the request will fail if there are any igroups bound to this portset. If 'true', forcibly destroy the portset, even if there are existing igroup bindings. Best practice is to unbind all the associated igroups before destroying the igroup. |
| **portset-name** | | string | Name of the portset to destroy. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_PORTSET_NO_SUCH_GROUP** | |
| **EVDISK_ERROR_PORTSET_CANT_DESTROY_BOUND_PORTSET** | |
| **EVDISK_ERROR_PORTSET_THROTTLE_EXCEEDED** | |
| **EVDISK_ERROR_PORTSET_TOO_FEW_PORTS** | |
| **E_SAN_NOT_READY** | |

# portset-get-iter

[top]

Iterate over a list of portset objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | portset-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | portset-info | A query that specifies which objects to return. A query could be specified on any number of attributes in the portset object. All portset objects matching this query up to 'max-records' will be |

| | | | |
|---|---|---|---|
| | | optional | returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | portset-info[] optional | The list of attributes of portset objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more portset objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# portset-list-info

[top]

Get information for portset(s).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **portset-name** | | string optional | Name of portset. If specified, only information for that set is returned. If not specified, information for all portsets are returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **portset-sets** | | portset-info[] | List of portsets. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_PORTSET_NO_SUCH_GROUP** | |
| **EVDISK_ERROR_PORTSET_TOO_FEW_PORTS** | |

# portset-remove

[top]

Removes a port from a portset.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **portset-name** | | string | Name of the portset. |
| **portset-port-name** | | string | This is the name of the port that is to be removed from the portset. In Data ONTAP 7-Mode, it can be input in two styles. The filername:slotletter format will remove the port from a specific filer. For example: "buxton:4a" The slotletter format will remove the port from both the local and partner filers. For example: "4a" In Data ONTAP Cluster-Mode, the port name is the name of either an FCP data lif or an iSCSI target portal group. |

| Errno | Description |
|---|---|
| EVDISK_ERROR_PORTSET_INVALID_PORT_NAME | |
| EVDISK_ERROR_PORTSET_NO_SUCH_GROUP | |
| EVDISK_ERROR_PORTSET_NO_SUCH_PORT | |
| EVDISK_ERROR_PORTSET_TOO_FEW_PORTS | |
| EVDISK_ERROR_INITGROUP_ALREADY_BOUND | |
| E_SAN_NOT_READY | |

# Element definition: **portset-info**

[top]

Information about a portset.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-info** | | initiator-group-name[] optional | Information about the initiator group(s) that are bound to the portset. |
| **portset-name** | | string | Name of this portset. |
| **portset-port-info** | | portset-port-name[] optional | Information about the ports belonging to the set. |
| **portset-port-total** | **[0..1024]** | integer | Total number of ports in the portset. |
| **portset-type** | | string | Possible values: "fcp", "iscsi", "mixed". |
| **portset-uuid** | | uuid optional | The Universally Unique Identifier of the portset. This field is available in Data ONTAP 8.3.0 and later. |
| **vserver** | | string | Vserver containing this portset. |

# Element definition: **initiator-group-name**

[top]

The name of an initiator group

[none]

# Element definition: **portset-port-name**

[top]

String representing a member of a portset. In Data ONTAP 7-Mode, the port name is of the format "filer:slotletter" or "slotletter". In Data ONTAP Cluster-Mode, the port name is the name of an FCP data lif or iSCSI target portal group.

[none]

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# APIs in Category: **qos**


cache-policy-get
cache-policy-get-iter
cache-policy-modify
cache-policy-modify-iter
qos-adaptive-policy-group-create
qos-adaptive-policy-group-delete
qos-adaptive-policy-group-delete-iter
qos-adaptive-policy-group-get
qos-adaptive-policy-group-get-iter
qos-adaptive-policy-group-modify
qos-adaptive-policy-group-modify-iter
qos-adaptive-policy-group-rename
qos-policy-group-create
qos-policy-group-delete
qos-policy-group-delete-iter
qos-policy-group-get
qos-policy-group-get-iter
qos-policy-group-modify
qos-policy-group-modify-iter
qos-policy-group-rename
qos-settings-read-ahead-create
qos-settings-read-ahead-destroy
qos-settings-read-ahead-destroy-iter
qos-settings-read-ahead-get
qos-settings-read-ahead-get-iter
qos-settings-read-ahead-modify
qos-settings-read-ahead-modify-iter
qos-workload-delete
qos-workload-delete-iter
qos-workload-get
qos-workload-get-iter
qos-workload-modify
qos-workload-modify-iter
qos-workload-policy-


These APIs enable management of Quality of Service (QoS) workloads and policy groups. QoS allows users to use a policy group to control a set of storage objects known as workloads - LUNs, volumes, files, or Vservers. Policy groups define measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. A typical user of these APIs will first create a policy group with the qos-policy-group-create API. The caller must specify a unique name for the new policy group. The UUID of the newly create policy group is returned by this API, and should be used to identify the policy group in all subsequent operations. After a policy group is created, one can use a storage object API to apply the policy group to the storage object. For example, the vserver-create API or the vserver-modify API can be used to apply the policy group to the Vserver when the qos-policy-group parameter is given.

count-get

# cache-policy-get

[top]

Get the attributes of an Cache policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cache-policy-name** | | string | Name of the QoS Cache policy |
| **desired-attributes** | | cache-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cache-info | The attributes of the qos-settings-cache. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cache-policy-get-iter

[top]

Iterate over the list of available Cache policies.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cache-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cache-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-settings-cache object. All qos-settings-cache objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cache-info[] optional | The list of attributes of qos-settings-cache objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more qos-settings-cache objects to return. |

| | | | |
|---|---|---|---|
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cache-policy-modify

[top]

Modify an existing Cache policy. Only default field in the row is modifiable

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cache-policy-name** | | string | Name of the QoS Cache policy |
| **is-default** | | boolean optional | Identifies the default Cache policy. If this field is true then QoS workloads with the special value 'default' in the cache field will use this cache policy. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cache-policy-modify-iter

[top]

Modify multiple Cache settings

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cache-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple qos-settings-cache objects match a given query. If set to true, the API will continue modifying the next matching qos-settings-cache even when modification of a previous qos-settings-cache fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-settings-cache even when the modification of a previous matching qos-settings-cache fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | cache-info | If modifying a specific qos-settings-cache, this input element must specify all keys. If modifying qos-settings-cache objects based on query, this input element must specify a query. |
| | | | If set to true, the API will return the list of qos-settings-cache |

| | | | |
|---|---|---|---|
| **return-failure-list** | | boolean optional | objects (just keys) that were not modified due to some error. If set to false, the list of qos-settings-cache objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of qos-settings-cache objects (just keys) that were successfully updated. If set to false, the list of qos-settings-cache objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | cache-policy-modify-iter-info[] optional | Information about qos-settings-cache objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching qos-settings-cache objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of qos-settings-cache objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of qos-settings-cache objects that matched the query and were successfully updated. |
| **success-list** | | cache-policy-modify-iter-info[] optional | The qos-settings-cache objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-adaptive-policy-group-create

[top]

Create an adaptive policy group. A unique name must be provided for the new adaptive policy group. A QoS adaptive policy group defines measurable Service Level Objectives (SLOs) that apply to the storage object with which the adaptive policy group is associated.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **absolute-min-iops** | | qos-tput optional | Absolute Minimum IOPS. Specifies the absolute minimum IOPS which is used as an override when the expected_iops is less than this value. The default value is computed as follows: if expected-iops >= 6144/TB, then absolute-min-iops = 1000; if expected-iops >= 2048/TB and expected-iops < 6144/TB, then absolute-min-iops = 500; if expected-iops >= 1/MB and expected-iops < 2048/TB, then absolute-min-iops = 75. |
| | | | Specifies the I/O block size for the QoS adaptive policy group. The default value is 'any'. When block-size of 'any' is specified, then control is by IOPS. When block-size other than 'any' is specified, then control is by IOPS and bytes per second(bps). bps is the product of IOPS and block-size. Possible values: |

| | | | |
|---|---|---|---|
| **block-size** | | qos-block-size optional | • "any" ,<br>• "4k" ,<br>• "8k" ,<br>• "16k" ,<br>• "32k" ,<br>• "64k" ,<br>• "128k" |
| **expected-iops** | | qos-tput-capacity | Expected IOPS. Specifies the minimum expected IOPS per TB\|GB allocated based on the storage object allocated size. |
| **expected-iops-allocation** | | qos-expected-iops-allocation optional | Expected IOPS Allocation. Specifies the expected-iops allocation policy. The allocation policy is either allocated-space or used-space. When the expected-iops-allocation policy is set to allocated-space, the expected-iops is calculated based on the size of the storage object. When the expected-iops-allocation policy is set to used-space, the expected-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is allocated-space. Possible values:<br>• "used_space" ,<br>• "allocated_space" |
| **peak-iops** | | qos-tput-capacity | Peak IOPS. Specifies the maximum possible IOPS per TB\|GB allocated based on the storage object allocated size or the storage object used size. |
| **peak-iops-allocation** | | qos-peak-iops-allocation optional | Peak IOPS Allocation. Specifies the peak-iops allocation policy. The allocation policy is either allocated-space or used-space. When the peak-iops-allocation policy is set to allocated-space, the peak-iops is calculated based on the size of the storage object. When the peak-iops-allocation policy is set to used-space, the peak-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is used-space. Possible values:<br>• "allocated_space" ,<br>• "used_space" |
| **policy-group** | | string | Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. |
| **return-record** | | boolean optional | If set to true, returns the qos-adaptive-policy-group on successful creation. Default: false |
| **vserver** | | vserver-name | The Data Vserver to which the adaptive policy group belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | qos-adaptive-policy-group-info optional | The qos-adaptive-policy-group created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **E_QOS_INVALID_PG_NAME** | |
| **E_QOS_NON_DATA_VSERVER_FOR_FLEX_PROHIBITED** | |

# qos-adaptive-policy-group-delete

[top]

Delete single adaptive policy group. The default adaptive policy group may not be deleted. An error will be returned if the policy group is attached to any workloads unless 'force' is set to true.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Setting to 'true' forces the deletion of the workloads associated with the adaptive policy group along with the adaptive policy group. The default is 'false'. |
| **policy-group** | | string | Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **E_QOS_PG_DEL_ERROR_WKLOADS_EXIST** | |

# qos-adaptive-policy-group-delete-iter

[top]

Delete multiple policy groups

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple qos-adaptive-policy-group objects match a given query. If set to true, the API will continue with the next matching qos-adaptive-policy-group even when the operation fails for the qos-adaptive-policy-group. If set to false, the API will return on the first failure. Default: false |
| **force** | | boolean optional | Setting to 'true' forces the deletion of the workloads associated with the adaptive policy group along with the adaptive policy group. The default is 'false'. |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching qos-adaptive-policy-group even when the operation on a previous matching qos-adaptive-policy-group fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of qos-adaptive-policy-group objects to be operated in this call. Default: 20 |
| **query** | | qos-adaptive-policy-group-info | If operating on a specific qos-adaptive-policy-group, this input element must specify all keys. If operating on qos-adaptive-policy-group objects based on query, this input element must specify a query. |
| **return-** | | boolean | If set to true, the API will return the list of qos-adaptive-policy-group objects (just keys) that were not operated on due to some |

| | | | |
|---|---|---|---|
| **failure-list** | | optional | error. If set to false, the list of qos-adaptive-policy-group objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of qos-adaptive-policy-group objects (just keys) that were successfully operated on. If set to false, the list of qos-adaptive-policy-group objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | qos-adaptive-policy-group-delete-iter-info[] optional | Information about qos-adaptive-policy-group objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching qos-adaptive-policy-group objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of qos-adaptive-policy-group objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of qos-adaptive-policy-group objects that matched the query and were successfully processed. |
| **success-list** | | qos-adaptive-policy-group-delete-iter-info[] optional | The qos-adaptive-policy-group objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **E_QOS_PG_DEL_ERROR_WKLOADS_EXIST** | |

# qos-adaptive-policy-group-get

[top]

Get the attributes of an adaptive policy group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qos-adaptive-policy-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy-group** | | string | Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) |

| | | | |
|---|---|---|---|
| | | | or '-'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | qos-adaptive-policy-group-info | The attributes of the qos-adaptive-policy-group. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# qos-adaptive-policy-group-get-iter

[top]

Iterate over list of adaptive policy groups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qos-adaptive-policy-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | qos-adaptive-policy-group-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-adaptive-policy-group object. All qos-adaptive-policy-group objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | qos-adaptive-policy-group-info[] optional | The list of attributes of qos-adaptive-policy-group objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more qos-adaptive-policy-group objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-adaptive-policy-group-modify

[top]

Modify an adaptive policy group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **absolute-min-iops** | | qos-tput optional | Absolute Minimum IOPS. Specifies the absolute minimum IOPS which is used as an override when the expected_iops is less than this value. The default value is computed as follows: if expected-iops >= 6144/TB, then absolute-min-iops = 1000; if expected-iops >= 2048/TB and expected-iops < 6144/TB, then absolute-min-iops = 500; if expected-iops >= 1/MB and expected-iops < 2048/TB, then absolute-min-iops = 75. |
| **block-size** | | qos-block-size optional | Specifies the I/O block size for the QoS adaptive policy group. The default value is 'any'. When block-size of 'any' is specified, then control is by IOPS. When block-size other than 'any' is specified, then control is by IOPS and bytes per second(bps). bps is the product of IOPS and block-size. Possible values:<br>• "any" ,<br>• "4k" ,<br>• "8k" ,<br>• "16k" ,<br>• "32k" ,<br>• "64k" ,<br>• "128k" |
| **expected-iops** | | qos-tput-capacity optional | Expected IOPS. Specifies the minimum expected IOPS per TB\|GB allocated based on the storage object allocated size. |
| **expected-iops-allocation** | | qos-expected-iops-allocation optional | Expected IOPS Allocation. Specifies the expected-iops allocation policy. The allocation policy is either allocated-space or used-space. When the expected-iops-allocation policy is set to allocated-space, the expected-iops is calculated based on the size of the storage object. When the expected-iops-allocation policy is set to used-space, the expected-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is allocated-space. Possible values:<br>• "used_space" ,<br>• "allocated_space" |
| **peak-iops** | | qos-tput-capacity optional | Peak IOPS. Specifies the maximum possible IOPS per TB\|GB allocated based on the storage object allocated size or the storage object used size. |
| **peak-iops-allocation** | | qos-peak-iops-allocation optional | Peak IOPS Allocation. Specifies the peak-iops allocation policy. The allocation policy is either allocated-space or used-space. When the peak-iops-allocation policy is set to allocated-space, the peak-iops is calculated based on the size of the storage object. When the peak-iops-allocation policy is set to used-space, the peak-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is used-space. Possible values:<br>• "allocated_space" ,<br>• "used_space" |
| **policy-** | | | Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and |

| | | | |
|---|---|---|---|
| **group** | | string | '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

# qos-adaptive-policy-group-modify-iter

[top]

Modify multiple adaptive policy groups

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | qos-adaptive-policy-group-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple qos-adaptive-policy-group objects match a given query. If set to true, the API will continue modifying the next matching qos-adaptive-policy-group even when modification of a previous qos-adaptive-policy-group fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-adaptive-policy-group even when the modification of a previous matching qos-adaptive-policy-group fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | qos-adaptive-policy-group-info | If modifying a specific qos-adaptive-policy-group, this input element must specify all keys. If modifying qos-adaptive-policy-group objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of qos-adaptive-policy-group objects (just keys) that were not modified due to some error. If set to false, the list of qos-adaptive-policy-group objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of qos-adaptive-policy-group objects (just keys) that were successfully updated. If set to false, the list of qos-adaptive-policy-group objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **failure-list** | | qos-adaptive-policy-group-modify-iter-info[] optional | Information about qos-adaptive-policy-group objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching qos-adaptive-policy-group objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of qos-adaptive-policy-group objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of qos-adaptive-policy-group objects that matched the query and were successfully updated. |
| **success-list** | | qos-adaptive-policy-group-modify-iter-info[] optional | The qos-adaptive-policy-group objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

# qos-adaptive-policy-group-rename

[top]

Rename a QoS adaptive policy group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-name** | | string | New adaptive policy group name |
| **policy-group-name** | | string | Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. |

| Errno | Description |
|---|---|
| **E_QOS_INVALID_PG_NAME** | |
| **E_QOS_PG_ALREADY_EXISTS** | |

# qos-policy-group-create

[top]

Create a policy group. A unique name must be provided for the new policy group. A QoS Policy group defines measurable Service Level Objectives (SLOs) that apply to the storage object with which the policy group is associated.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-shared** | | boolean optional | Policy group shared state. Default: true. |

| | | | |
|---|---|---|---|
| **max-throughput** | | qos-tput optional | Maximum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s, and the range is zero to infinity. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for max-throughput is infinity. The default unit is IOPS. Two reserved keywords, 'none' and 'INF', are available for the situation that requires removal of a value, and the situation that needs to specify the maximum available value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. |
| **min-throughput** | | qos-tput optional | Minimum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for min-throughput is 0. The default unit is IOPS. One reserved keywords, 'none' is available for the situation that requires removal of a value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. |
| **policy-group** | | string | Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. |
| **return-record** | | boolean optional | If set to true, returns the qos-policy-group on successful creation. Default: false |
| **vserver** | | vserver-name | The Data Vserver to which the policy group belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | qos-policy-group-info optional | The qos-policy-group created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **E_QOS_INVALID_PG_NAME** | |
| **E_QOS_NON_DATA_VSERVER_FOR_FLEX_PROHIBITED** | |

# qos-policy-group-delete

[top]

Delete single policy group. The default policy group may not be deleted. An error will be returned if the policy group is attached to any workloads unless 'force' is set to true. Only user defined policy groups may be deleted.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Setting to 'true' forces the deletion of the workloads associated with the policy group along with the policy group. The default is 'false'. |
| **policy-group** | | string | Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| E_QOS_PG_DEL_ERROR_WKLOADS_EXIST | |

# qos-policy-group-delete-iter

[top]

Delete multiple policy groups

| Input Name | Range | Type | Description |
|---|---|---|---|
| continue-on-failure | | boolean optional | This input element is useful when multiple qos-policy-group objects match a given query. If set to true, the API will continue with the next matching qos-policy-group even when the operation fails for the qos-policy-group. If set to false, the API will return on the first failure. Default: false |
| force | | boolean optional | Setting to 'true' forces the deletion of the workloads associated with the policy group along with the policy group. The default is 'false'. |
| max-failure-count | [1..2^32-1] | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching qos-policy-group even when the operation on a previous matching qos-policy-group fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| max-records | [1..2^32-1] | integer optional | The maximum number of qos-policy-group objects to be operated in this call. Default: 20 |
| query | | qos-policy-group-info | If operating on a specific qos-policy-group, this input element must specify all keys. If operating on qos-policy-group objects based on query, this input element must specify a query. |
| return-failure-list | | boolean optional | If set to true, the API will return the list of qos-policy-group objects (just keys) that were not operated on due to some error. If set to false, the list of qos-policy-group objects not operated on will not be returned. Default: true |
| return-success-list | | boolean optional | If set to true, the API will return the list of qos-policy-group objects (just keys) that were successfully operated on. If set to false, the list of qos-policy-group objects operated on will not be returned. Default: true |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| failure-list | | qos-policy-group-delete-iter-info[] optional | Information about qos-policy-group objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more matching qos-policy-group objects to be operated on. |

| | | | |
|---|---|---|---|
| **num-failed** | **[0..2^32-1]** | integer optional | The number of qos-policy-group objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of qos-policy-group objects that matched the query and were successfully processed. |
| **success-list** | | qos-policy-group-delete-iter-info[] optional | The qos-policy-group objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **E_QOS_PG_DEL_ERROR_WKLOADS_EXIST** | |

# qos-policy-group-get

[top]

Get the attributes of a policy group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qos-policy-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy-group** | | string | Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | qos-policy-group-info | The attributes of the qos-policy-group. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# qos-policy-group-get-iter

[top]

Iterate over list of policy groups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qos-policy-group- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available |

| | | | |
|---|---|---|---|
| | | info optional | will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | qos-policy-group-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-policy-group object. All qos-policy-group objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | qos-policy-group-info[] optional | The list of attributes of qos-policy-group objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more qos-policy-group objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-policy-group-modify

[top]

Modify an existing policy group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **max-throughput** | | qos-tput optional | Maximum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s, and the range is zero to infinity. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for max-throughput is infinity. The default unit is IOPS. Two reserved keywords, 'none' and 'INF', are available for the situation that requires removal of a value, and the situation that needs to specify the maximum available value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. |
| **min-throughput** | | qos-tput optional | Minimum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for min-throughput is 0. The default unit is IOPS. One reserved keywords, 'none' is available for the situation that requires removal of a value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. |
| | | | Name of the policy group. Policy group names must be unique and are |

| | | | |
|---|---|---|---|
| **policy-group** | | string | restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

# qos-policy-group-modify-iter

[top]

Modify multiple policy groups

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | qos-policy-group-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple qos-policy-group objects match a given query. If set to true, the API will continue modifying the next matching qos-policy-group even when modification of a previous qos-policy-group fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-policy-group even when the modification of a previous matching qos-policy-group fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | qos-policy-group-info | If modifying a specific qos-policy-group, this input element must specify all keys. If modifying qos-policy-group objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of qos-policy-group objects (just keys) that were not modified due to some error. If set to false, the list of qos-policy-group objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of qos-policy-group objects (just keys) that were successfully updated. If set to false, the list of qos-policy-group objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | qos-policy-group-modify-iter- | Information about qos-policy-group objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |

| | | | |
|---|---|---|---|
| | | info[] optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching qos-policy-group objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of qos-policy-group objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of qos-policy-group objects that matched the query and were successfully updated. |
| **success-list** | | qos-policy-group-modify-iter-info[] optional | The qos-policy-group objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

# qos-policy-group-rename

[top]

Rename a QoS Policy Group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-name** | | string | New Policy Group Name |
| **policy-group-name** | | string | Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. |

| Errno | Description |
|---|---|
| **E_QOS_INVALID_PG_NAME** | |
| **E_QOS_PG_ALREADY_EXISTS** | |

# qos-settings-read-ahead-create

[top]

Create a new read-ahead setting. A unique name must be provided for the new read-ahead setting. If the 'default' field is set to true, these become the default read-ahead settings for settings that don't otherwise name read-ahead settings. Unless creating a new default, creating read-ahead settings should usually be assigned to an existing QoS setting.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **align-blocks** | **[8..256]** | integer optional | Block alignment |
| **default** | | boolean optional | Specifies whether this is the default readahead setting |
| **disk-response-factor** | **[1..10]** | integer optional | Disk response time factor |
| **disk-response-** | **[0..100]** | integer | Weight for disk response time aging (%) |

| | | | |
|---|---|---|---|
| **weight** | | optional | |
| **early-count** | **[0..1024]** | integer<br>optional | Number of IO operations cautiously predicted |
| **force-dump** | | boolean<br>optional | Force DUMP-style readahead |
| **force-full** | | boolean<br>optional | Force full-file readahead |
| **force-none** | | boolean<br>optional | Disable readahead |
| **interarrival-weight** | **[0..100]** | integer<br>optional | Weight for interarrival time aging (%) |
| **jitter** | **[0..100]** | integer<br>optional | Threshold for detecting jitter (%) |
| **max-blocks** | **[64..1024]** | integer<br>optional | Maximum blocks to speculate |
| **max-deadline** | **[100000..5000000]** | integer<br>optional | Maximum deadline Offset (ms) |
| **max-disk-response-time** | **[100..50000]** | integer<br>optional | Maximum disk response time (ms) |
| **max-gap** | **[512..4096]** | integer<br>optional | Maximum speculative blocks outstanding |
| **max-range** | **[1024..40960]** | integer<br>optional | Maximum range used when aging streams (Blocks) |
| **max-retire-time** | **[10000..10000000]** | integer<br>optional | Maximum Time Before a Stream is Retired (us) |
| **metadata-blocks** | **[0..2048]** | integer<br>optional | Minimum blocks for which metadata is predicted |
| **min-blocks** | **[64..1024]** | integer<br>optional | Minimum blocks to speculate |
| **min-disk-response-time** | **[100..50000]** | integer<br>optional | Minimum disk response time (ms) |
| **min-file-histogram** | **[8192..33554432]** | integer<br>optional | Minimum filesize for Histogram-based predictions (blocks) |
| **min-range** | **[1024..40960]** | integer<br>optional | Minimum range used when aging streams (Blocks) |
| **min-retire-time** | **[10000..10000000]** | integer<br>optional | Minimum Time Before a Stream is Retired (us) |
| **overshoot** | **[0..500]** | integer<br>optional | Allowable overshoot (%) |
| **read-ahead-class** | | qos-class<br>optional | Readahead setting class Possible values:<br>• "undefined" ,<br>• "preset" ,<br>• "user_defined" ,<br>• "system_defined" ,<br>• "autovolume" ,<br>• "load_control" |
| **read-ahead-setting-name** | | string | Name of QoS Readahead Setting. |
| **return-record** | | boolean<br>optional | If set to true, returns the qos-settings-read-ahead on successful creation. Default: false |
| **smallfile-blocks** | **[0..128]** | integer<br>optional | Maximum blocks for small-file handling |
| | | boolean | |

| | | | |
|---|---|---|---|
| **use-async** | | optional | Use asynchronous speculation |
| **use-feedback** | | boolean optional | Provide cache-miss feedback |
| **use-histogram** | | boolean optional | Use Histogram-based predictions |
| **use-timing** | | boolean optional | Use timing algorithms |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | qos-settings-read-ahead-info optional | The qos-settings-read-ahead created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-settings-read-ahead-destroy

[top]

Destroy single read-ahead setting. The default setting may not be destroyed. The setting may not be attached to any workloads. Only user defined settings may be destroyed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **read-ahead-setting-name** | | string | Name of QoS Readahead Setting. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# qos-settings-read-ahead-destroy-iter

[top]

Destroy multiple read-ahead settings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple qos-settings-read-ahead objects match a given query. If set to true, the API will continue deleting the next matching qos-settings-read-ahead even when the deletion of a previous qos-settings-read-ahead fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching qos-settings-read-ahead even when the deletion of a previous matching qos-settings-read-ahead fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of qos-settings-read-ahead objects to delete in this call. Default: 20 |
| **query** | | qos-settings-read-ahead-info | If deleting a specific qos-settings-read-ahead, this input element must specify all keys. If deleting multiple qos-settings-read-ahead objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of qos-settings-read-ahead objects (just keys) that were not deleted due to some error. If set to false, the list of qos-settings-read-ahead objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of qos-settings-read-ahead objects (just keys) that were successfully deleted. If set to false, the list of qos-settings-read-ahead objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | qos-settings-read-ahead-destroy-iter-info[] optional | Information about qos-settings-read-ahead objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching qos-settings-read-ahead objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of qos-settings-read-ahead objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of qos-settings-read-ahead objects that matched the query and were successfully deleted. |
| **success-list** | | qos-settings-read-ahead-destroy-iter-info[] optional | The qos-settings-read-ahead objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-settings-read-ahead-get

[top]

Get the attributes of a read-ahead setting.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | qos- | |

| | | | |
|---|---|---|---|
| **desired-attributes** | | settings-read-ahead-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **read-ahead-setting-name** | | string | Name of QoS Readahead Setting. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | qos-settings-read-ahead-info | The attributes of the qos-settings-read-ahead. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# qos-settings-read-ahead-get-iter

[top]

Iterate over list of read-ahead settings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qos-settings-read-ahead-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | qos-settings-read-ahead-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-settings-read-ahead object. All qos-settings-read-ahead objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | qos-settings-read-ahead-info[] optional | The list of attributes of qos-settings-read-ahead objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more qos-settings-read-ahead objects to return. |
| | **[0..2^32-** | | |

| | | | |
|---|---|---|---|
| **num-records** | **1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-settings-read-ahead-modify

[top]

Modify an existing read-ahead setting.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **align-blocks** | **[8..256]** | integer optional | Block alignment |
| **default** | | boolean optional | Specifies whether this is the default readahead setting |
| **disk-response-factor** | **[1..10]** | integer optional | Disk response time factor |
| **disk-response-weight** | **[0..100]** | integer optional | Weight for disk response time aging (%) |
| **early-count** | **[0..1024]** | integer optional | Number of IO operations cautiously predicted |
| **force-dump** | | boolean optional | Force DUMP-style readahead |
| **force-full** | | boolean optional | Force full-file readahead |
| **force-none** | | boolean optional | Disable readahead |
| **interarrival-weight** | **[0..100]** | integer optional | Weight for interarrival time aging (%) |
| **jitter** | **[0..100]** | integer optional | Threshold for detecting jitter (%) |
| **max-blocks** | **[64..1024]** | integer optional | Maximum blocks to speculate |
| **max-deadline** | **[100000..5000000]** | integer optional | Maximum deadline Offset (ms) |
| **max-disk-response-time** | **[100..50000]** | integer optional | Maximum disk response time (ms) |
| **max-gap** | **[512..4096]** | integer optional | Maximum speculative blocks outstanding |
| **max-range** | **[1024..40960]** | integer optional | Maximum range used when aging streams (Blocks) |
| **max-retire-time** | **[10000..10000000]** | integer optional | Maximum Time Before a Stream is Retired (us) |
| **metadata-blocks** | **[0..2048]** | integer optional | Minimum blocks for which metadata is predicted |
| **min-blocks** | **[64..1024]** | integer optional | Minimum blocks to speculate |
| **min-disk-response-time** | **[100..50000]** | integer optional | Minimum disk response time (ms) |
| **min-file-histogram** | **[8192..33554432]** | integer optional | Minimum filesize for Histogram-based predictions (blocks) |

| | | | |
|---|---|---|---|
| **min-range** | **[1024..40960]** | integer optional | Minimum range used when aging streams (Blocks) |
| **min-retire-time** | **[10000..10000000]** | integer optional | Minimum Time Before a Stream is Retired (us) |
| **overshoot** | **[0..500]** | integer optional | Allowable overshoot (%) |
| **read-ahead-setting-name** | | string | Name of QoS Readahead Setting. |
| **smallfile-blocks** | **[0..128]** | integer optional | Maximum blocks for small-file handling |
| **use-async** | | boolean optional | Use asynchronous speculation |
| **use-feedback** | | boolean optional | Provide cache-miss feedback |
| **use-histogram** | | boolean optional | Use Histogram-based predictions |
| **use-timing** | | boolean optional | Use timing algorithms |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# qos-settings-read-ahead-modify-iter

[top]

Modify multiple read-ahead settings

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | qos-settings-read-ahead-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple qos-settings-read-ahead objects match a given query. If set to true, the API will continue modifying the next matching qos-settings-read-ahead even when modification of a previous qos-settings-read-ahead fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-settings-read-ahead even when the modification of a previous matching qos-settings-read-ahead fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| | | qos-settings- | If modifying a specific qos-settings-read-ahead, this input element |

| | | | |
|---|---|---|---|
| **query** | | read-ahead-info | must specify all keys. If modifying qos-settings-read-ahead objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of qos-settings-read-ahead objects (just keys) that were not modified due to some error. If set to false, the list of qos-settings-read-ahead objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of qos-settings-read-ahead objects (just keys) that were successfully updated. If set to false, the list of qos-settings-read-ahead objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | qos-settings-read-ahead-modify-iter-info[] optional | Information about qos-settings-read-ahead objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching qos-settings-read-ahead objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of qos-settings-read-ahead objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of qos-settings-read-ahead objects that matched the query and were successfully updated. |
| **success-list** | | qos-settings-read-ahead-modify-iter-info[] optional | The qos-settings-read-ahead objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-workload-delete

[top]

Delete a single workload. Only user defined workloads may be deleted.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **workload-name** | | string | User visible name of QoS workload. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

| | |
|---|---|
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# qos-workload-delete-iter

[top]

Delete multiple workloads. Only user defined workloads may be deleted.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple qos-workload objects match a given query. If set to true, the API will continue deleting the next matching qos-workload even when the deletion of a previous qos-workload fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching qos-workload even when the deletion of a previous matching qos-workload fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of qos-workload objects to delete in this call. Default: 20 |
| **query** | | qos-workload-info | If deleting a specific qos-workload, this input element must specify all keys. If deleting multiple qos-workload objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of qos-workload objects (just keys) that were not deleted due to some error. If set to false, the list of qos-workload objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of qos-workload objects (just keys) that were successfully deleted. If set to false, the list of qos-workload objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | qos-workload-delete-iter-info[] optional | Information about qos-workload objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching qos-workload objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of qos-workload objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of qos-workload objects that matched the query and were successfully deleted. |
| | | qos-workload- | The qos-workload objects that were successfully deleted. This |

| | | | |
|---|---|---|---|
| **success-list** | | delete-iter-info[] optional | element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-workload-get

[top]

Get the attributes of a workload.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qos-workload-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **workload-name** | | string | User visible name of QoS workload. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | qos-workload-info | The attributes of the qos-workload. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# qos-workload-get-iter

[top]

Iterate over list of workloads.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qos-workload-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | qos-workload-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-workload object. All qos-workload objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **attributes-list** | | qos-workload-info[] optional | The list of attributes of qos-workload objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more qos-workload objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-workload-modify

[top]

Modify an existing workload. This may be used to rename the workload, modify the workload's ID, its class, or its category.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **read-ahead** | | string optional | Name for a read-ahead tunable policy. |
| **workload-name** | | string | User visible name of QoS workload. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# qos-workload-modify-iter

[top]

Modify multiple workloads

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | qos-workload-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple qos-workload objects match a given query. If set to true, the API will continue modifying the next matching qos-workload even when modification of a previous qos-workload fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-workload even when the modification of a previous matching qos-workload fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum |

| | | | |
|---|---|---|---|
| | | | or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | qos-workload-info | If modifying a specific qos-workload, this input element must specify all keys. If modifying qos-workload objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of qos-workload objects (just keys) that were not modified due to some error. If set to false, the list of qos-workload objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of qos-workload objects (just keys) that were successfully updated. If set to false, the list of qos-workload objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | qos-workload-modify-iter-info[] optional | Information about qos-workload objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching qos-workload objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of qos-workload objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of qos-workload objects that matched the query and were successfully updated. |
| **success-list** | | qos-workload-modify-iter-info[] optional | The qos-workload objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-workload-policy-count-get

[top]

Get the cluster-wide QoS policy-group and workload count.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qos-workload-policy-count-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | qos-workload-policy-count-info | The attributes of the qos-workload-policy-count. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **cache-info**

[top]

QoS cache policy typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cache-class** | | qos-class optional | Cache Policy Class Attributes: optional-for-create, non-modifiable Possible values:<br>• "undefined" ,<br>• "preset" ,<br>• "user_defined" ,<br>• "system_defined" ,<br>• "autovolume" ,<br>• "load_control" |
| **cache-policy-name** | | string optional | Name of the QoS Cache policy Attributes: key, required-for-create, non-modifiable |
| **is-default** | | boolean optional | Identifies the default Cache policy. If this field is true then QoS workloads with the special value 'default' in the cache field will use this cache policy. Attributes: required-for-create, modifiable |
| **is-lopri-data** | | boolean optional | Cache Lopri Attributes: non-creatable, non-modifiable |
| **is-meta-data** | | boolean optional | Cache Metadata Attributes: non-creatable, non-modifiable |
| **is-normal-data** | | boolean optional | Cache Normal Data Blocks Attributes: non-creatable, non-modifiable |
| **is-randomwrite-data** | | boolean optional | Cache Random Write Blocks Attributes: non-creatable, non-modifiable |
| **is-readahead-data** | | boolean optional | Cache Readahead Blocks Attributes: non-creatable, non-modifiable |

# Element definition: **cache-policy-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-settings-cache object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **qos-settings-cache-key** | | cache-info | The keys for the qos-settings-cache object to which the modify operation applies. |

# Element definition: **qos-adaptive-policy-group-delete-iter-info**

[top]

Information about the operation that was attempted/performed against qos-adaptive-policy-group object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **qos-adaptive-policy-group-key** | | qos-adaptive-policy-group-info | The keys for the qos-adaptive-policy-group object to which the operation applies. |

# Element definition: **qos-adaptive-policy-group-info**

[top]

Information about a QoS adaptive policy group When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **absolute-min-iops** | | qos-tput optional | Absolute Minimum IOPS. Specifies the absolute minimum IOPS which is used as an override when the expected_iops is less than this value. The default value is computed as follows: if expected-iops >= 6144/TB, then absolute-min-iops = 1000; if expected-iops >= 2048/TB and expected-iops < 6144/TB, then absolute-min-iops = 500; if expected-iops >= 1/MB and expected-iops < 2048/TB, then absolute-min-iops = 75. Attributes: optional-for-create, modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **block-size** | | qos-block-size optional | Specifies the I/O block size for the QoS adaptive policy group. The default value is 'any'. When block-size of 'any' is specified, then control is by IOPS. When block-size other than 'any' is specified, then control is by IOPS and bytes per second(bps). bps is the product of IOPS and block-size. Attributes: optional-for-create, modifiable Possible values:<br>• "any" ,<br>• "4k" ,<br>• "8k" ,<br>• "16k" ,<br>• "32k" ,<br>• "64k" ,<br>• "128k" |
| **expected-iops** | | qos-tput-capacity optional | Expected IOPS. Specifies the minimum expected IOPS per TB\|GB allocated based on the storage object allocated size. Attributes: required-for-create, modifiable |
| **expected-iops-allocation** | | qos-expected-iops-allocation optional | Expected IOPS Allocation. Specifies the expected-iops allocation policy. The allocation policy is either allocated-space or used-space. When the expected-iops-allocation policy is set to allocated-space, the expected-iops is calculated based on the size of the storage object. When the expected-iops-allocation policy is set to used-space, the expected-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is allocated-space. Attributes: optional-for-create, modifiable Possible values:<br>• "used_space" ,<br>• "allocated_space" |
| **num-workloads** | **[0..2^32-1]** | integer optional | Number of workloads under this adaptive policy group. Attributes: non-creatable, non-modifiable |
| **peak-iops** | | qos-tput-capacity optional | Peak IOPS. Specifies the maximum possible IOPS per TB\|GB allocated based on the storage object allocated size or the storage object used size. Attributes: required-for-create, modifiable |
| **peak-iops-allocation** | | qos-peak-iops-allocation optional | Peak IOPS Allocation. Specifies the peak-iops allocation policy. The allocation policy is either allocated-space or used-space. When the peak-iops-allocation policy is set to allocated-space, the peak-iops is calculated based on the size of the storage object. When the peak-iops-allocation policy is set to used-space, the peak-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is used-space. Attributes: optional-for-create, modifiable Possible values:<br>• "allocated_space" ,<br>• "used_space" |
| **pgid** | **[0..2^32-1]** | integer optional | The ID used to identify the adaptive policy group. Attributes: non-creatable, non-modifiable |
| **policy-group** | | string optional | Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. Attributes: key, required-for-create, non-modifiable |
| **uuid** | | uuid optional | Universally unique identifier for the adaptive policy group. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | The Data Vserver to which the adaptive policy group belongs. Attributes: required-for-create, non-modifiable |

# Element definition: **qos-adaptive-policy-group-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-adaptive-policy-group object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **qos-adaptive-policy-group-key** | | qos-adaptive-policy-group-info | The keys for the qos-adaptive-policy-group object to which the modify operation applies. |

# Element definition: **qos-block-size**

[top]

ANY|4K|8K|16K|32K|64K|128K Possible values:

- "any" ,
- "4k" ,
- "8k" ,
- "16k" ,
- "32k" ,
- "64k" ,
- "128k"

[none]

# Element definition: **qos-class**

[top]

QoS Configuration Class Possible values:

- "undefined" ,
- "preset" ,
- "user_defined" ,
- "system_defined" ,
- "autovolume" ,
- "load_control"

[none]

# Element definition: **qos-expected-iops-allocation**

[top]

used-space|allocated-space Possible values:

- "used_space" ,
- "allocated_space"

[none]

## Element definition: **qos-peak-iops-allocation** [top]

used-space|allocated-space Possible values:

- "allocated_space" ,
- "used_space"

[none]

## Element definition: **qos-policy-group-delete-iter-info** [top]

Information about the operation that was attempted/performed against qos-policy-group object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **qos-policy-group-key** | | qos-policy-group-info | The keys for the qos-policy-group object to which the operation applies. |

## Element definition: **qos-policy-group-info** [top]

Information about a QoS policy group When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-auto-generated** | | boolean optional | Indicates whether the policy group was automatically generated by ONTAP. Default: false. Attributes: non-creatable, non-modifiable |
| **is-shared** | | boolean optional | Policy group shared state. Default: true. Attributes: optional-for-create, non-modifiable |

| | | | |
|---|---|---|---|
| **max-throughput** | | qos-tput optional | Maximum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s, and the range is zero to infinity. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for max-throughput is infinity. The default unit is IOPS. Two reserved keywords, 'none' and 'INF', are available for the situation that requires removal of a value, and the situation that needs to specify the maximum available value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. Attributes: optional-for-create, modifiable |
| **min-throughput** | | qos-tput optional | Minimum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for min-throughput is 0. The default unit is IOPS. One reserved keywords, 'none' is available for the situation that requires removal of a value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. Attributes: optional-for-create, modifiable |
| **num-workloads** | **[0..2^32-1]** | integer optional | Number of workloads under this policy group. Attributes: non-creatable, non-modifiable |
| **pgid** | **[0..2^32-1]** | integer optional | The ID used to identify the policy group. Attributes: non-creatable, non-modifiable |
| **policy-group** | | string optional | Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. Attributes: key, required-for-create, non-modifiable |
| **policy-group-class** | | qos-class optional | Class for the policy group. Attributes: non-creatable, non-modifiable Possible values:<br>• "undefined" ,<br>• "preset" ,<br>• "user_defined" ,<br>• "system_defined" ,<br>• "autovolume" ,<br>• "load_control" |
| **uuid** | | uuid optional | Universally unique identifier for the QoS policy group. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | The Data Vserver to which the policy group belongs. Attributes: required-for-create, non-modifiable |

# Element definition: **qos-policy-group-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-policy-group object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |

| | | | |
|---|---|---|---|
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **qos-policy-group-key** | | qos-policy-group-info | The keys for the qos-policy-group object to which the modify operation applies. |

# Element definition: **qos-settings-read-ahead-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against qos-settings-read-ahead object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **qos-settings-read-ahead-key** | | qos-settings-read-ahead-info | The keys for the qos-settings-read-ahead object to which the deletion applies. |

# Element definition: **qos-settings-read-ahead-info**

[top]

QoS read-ahead setting typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **align-blocks** | **[8..256]** | integer optional | Block alignment Attributes: optional-for-create, modifiable |
| **default** | | boolean optional | Specifies whether this is the default readahead setting Attributes: optional-for-create, modifiable |
| **disk-response-factor** | **[1..10]** | integer optional | Disk response time factor Attributes: optional-for-create, modifiable |
| **disk-response-weight** | **[0..100]** | integer optional | Weight for disk response time aging (%) Attributes: optional-for-create, modifiable |
| **early-count** | **[0..1024]** | integer optional | Number of IO operations cautiously predicted Attributes: optional-for-create, modifiable |
| **force-dump** | | boolean optional | Force DUMP-style readahead Attributes: optional-for-create, modifiable |
| **force-full** | | boolean optional | Force full-file readahead Attributes: optional-for-create, modifiable |
| **force-none** | | boolean optional | Disable readahead Attributes: optional-for-create, modifiable |
| **interarrival-** | | integer | Weight for interarrival time aging (%) Attributes: |

| | | | |
|---|---|---|---|
| **weight** | **[0..100]** | optional | optional-for-create, modifiable |
| **jitter** | **[0..100]** | integer optional | Threshold for detecting jitter (%) Attributes: optional-for-create, modifiable |
| **max-blocks** | **[64..1024]** | integer optional | Maximum blocks to speculate Attributes: optional-for-create, modifiable |
| **max-deadline** | **[100000..5000000]** | integer optional | Maximum deadline Offset (ms) Attributes: optional-for-create, modifiable |
| **max-disk-response-time** | **[100..50000]** | integer optional | Maximum disk response time (ms) Attributes: optional-for-create, modifiable |
| **max-gap** | **[512..4096]** | integer optional | Maximum speculative blocks outstanding Attributes: optional-for-create, modifiable |
| **max-range** | **[1024..40960]** | integer optional | Maximum range used when aging streams (Blocks) Attributes: optional-for-create, modifiable |
| **max-retire-time** | **[10000..10000000]** | integer optional | Maximum Time Before a Stream is Retired (us) Attributes: optional-for-create, modifiable |
| **metadata-blocks** | **[0..2048]** | integer optional | Minimum blocks for which metadata is predicted Attributes: optional-for-create, modifiable |
| **min-blocks** | **[64..1024]** | integer optional | Minimum blocks to speculate Attributes: optional-for-create, modifiable |
| **min-disk-response-time** | **[100..50000]** | integer optional | Minimum disk response time (ms) Attributes: optional-for-create, modifiable |
| **min-file-histogram** | **[8192..33554432]** | integer optional | Minimum filesize for Histogram-based predictions (blocks) Attributes: optional-for-create, modifiable |
| **min-range** | **[1024..40960]** | integer optional | Minimum range used when aging streams (Blocks) Attributes: optional-for-create, modifiable |
| **min-retire-time** | **[10000..10000000]** | integer optional | Minimum Time Before a Stream is Retired (us) Attributes: optional-for-create, modifiable |
| **overshoot** | **[0..500]** | integer optional | Allowable overshoot (%) Attributes: optional-for-create, modifiable |
| **read-ahead-class** | | qos-class optional | Readahead setting class Attributes: optional-for-create, non-modifiable Possible values:<br>• "undefined" ,<br>• "preset" ,<br>• "user_defined" ,<br>• "system_defined" ,<br>• "autovolume" ,<br>• "load_control" |
| **read-ahead-setting-name** | | string optional | Name of QoS Readahead Setting. Attributes: key, required-for-create, non-modifiable |
| **smallfile-blocks** | **[0..128]** | integer optional | Maximum blocks for small-file handling Attributes: optional-for-create, modifiable |
| **use-async** | | boolean optional | Use asynchronous speculation Attributes: optional-for-create, modifiable |
| **use-feedback** | | boolean optional | Provide cache-miss feedback Attributes: optional-for-create, modifiable |
| **use-histogram** | | boolean optional | Use Histogram-based predictions Attributes: optional-for-create, modifiable |
| **use-timing** | | boolean optional | Use timing algorithms Attributes: optional-for-create, modifiable |

# Element definition: **qos-settings-read-ahead-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-settings-read-ahead object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **qos-settings-read-ahead-key** | | qos-settings-read-ahead-info | The keys for the qos-settings-read-ahead object to which the modify operation applies. |

# Element definition: **qos-tput**

[top]

QoS throughput type

[none]

# Element definition: **qos-tput-capacity**

[top]

QoS throughput per capacity unit type

[none]

# Element definition: **qos-workload-delete-iter-info**

[top]

Information about the deletion operation that was attempted/performed against qos-workload object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **qos-workload-key** | | qos-workload-info | The keys for the qos-workload object to which the deletion applies. |

# Element definition: **qos-workload-info**

[top]

Information about a QoS workload When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **category** | | string optional | Category used to identify the workload. Attributes: non-creatable, non-modifiable |
| **file** | | string optional | Name for a file workload. Attributes: optional-for-create, non-modifiable |
| **is-adaptive** | | boolean optional | Type of policy group the workload belongs to. Attributes: non-creatable, non-modifiable |
| **is-constituent** | | boolean optional | Whether the storage object is a constituent of another volume. Attributes: non-creatable, non-modifiable |
| **lun** | | string optional | Name for a lun workload. Attributes: optional-for-create, non-modifiable |
| **max-throughput** | | qos-tput optional | Maximum throughput for the workload. Attributes: non-creatable, non-modifiable |
| **min-throughput** | | qos-tput optional | Minimum throughput for the workload. Attributes: non-creatable, non-modifiable |
| **policy-group** | | string optional | Name for a QoS policy group. Attributes: non-creatable, non-modifiable |
| **qtree** | | string optional | Name for a qtree workload. Attributes: optional-for-create, non-modifiable |
| **read-ahead** | | string optional | Name for a read-ahead tunable policy. Attributes: optional-for-create, modifiable |
| **volume** | | string optional | Name for a volume workload. Attributes: optional-for-create, non-modifiable |
| **vserver** | | string optional | Name for a vserver workload. Attributes: optional-for-create, non-modifiable |
| **wid** | **[0..2^32-1]** | integer optional | Internal identifier for workload. Attributes: non-creatable, non-modifiable |
| **workload-class** | | qos-class optional | Class for the workload. Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "undefined" ,<br>• "preset" ,<br>• "user_defined" ,<br>• "system_defined" ,<br>• "autovolume" ,<br>• "load_control" |
| **workload-name** | | string optional | User visible name of QoS workload. Attributes: key, required-for-create, non-modifiable |
| **workload-uuid** | | uuid optional | Universally unique identifier for the QoS workload. Attributes: non-creatable, non-modifiable |

# Element definition: **qos-workload-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-workload object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **qos-workload-key** | | qos-workload-info | The keys for the qos-workload object to which the modify operation applies. |

# Element definition: **qos-workload-policy-count-info**

[top]

Information about QoS policy-groups and workloads. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **max-user-policies** | **[0..2^32-1]** | integer optional | Max supported user-defined policy groups Attributes: non-creatable, non-modifiable |
| **max-user-workloads** | **[0..2^32-1]** | integer optional | Max supported user-defined workloads Attributes: non-creatable, non-modifiable |
| **total-user-policies** | **[0..2^32-1]** | integer optional | Total configured user-defined policy groups Attributes: non-creatable, non-modifiable |
| **total-user-workloads** | **[0..2^32-1]** | integer optional | Total configured user-defined workloads Attributes: non-creatable, non-modifiable |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **cache-info**

[top]

QoS cache policy typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cache-class** | | qos-class optional | Cache Policy Class Attributes: optional-for-create, non-modifiable Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control" |
| **cache-policy-name** | | string optional | Name of the QoS Cache policy Attributes: key, required-for-create, non-modifiable |
| **is-default** | | boolean optional | Identifies the default Cache policy. If this field is true then QoS workloads with the special value 'default' in the cache field will use this cache policy. Attributes: required-for-create, modifiable |
| **is-lopri-data** | | boolean optional | Cache Lopri Attributes: non-creatable, non-modifiable |
| **is-meta-data** | | boolean optional | Cache Metadata Attributes: non-creatable, non-modifiable |
| **is-normal-data** | | boolean optional | Cache Normal Data Blocks Attributes: non-creatable, non-modifiable |
| **is-randomwrite-data** | | boolean optional | Cache Random Write Blocks Attributes: non-creatable, non-modifiable |
| **is-readahead-data** | | boolean optional | Cache Readahead Blocks Attributes: non-creatable, non-modifiable |

# Element definition: **qos-adaptive-policy-group-info**

[top]

Information about a QoS adaptive policy group When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **absolute-min-iops** | | qos-tput optional | Absolute Minimum IOPS. Specifies the absolute minimum IOPS which is used as an override when the expected_iops is less than this value. The default value is computed as follows: if expected-iops >= 6144/TB, then absolute-min-iops = 1000; if expected-iops >= 2048/TB and expected-iops < 6144/TB, then absolute-min-iops = |

| | | | |
|---|---|---|---|
| | | | 500; if expected-iops >= 1/MB and expected-iops < 2048/TB, then absolute-min-iops = 75. Attributes: optional-for-create, modifiable |
| **block-size** | | qos-block-size optional | Specifies the I/O block size for the QoS adaptive policy group. The default value is 'any'. When block-size of 'any' is specified, then control is by IOPS. When block-size other than 'any' is specified, then control is by IOPS and bytes per second(bps). bps is the product of IOPS and block-size. Attributes: optional-for-create, modifiable Possible values:<br>• "any" ,<br>• "4k" ,<br>• "8k" ,<br>• "16k" ,<br>• "32k" ,<br>• "64k" ,<br>• "128k" |
| **expected-iops** | | qos-tput-capacity optional | Expected IOPS. Specifies the minimum expected IOPS per TB\|GB allocated based on the storage object allocated size. Attributes: required-for-create, modifiable |
| **expected-iops-allocation** | | qos-expected-iops-allocation optional | Expected IOPS Allocation. Specifies the expected-iops allocation policy. The allocation policy is either allocated-space or used-space. When the expected-iops-allocation policy is set to allocated-space, the expected-iops is calculated based on the size of the storage object. When the expected-iops-allocation policy is set to used-space, the expected-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is allocated-space. Attributes: optional-for-create, modifiable Possible values:<br>• "used_space" ,<br>• "allocated_space" |
| **num-workloads** | **[0..2^32-1]** | integer optional | Number of workloads under this adaptive policy group. Attributes: non-creatable, non-modifiable |
| **peak-iops** | | qos-tput-capacity optional | Peak IOPS. Specifies the maximum possible IOPS per TB\|GB allocated based on the storage object allocated size or the storage object used size. Attributes: required-for-create, modifiable |
| **peak-iops-allocation** | | qos-peak-iops-allocation optional | Peak IOPS Allocation. Specifies the peak-iops allocation policy. The allocation policy is either allocated-space or used-space. When the peak-iops-allocation policy is set to allocated-space, the peak-iops is calculated based on the size of the storage object. When the peak-iops-allocation policy is set to used-space, the peak-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is used-space. Attributes: optional-for-create, modifiable Possible values:<br>• "allocated_space" ,<br>• "used_space" |
| **pgid** | **[0..2^32-1]** | integer optional | The ID used to identify the adaptive policy group. Attributes: non-creatable, non-modifiable |
| **policy-group** | | string optional | Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. Attributes: key, required-for-create, non-modifiable |
| **uuid** | | uuid optional | Universally unique identifier for the adaptive policy group. Attributes: non-creatable, non-modifiable |
| | | vserver- | |

| | | | |
|---|---|---|---|
| **vserver** | | name<br>optional | The Data Vserver to which the adaptive policy group belongs.<br>Attributes: required-for-create, non-modifiable |

## Element definition: **qos-block-size**

[top]

ANY|4K|8K|16K|32K|64K|128K Possible values:

- "any" ,
- "4k" ,
- "8k" ,
- "16k" ,
- "32k" ,
- "64k" ,
- "128k"

[none]

## Element definition: **qos-class**

[top]

QoS Configuration Class Possible values:

- "undefined" ,
- "preset" ,
- "user_defined" ,
- "system_defined" ,
- "autovolume" ,
- "load_control"

[none]

## Element definition: **qos-expected-iops-allocation**

[top]

used-space|allocated-space Possible values:

- "used_space" ,
- "allocated_space"

[none]

## Element definition: **qos-peak-iops-allocation**

[top]

used-space|allocated-space Possible values:

- "allocated_space" ,
- "used_space"

[none]

# Element definition: **qos-policy-group-info**

[top]

Information about a QoS policy group When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-auto-generated** | | boolean optional | Indicates whether the policy group was automatically generated by ONTAP. Default: false. Attributes: non-creatable, non-modifiable |
| **is-shared** | | boolean optional | Policy group shared state. Default: true. Attributes: optional-for-create, non-modifiable |
| **max-throughput** | | qos-tput optional | Maximum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s, and the range is zero to infinity. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for max-throughput is infinity. The default unit is IOPS. Two reserved keywords, 'none' and 'INF', are available for the situation that requires removal of a value, and the situation that needs to specify the maximum available value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. Attributes: optional-for-create, modifiable |
| **min-throughput** | | qos-tput optional | Minimum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for min-throughput is 0. The default unit is IOPS. One reserved keywords, 'none' is available for the situation that requires removal of a value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. Attributes: optional-for-create, modifiable |
| **num-workloads** | **[0..2^32-1]** | integer optional | Number of workloads under this policy group. Attributes: non-creatable, non-modifiable |
| **pgid** | **[0..2^32-1]** | integer optional | The ID used to identify the policy group. Attributes: non-creatable, non-modifiable |
| **policy-group** | | string optional | Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. Attributes: |

| | | | |
|---|---|---|---|
| | | | key, required-for-create, non-modifiable |
| **policy-group-class** | | qos-class optional | Class for the policy group. Attributes: non-creatable, non-modifiable Possible values:<br>• "undefined" ,<br>• "preset" ,<br>• "user_defined" ,<br>• "system_defined" ,<br>• "autovolume" ,<br>• "load_control" |
| **uuid** | | uuid optional | Universally unique identifier for the QoS policy group. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | The Data Vserver to which the policy group belongs. Attributes: required-for-create, non-modifiable |

# Element definition: **qos-settings-read-ahead-info**

[top]

QoS read-ahead setting typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **align-blocks** | **[8..256]** | integer optional | Block alignment Attributes: optional-for-create, modifiable |
| **default** | | boolean optional | Specifies whether this is the default readahead setting Attributes: optional-for-create, modifiable |
| **disk-response-factor** | **[1..10]** | integer optional | Disk response time factor Attributes: optional-for-create, modifiable |
| **disk-response-weight** | **[0..100]** | integer optional | Weight for disk response time aging (%) Attributes: optional-for-create, modifiable |
| **early-count** | **[0..1024]** | integer optional | Number of IO operations cautiously predicted Attributes: optional-for-create, modifiable |
| **force-dump** | | boolean optional | Force DUMP-style readahead Attributes: optional-for-create, modifiable |
| **force-full** | | boolean optional | Force full-file readahead Attributes: optional-for-create, modifiable |
| **force-none** | | boolean optional | Disable readahead Attributes: optional-for-create, modifiable |
| **interarrival-weight** | **[0..100]** | integer optional | Weight for interarrival time aging (%) Attributes: optional-for-create, modifiable |
| **jitter** | **[0..100]** | integer optional | Threshold for detecting jitter (%) Attributes: optional-for-create, modifiable |
| **max-blocks** | **[64..1024]** | integer optional | Maximum blocks to speculate Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **max-deadline** | **[100000..5000000]** | integer optional | Maximum deadline Offset (ms) Attributes: optional-for-create, modifiable |
| **max-disk-response-time** | **[100..50000]** | integer optional | Maximum disk response time (ms) Attributes: optional-for-create, modifiable |
| **max-gap** | **[512..4096]** | integer optional | Maximum speculative blocks outstanding Attributes: optional-for-create, modifiable |
| **max-range** | **[1024..40960]** | integer optional | Maximum range used when aging streams (Blocks) Attributes: optional-for-create, modifiable |
| **max-retire-time** | **[10000..10000000]** | integer optional | Maximum Time Before a Stream is Retired (us) Attributes: optional-for-create, modifiable |
| **metadata-blocks** | **[0..2048]** | integer optional | Minimum blocks for which metadata is predicted Attributes: optional-for-create, modifiable |
| **min-blocks** | **[64..1024]** | integer optional | Minimum blocks to speculate Attributes: optional-for-create, modifiable |
| **min-disk-response-time** | **[100..50000]** | integer optional | Minimum disk response time (ms) Attributes: optional-for-create, modifiable |
| **min-file-histogram** | **[8192..33554432]** | integer optional | Minimum filesize for Histogram-based predictions (blocks) Attributes: optional-for-create, modifiable |
| **min-range** | **[1024..40960]** | integer optional | Minimum range used when aging streams (Blocks) Attributes: optional-for-create, modifiable |
| **min-retire-time** | **[10000..10000000]** | integer optional | Minimum Time Before a Stream is Retired (us) Attributes: optional-for-create, modifiable |
| **overshoot** | **[0..500]** | integer optional | Allowable overshoot (%) Attributes: optional-for-create, modifiable |
| **read-ahead-class** | | qos-class optional | Readahead setting class Attributes: optional-for-create, non-modifiable Possible values:<br>• "undefined" ,<br>• "preset" ,<br>• "user_defined" ,<br>• "system_defined" ,<br>• "autovolume" ,<br>• "load_control" |
| **read-ahead-setting-name** | | string optional | Name of QoS Readahead Setting. Attributes: key, required-for-create, non-modifiable |
| **smallfile-blocks** | **[0..128]** | integer optional | Maximum blocks for small-file handling Attributes: optional-for-create, modifiable |
| **use-async** | | boolean optional | Use asynchronous speculation Attributes: optional-for-create, modifiable |
| **use-feedback** | | boolean optional | Provide cache-miss feedback Attributes: optional-for-create, modifiable |
| **use-histogram** | | boolean optional | Use Histogram-based predictions Attributes: optional-for-create, modifiable |
| **use-timing** | | boolean optional | Use timing algorithms Attributes: optional-for-create, modifiable |

# Element definition: **qos-tput**

[top]

QoS throughput type

[none]

# Element definition: **qos-tput-capacity**

[top]

QoS throughput per capacity unit type

[none]

# Element definition: **qos-workload-info**

[top]

Information about a QoS workload When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **category** | | string optional | Category used to identify the workload. Attributes: non-creatable, non-modifiable |
| **file** | | string optional | Name for a file workload. Attributes: optional-for-create, non-modifiable |
| **is-adaptive** | | boolean optional | Type of policy group the workload belongs to. Attributes: non-creatable, non-modifiable |
| **is-constituent** | | boolean optional | Whether the storage object is a constituent of another volume. Attributes: non-creatable, non-modifiable |
| **lun** | | string optional | Name for a lun workload. Attributes: optional-for-create, non-modifiable |
| **max-throughput** | | qos-tput optional | Maximum throughput for the workload. Attributes: non-creatable, non-modifiable |
| **min-throughput** | | qos-tput optional | Minimum throughput for the workload. Attributes: non-creatable, non-modifiable |
| **policy-group** | | string optional | Name for a QoS policy group. Attributes: non-creatable, non-modifiable |
| **qtree** | | string optional | Name for a qtree workload. Attributes: optional-for-create, non-modifiable |
| **read-ahead** | | string optional | Name for a read-ahead tunable policy. Attributes: optional-for-create, modifiable |
| **volume** | | string optional | Name for a volume workload. Attributes: optional-for-create, non-modifiable |
| **vserver** | | string optional | Name for a vserver workload. Attributes: optional-for-create, non-modifiable |
| **wid** | **[0..2^32-1]** | integer optional | Internal identifier for workload. Attributes: non-creatable, non-modifiable |
| | | | Class for the workload. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **workload-class** | | qos-class optional | Possible values:<br>• "undefined" ,<br>• "preset" ,<br>• "user_defined" ,<br>• "system_defined" ,<br>• "autovolume" ,<br>• "load_control" |
| **workload-name** | | string optional | User visible name of QoS workload. Attributes: key, required-for-create, non-modifiable |
| **workload-uuid** | | uuid optional | Universally unique identifier for the QoS workload. Attributes: non-creatable, non-modifiable |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **qos-class**

[top]

QoS Configuration Class Possible values:

- "undefined" ,
- "preset" ,
- "user_defined" ,
- "system_defined" ,
- "autovolume" ,
- "load_control"

[none]

# Element definition: **qos-tput**

[top]

QoS throughput type

[none]

# APIs in Category: **qtree**


qtree-create
qtree-delete
qtree-delete-async
qtree-list-iter
qtree-modify
qtree-rename


Because of possible large amount of information returned by qtree list, it is highly recommended to use the qtree list iterator APIs. There are three iterator APIs for qtree list: -start, -next, and -end.

## qtree-create

[top]

Create a new qtree.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **css-versioning** | **[0..2]** | integer optional | Versioning state for CSS bucket on the qtree. Possible values:<br>• 0 - disabled<br>• 1 - enabled<br>• 2 - suspended<br><br>Default value is 0. |
| **export-policy** | | string optional | Export policy of the qtree. If this input is not specified, the qtree will inherit the export policy of the parent volume. |
| **mode** | | string optional | The file permission bits of the qtree. Similar to UNIX permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2, and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID (4), set group ID (2), and sticky (1) attributes. The second digit selects permissions for the owner of the file: read (4), write (2), and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group.<br><br>For unclustered volumes, if this argument is missing, use the value specified in the option "wafl.default_qtree_mode".<br><br>For clustered volumes, if this argument is missing, the permissions of the volume is used. |
| **oplocks** | | string optional | Opportunistic locks mode of the qtree. Possible values: "enabled", "disabled". Default value is the oplock mode of the volume. |
| **qos-policy-group** | | string optional | QoS policy group of the qtree. |
| **qtree** | | string | The path of the qtree, relative to the volume. |
| **security-style** | | string optional | Security style of the qtree. Possible values: "unix", "ntfs", or "mixed". Default value is the security style of the volume. |
| **volume** | | string | Name of the volume on which to create the qtree |

| Errno | Description |
|---|---|
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |

| | |
|---|---|
| **EQTREEEXISTS** | |
| **EQTREENOTOWNER** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEREADONLY** | |
| **EONTAPI_EINVAL** | |
| **EVSERVERNOTFOUND** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |
| **EAGGRFAILINGOVER** | |
| **EAGGRRELOCATING** | |
| **EAGGRMISMATCH** | |
| **EQTREEMAX** | |
| **EINVALIDDSID** | |
| **EAMBIGUOUS_DSID** | |
| **EVOL_RESTRICTED** | |
| **EINTERNALERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# qtree-delete

[top]

Delete the specified qtree.

For clustered volumes, all the quota rules that reference this qtree will be automatically deleted.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force the deletion of the qtree even if it not empty. On using "force" option, ZAPI may take a long time to complete because the contents of the entire qtree will have to be deleted before it returns. Default: false<br><br>For clustered volumes, if the qtree has a large number of files, it is recommended that the qtree-delete-async API be used. |
| **qtree** | | string | Path of an existing qtree. The path should be in this format: /vol/< volume name >/< qtree name >. |

| Errno | Description |
|---|---|
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EQTREENOTOWNER** | |
| **EVOLUMEOFFLINE** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EALREADY** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_ENOTEMPTY** | |
| **EVSERVERNOTFOUND** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |

| | |
|---|---|
| **EAGGRFAILINGOVER** | |
| **EAGGRRELOCATING** | |
| **EAGGRMISMATCH** | |
| **EINVALIDDSID** | |
| **EAMBIGUOUS_DSID** | |
| **EVOL_RESTRICTED** | |
| **EINTERNALERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# qtree-delete-async

[top]

Delete the specified qtree by spawning a background job. The jobid will be returned. The progress of the job can be tracked using the job APIs. All the quota rules that reference this qtree will be automatically deleted.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force the deletion of the qtree even if it not empty. Default: false |
| **qtree** | | string | Path of an existing qtree. The path should be in this format: /vol/< volume name >/< qtree name >. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer | The job id of the job that was queued to delete the qtree. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in-progress", "failed". |

| Errno | Description |
|---|---|
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEOFFLINE** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_ENOENT** | |
| **EVSERVERNOTFOUND** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |
| **EAGGRFAILINGOVER** | |
| **EAGGRRELOCATING** | |
| **EAGGRMISMATCH** | |
| **EINVALIDDSID** | |
| **EAMBIGUOUS_DSID** | |
| **EVOL_RESTRICTED** | |

| | |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# qtree-list-iter

[top]

Iterate over the list of qtrees in the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qtree-info optional | Specify the attributes that should be returned in the qtree-info object. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this response. |
| **query** | | qtree-info optional | A query that specifies which qtrees need to be returned. A query could be specified on any number of attributes in the qtree-info object. All qtree objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the previous iteration. It is usually not specified for the first iteration. For subsequent iterations, copy the value from the 'next-tag' obtained from the previous iteration. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | qtree-info[] optional | The list of attributes of qtree objects. |
| **next-tag** | | string optional | Tag for the next iteration. Not present when there are no more qtree objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this response. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qtree-modify

[top]

Modify the attributes of a qtree. If values are not provided for any of the fields, then that field will not be modified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **css-versioning** | **[0..2]** | integer optional | Versioning state for CSS bucket on the qtree. Possible values:<br>• 0 - disabled<br>• 1 - enabled<br>• 2 - suspended |
| **export-** | | string | Export policy of the qtree. If empty string, the qtree will inherit the export |

| | | | |
|---|---|---|---|
| **policy** | | optional | policy of the parent volume. |
| **mode** | | string optional | The file permission bits of the qtree. Similar to UNIX permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2, and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID (4), set group ID (2), and sticky (1) attributes. The second digit selects permissions for the owner of the file: read (4), write (2), and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. |
| **oplocks** | | string optional | Opportunistic locks mode of the qtree. Possible values: "enabled", "disabled". |
| **qos-policy-group** | | string optional | QoS policy group of the qtree. |
| **qtree** | | string | Name of the qtree. |
| **security-style** | | string optional | Security style of the qtree. Possible values: "unix", "ntfs", or "mixed". Changing the security style of a qtree will change the visibility of existing Windows security descriptors (i.e. ACLs). This may affect the disk space usage values in the quota database. Turn quotas off and then on to re-compute disk space usage. |
| **volume** | | string | Name of the volume containing the qtree to be modified. |

| Errno | Description |
|---|---|
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEREADONLY** | |
| **EQTREE_DOES_NOT_EXIST** | |
| **EONTAPI_EINVAL** | |
| **EVSERVERNOTFOUND** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |
| **EAGGRFAILINGOVER** | |
| **EAGGRRELOCATING** | |
| **EAGGRMISMATCH** | |
| **EINVALIDDSID** | |
| **EAMBIGUOUS_DSID** | |
| **EVOL_RESTRICTED** | |
| **EINTERNALERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# qtree-rename

[top]

Renames the specified qtree to a new name specified by "new-qtree-name".

For clustered volumes, the qtree name in the quota rules will be automatically updated with the new qtree name.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-qtree-** | | | Path of new qtree. The path should be in this format: /vol/< volume name |

| | | | |
|---|---|---|---|
| **name** | | string | >/< dst qtree name >. |
| **qtree** | | string | Path of an existing qtree. The path should be in this format: /vol/< volume name >/< src qtree name >. |

| Errno | Description |
|---|---|
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EQTREENOTOWNER** | |
| **EVOLUMEOFFLINE** | |
| **EONTAPI_EEXIST** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_ENOENT** | |
| **EVSERVERNOTFOUND** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |
| **EAGGRFAILINGOVER** | |
| **EAGGRRELOCATING** | |
| **EAGGRMISMATCH** | |
| **EINVALIDDSID** | |
| **EAMBIGUOUS_DSID** | |
| **EVOL_RESTRICTED** | |
| **EINTERNALERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# Element definition: **qtree-info**

[top]

Information about a single qtree.

| Name | Range | Type | Description |
|---|---|---|---|
| **css-versioning** | **[0..2]** | integer optional | Indicates versioning state for CSS bucket on the qtree. Possible values:<br>• 0 - disabled<br>• 1 - enabled<br>• 2 - suspended |
| **export-policy** | | string optional | Export policy of the qtree. |
| **id** | **[0..4994]** | integer | Id of the qtree (unique within the volume), which is 0 if qtree is the volume itself. |
| **is-export-policy-inherited** | | boolean optional | If true, this qtree inherits the export policy of the parent volume. |
| **mode** | | string | The file permission bits of the qtree. Similar to UNIX permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2, and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID (4), set group ID (2), and sticky (1) attributes. |

| | | | |
|---|---|---|---|
| | | optional | The second digit selects permissions for the owner of the file: read (4), write (2), and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. This value is applicable and will be returned only if the security style of qtree is "unix" or "mixed". |
| **oplocks** | | string | Indicates whether opportunistic locks are enabled on the qtree. Possible values: "enabled", "disabled". |
| **qos-policy-group** | | string optional | QoS policy group of the qtree. |
| **qtree** | | string | Name of the qtree, blank if qtree is the volume itself |
| **security-style** | | string | Security style of the qtree. Possible values are "unix", "ntfs", or "mixed". |
| **status** | | string | Status of the qtree. Possible values include: "normal", or "readonly". |
| **volume** | | string | Name of the volume containing the qtree |
| **vserver** | | string optional | The vserver in which the volume belongs |

# APIs in Category: **quota**


quota-add-entry
quota-delete-entry
quota-get-entry
quota-list-entries-iter
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quota-off
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quota-resize
quota-set-entry
quota-status
quota-status-iter


The quota APIs are divided into two groups: management and editing. The management functions are: report, status, turning on, and turning off, while the editing functions are: list, add, delete, modify, and set.

For clustered volumes, the quota rules configured in the quota policies are manipulated by the editing functions; changes to these quota rules in the quota policies will affect the results of the APIs. Multiple quota policies can be defined for each vserver through the CLI. Each vserver can then be assigned a quota policy; the quota rules defined in that quota policy is used for quota on/resize operations for volumes in that vserver.

A quota is uniquely identifed by the type, target, volume, and qtree. There are three types: user, group, and tree. For example: a user quota is specified by type = user, target = zapi, volume = vol0, and qtree = /vol/vol0/lab. A group quota is specified by type = group, target = eng, volume = engvol, and qtree = "". Finally, a qtree quota is specifed by type = tree, target = /vol/engvol/bio, volume = engvol, and qtree = "". Default quotas are specified as an asterisk, "*", for the target. For example, a default user quota is specified by type = user, target = *, volume = vol1, and qtree = /vol/vol1/elvis.

Because of possible large amount of information returned by quota reports and quota lists, it is highly recommended to use the quota report and quota list iterator APIs. For clustered volumes only iterator APIs are available for quota report and quota lists.

## quota-add-entry

[top]

Adds a quota entry. If the type, target, volume, and tree do not exist, a new entry is created. If the type, target, volume, and tree exist, then an error is returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk-limit** | | string optional | This is the amount of disk space that is reserved for the the target. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is unlimited. |
| **file-limit** | | string optional | This is the number of files that the target can have. Set the value to "-" if the limit is to be unlimited. Default is unlimited. |
| **perform-user-mapping** | | boolean optional | If the value is true, quota management will perform user mapping for the user specified in quota-target. Only valid for user quotas when the quota-target refers to a Windows/UNIX user name. Not valid for multiple user targets. Default is false. |
| **policy** | | string optional | Name of the quota policy in which the quota rule should be added. If this field is not provided, then the current policy that has been assigned to the vserver will be used. |
| **qtree** | | string | This is the qtree name that the quota resides on. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field |

| | | | |
|---|---|---|---|
| | | | must be "". |
| **quota-target** | | string | This is the quota target of the type specified. The target can be of the form: <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >" |
| **quota-type** | | string | The type of quota rule. Possible values are "user", "group", or "tree". |
| **soft-disk-limit** | | string optional | This is the amount of disk space the target would have to exceed before a message is logged and an SNMP trap is generated. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is unlimited. |
| **soft-file-limit** | | string optional | This is the number of files the target would have to exceed before a message is logged and an SNMP trap is generated. Set the value to "-" if the limit is to be unlimited. Default is unlimited. |
| **threshold** | | string optional | This is the amount of disk space the target would have to exceed before a message is logged. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is unlimited. |
| **volume** | | string | This is the volume name that the quota resides on. |

| Errno | Description |
|---|---|
| **EQUOTAEXISTS** | |
| **EQUOTAINVALID** | |
| **EQUOTADIRECTIVE** | |
| **EVSERVERNOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EQUOTA_POLICY_NOT_FOUND** | |
| **EINTERNALERROR** | |
| **EVOLUMEREADONLY** | |
| **EVOLUMEOFFLINE** | |
| **EVOL_RESTRICTED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# quota-delete-entry

[top]

Deletes a quota entry specified by type, target, volume, and tree.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | string optional | Name of the quota policy in which the quota rule should be deleted. If this field is not provided, then the current policy that has been assigned to the vserver will be used. |
| **qtree** | | string | Name of the qtree for the quota. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field must be "". |
| **quota-target** | | string | The quota target of the type specified. Possible values are: <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >" |
| **quota-type** | | string | The type of quota rule. Possible values are "user", "group", or "tree". |

| | | | |
|---|---|---|---|
| **volume** | | string | Name of the volume for the quota. |

| Errno | Description |
|---|---|
| **EQUOTAINVALID** | |
| **EQUOTADIRECTIVE** | |
| **EQUOTADOESTEXIST** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# quota-get-entry

[top]

Obtains a quota entry specified by type, target, volume, and tree.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | string optional | Name of the quota policy from which the quota rule should be obtained. If this field is not provided, then the current policy that has been assigned to the vserver will be used. |
| **qtree** | | string | Name of the qtree for the quota. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field must be "". |
| **quota-target** | | string | The quota target of the type specified. Possible values are: <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >" |
| **quota-type** | | string | The type of quota rule. Possible values are "user", "group", or "tree". |
| **volume** | | string | Name of the volume for the quota. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **disk-limit** | | string | The amount of disk space that is reserved for the the target. The value is expressed in kilobytes (1024). The value is "-" if the limit is unlimited. |
| **file-limit** | | string | The number of files that the target can have. The value is "-" if the limit is unlimited. |
| **perform-user-mapping** | | boolean optional | If the value is true, quota management will perform user according to the user mapping configured for the vserver to which the volume belongs. |
| **soft-disk-limit** | | string | The amount of disk space the target would have to exceed before a message is logged and an SNMP trap is generated. The value is expressed in kilobytes (1024). The value is "-" if the limit is unlimited. |
| **soft-file-limit** | | string | The number of files the target would have to exceed before a message is logged and an SNMP trap is generated. The value is "-" if the limit is unlimited. |
| **threshold** | | string | The amount of disk space the target would have to exceed before a message is logged. The value is expressed in kilobytes (1024). The value is "-" if the limit is unlimited. |

| Errno | Description |
|---|---|
| **EQUOTAPARSEERROR** | |
| **EQUOTAINVALID** | |
| **EQUOTADOESNOTEXIST** | |
| **EQUOTADIRECTIVE** | |
| **EINTERNALERROR** | |

# quota-list-entries-iter

[top]

Iterate over the list of quota rules in the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | quota-entry optional | Specify the attributes that should be returned in the quota-entry object. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this response. |
| **query** | | quota-entry optional | A query that specifies which quota rules need to be returned. A query could be specified on any number of attributes in the quota-entry object. All quota entry objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the previous iteration. It is usually not specified for the first iteration. For subsequent iterations, copy the value from the 'next-tag' obtained from the previous iteration. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | quota-entry[] optional | The list of attributes of quota entry objects. |
| **next-tag** | | string optional | Tag for the next iteration. Not present when there are no more quota entry objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this response. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# quota-modify-entry

[top]

Modifys a quota entry. If the type, target, volume, and tree exist, the entry is modified. If the type, target, volume, and tree do not exist, then an error is returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk-limit** | | string optional | This is the amount of disk space that is reserved for the the target. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is the current value. |
| **file-limit** | | string optional | This is the number of files that the target can have. Set the value to "-" if the limit is to be unlimited. Default is the current value. |
| **perform-user-mapping** | | boolean optional | If the value is true, quota management will perform user mapping for the user specified in quota-target. Only valid for user quotas when the quota-target refers to a Windows/UNIX user name. Not valid for multiple user targets. Default is the current value. |
| | | string | Name of the quota policy in which the quota rule should be modified. If |

| | | | |
|---|---|---|---|
| **policy** | | optional | this field is not provided, then the current policy that has been assigned to the vserver will be used. |
| **qtree** | | string | This is the qtree name that the quota resides on. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field must be "". |
| **quota-target** | | string | This is the quota target of the type specified. The target can be of the form: <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >" |
| **quota-type** | | string | The type of quota rule. Possible values are "user", "group", or "tree". |
| **soft-disk-limit** | | string optional | This is the amount of disk space the target would have to exceed before a message is logged and an SNMP trap is generated. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is the current value. |
| **soft-file-limit** | | string optional | This is the number of files the target would have to exceed before a message is logged and an SNMP trap is generated. Set the value to "-" if the limit is to be unlimited. Default is the current value. |
| **threshold** | | string optional | This is the amount of disk space the target would have to exceed before a message is logged. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is the current value. |
| **volume** | | string | This is the volume name that the quota resides on. |

| Errno | Description |
|---|---|
| **EQUOTADOESNOTEXIST** | |
| **EQUOTAINVALID** | |
| **EQUOTADIRECTIVE** | |
| **EVSERVERNOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EQUOTA_POLICY_NOT_FOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# quota-off

[top]

Turns the quota subsystem off for a volume.

For clustered volumes, a jobid will also be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume on which to turn quotas off. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-** | integer | The job id of the job that was queued to turn off quotas. |

| | | | |
|---|---|---|---|
| | 1] | optional | |
| **result-status** | | string optional | The operation status. Possible values: "succeeded", "in-progress", "failed". |

| Errno | Description |
|---|---|
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EAPIERROR** | |
| **EVOLUMEMOUNTING** | |
| **EVOL_RESTRICTED** | |
| **EVOLUMEOFFLINE** | |
| **EVSERVERNOTFOUND** | |
| **EONTAPI_EINVAL** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |
| **EAGGRFAILINGOVER** | |
| **EAGGRRELOCATING** | |
| **EAGGRMISMATCH** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# quota-on

[top]

Starts to turn quotas on for a volume. A successful return from this API does not mean that quotas are on, merely that an attempt to start it has been triggered. Use the quota-status API to check the status.

For clustered volumes, a jobid will also be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume on which to enable quotas. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | error code, if the operation caused an error. |
| **result-error-message** | | string optional | error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | The job id of the job that was queued to turn on quotas. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded", "in-progress", "failed". |

| Errno | Description |
|---|---|
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOL_RESTRICTED** | |
| **EVOLUMEOFFLINE** | |

| | |
|---|---|
| **EAPIERROR** | |
| **EVSERVERNOTFOUND** | |
| **EONTAPI_EINVAL** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |
| **EAGGRFAILINGOVER** | |
| **EAGGRRELOCATING** | |
| **EAGGRMISMATCH** | |
| **EQUOTAS_NO_VALID_RULES** | |
| **EQUOTAS_DEFAULT_RULE_NOT_FOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# quota-policy-copy

[top]

Copy a quota policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-policy-name** | | string | New Policy Name |
| **policy-name** | | string | Policy Name |
| **vserver** | | string | Vserver |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# quota-policy-create

[top]

Creates a quota policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | Policy Name |
| **vserver** | | string | Vserver |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# quota-policy-delete

[top]

Deletes a specified quota policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | Policy Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# quota-policy-delete-iter

[top]

Deletes a list of specified quota policies

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple quota-policy objects match a given query. If set to true, the API will continue deleting the next matching quota-policy even when the deletion of a previous quota-policy fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching quota-policy even when the deletion of a previous matching quota-policy fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of quota-policy objects to delete in this call. Default: 20 |
| **query** | | quota-policy-info | If deleting a specific quota-policy, this input element must specify all keys. If deleting multiple quota-policy objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of quota-policy objects (just keys) that were not deleted due to some error. If set to false, the list of quota-policy objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of quota-policy objects (just keys) that were successfully deleted. If set to false, the list of quota-policy objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | quota-policy-delete-iter- | Information about quota-policy objects that were not deleted due to some error. This element will be returned only if input element |

| | | | |
|---|---|---|---|
| | | info[] optional | 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching quota-policy objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of quota-policy objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of quota-policy objects that matched the query and were successfully deleted. |
| **success-list** | | quota-policy-delete-iter-info[] optional | The quota-policy objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# quota-policy-get-iter

[top]

Return a list of quota policies

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | quota-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | quota-policy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the quota-policy object. All quota-policy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | quota-policy-info[] optional | The list of attributes of quota-policy objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more quota-policy objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# quota-policy-rename

[top]

Rename a quota policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-policy-name** | | string | New Policy Name |
| **policy-name** | | string | Policy Name |
| **vserver** | | string | Vserver |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# quota-policy-rule-count-get

[top]

Get the attributes of the quota-policy-rule-count.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | quota-policy-rule-count-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy** | | string | Policy Name |
| **qtree** | | qtree-name | Qtree Name |
| **quota-type** | | quota-type | Type Possible values:<br>• "tree" ,<br>• "user" ,<br>• "group" |
| **volume** | | volume-name | Volume Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | quota-policy-rule-count-info | The attributes of the quota-policy-rule-count. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# quota-policy-rule-count-get-iter

[top]

Iterate over a list of quota-policy-rule-count objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | quota-policy-rule-count-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | quota-policy-rule-count-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the quota-policy-rule-count object. All quota-policy-rule-count objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | quota-policy-rule-count-info[] optional | The list of attributes of quota-policy-rule-count objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more quota-policy-rule-count objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# quota-report-iter

[top]

Iterate over the quota report in the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | quota optional | Specify the attributes that should be returned in the quota report object. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this response. |

| | | | |
|---|---|---|---|
| **path** | | string optional | A path (including a /vol/ prefix). If specified, the report will contain only quotas that apply to the specified path name. |
| **query** | | quota optional | A query that specifies which quota report needs to be returned. A query could be specified on any number of attributes in the quota report object. All quota report objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the previous iteration. It is usually not specified for the first iteration. For subsequent iterations, copy the value from the 'next-tag' obtained from the previous iteration. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | quota[] optional | The list of attributes of quota report objects. |
| **next-tag** | | string optional | Tag for the next iteration. Not present when there are no more quota report objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this response. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# quota-resize

[top]

Starts an ONTAP operation to resize quotas for a volume. A successful return from this API does not mean that the operation has finished, merely that an attempt to start it been triggered. Use the quota-status API to check the status.

For clustered volumes, a jobid will also be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume on which to resize quotas. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | The job id of the job that was queued to resize quotas. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded", "in-progress", "failed". |

| Errno | Description |
|---|---|
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOL_RESTRICTED** | |
| **EVOLUMEOFFLINE** | |
| **EAPIERROR** | |

| | |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EONTAPI_EINVAL** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |
| **EAGGRFAILINGOVER** | |
| **EAGGRRELOCATING** | |
| **EAGGRMISMATCH** | |
| **EQUOTAS_NO_VALID_RULES** | |
| **EQUOTAS_DEFAULT_RULE_NOT_FOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# quota-set-entry

[top]

Sets a quota entry. If the type, target, volume, and tree do not exist, a new entry is created. If the type, target, volume, and tree exist, then the entry is modified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk-limit** | | string optional | The amount of disk space that is reserved for the the target. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. |
| **file-limit** | | string optional | The number of files that the target can have. Set the value to "-" if the limit is to be unlimited. |
| **perform-user-mapping** | | boolean optional | If the value is true, quota management will perform user mapping for the user specified in quota-target. Only valid for user quotas when the quota-target refers to a Windows/UNIX user name. Not valid for multiple user targets. Default is false. |
| **policy** | | string optional | Name of the quota policy in which the quota rule should be set. If this field is not provided, then the current policy that has been assigned to the vserver will be used. |
| **qtree** | | string | Name of the qtree for the quota. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field must be "". |
| **quota-target** | | string | The quota target of the type specified. Possible values are <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >" |
| **quota-type** | | string | The type of quota rule. Possible values are "user", "group", or "tree". |
| **soft-disk-limit** | | string optional | The amount of disk space the target would have to exceed before a message is logged and an SNMP trap is generated. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. |
| **soft-file-limit** | | string optional | The number of files the target would have to exceed before a message is logged and an SNMP trap is generated. Set the value to "-" if the limit is to be unlimited. |
| **threshold** | | string optional | The amount of disk space the target would have to exceed before a message is logged. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. |
| **volume** | | string | Name of the volume for the quota. |

| Errno | Description |
|---|---|
| | |

| | |
|---|---|
| **EQUOTAINVALID** | |
| **EQUOTADIRECTIVE** | |
| **EVSERVERNOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EQUOTA_POLICY_NOT_FOUND** | |
| **EINTERNALERROR** | |
| **EVOLUMEREADONLY** | |
| **EVOLUMEOFFLINE** | |
| **EVOL_RESTRICTED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# quota-status

[top]

Obtains the status of quotas

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume whose quota status should be obtained. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **percent-complete** | | integer optional | The percentage complete for an "on" or "resize" operation. This is present when the status is "upgrading", "resizing" or "initializing". |
| **quota-errors** | | string optional | Collection of quota errors including the value of the reason tag above. Each error will be separated by a newline, '\n'. Since the quota parser does not stop when a parsing error occurs, this tag returns all the errors from the quota parser. |
| **reason** | | string optional | The last quota error message. If not present, there are no errors. |
| **status** | | string | Primary status of quotas on the indicated volume; Possible values:<br>• "corrupt"<br>• "initializing"<br>• "mixed"<br>• "off"<br>• "on"<br>• "resizing"<br>• "reverting"<br>• "unknown"<br>• "upgrading"<br><br>If a FlexGroup's constituents have differing quota statuses, the FlexGroup will return a 'mixed' quota status. If one or more of a FlexGroup's constituents are not online or otherwise cannot be reached, the FlexGroup will return an 'unknown' quota status. |
| | | | Minor quota status on the indicated volume. This status is only valid when primary status is "resizing" or "initializing". Possible values are:<br>• "done"<br>• "etc scanning"<br>• "finishing"<br>• "mixed"<br>• "none" |

| | | | |
|---|---|---|---|
| **substatus** | | string | • "queue scan"<br>• "scanning"<br>• "setup"<br>• "transferring rules"<br>• "unknown"<br>• "upgrading"<br><br>If a FlexGroup's constituents have differing quota substatuses, the FlexGroup will return a 'mixed' quota substatus. If one or more of a FlexGroup's constituents are not online or otherwise cannot be reached, the FlexGroup will return an 'unknown' quota substatus. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEOFFLINE** | |
| **EAPIERROR** | |
| **EVSERVERNOTFOUND** | |
| **EONTAPI_EINVAL** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |
| **EAGGRFAILINGOVER** | |
| **EAGGRRELOCATING** | |
| **EAGGRMISMATCH** | |

# quota-status-iter

[top]

Iterate over quota status for all volumes in the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | quota-status-attributes optional | Specify the attributes that should be returned in the quota status object. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this response. |
| **query** | | quota-status-attributes optional | A query that specifies which quota status attributes need to be returned. A query could be specified on any number of attributes in the quota status object. All quota status objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the previous iteration. It is usually not specified for the first iteration. For subsequent iterations, copy the value from the 'next-tag' obtained from the previous iteration. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | quota-status-attributes[] optional | The list of attributes of quota status objects. |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next iteration. Not present when there are no more quota status objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this response. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **qtree-name**

[top]

Qtree Name

[none]

# Element definition: **quota**

[top]

Information about a single quota.

| Name | Range | Type | Description |
|---|---|---|---|
| **disk-limit** | | string | Maximum amount of disk space, in kilobytes, allowed for the quota target (hard disk space limit). The value is "-" if the limit is unlimited. |
| **disk-used** | | string | Current amount of disk space, in kilobytes, used by the quota target. |
| **disk-used-pct-disk-limit** | **[0..2^32-1]** | integer optional | Current disk space used expressed as a percentage of hard disk limit. |
| **disk-used-pct-soft-disk-limit** | **[0..2^32-1]** | integer optional | Current disk space used expressed as a percentage of soft disk limit. |
| **disk-used-pct-threshold** | **[0..2^32-1]** | integer optional | Current disk space used expressed as a percentage of threshold. |
| **file-limit** | | string | Maximum number of files allowed for the quota target (hard files limit). The value is "-" if the limit is unlimited. |
| **files-used** | | string | Current number of files used by the quota target. |
| **files-used-pct-file-limit** | **[0..2^32-1]** | integer optional | Current number of files used expressed as a percentage of hard file limit. |
| **files-used-pct-soft-file-limit** | **[0..2^32-1]** | integer optional | Current number of files used expressed as a percentage of soft file limit. |
| **quota-target** | | string | For an explicit quota, this value is a fully qualified quota target in the quota policy rule. Mulitple targets are comma separated. For a derived quota, the field is blank. |
| **quota-type** | | string | The type of quota: user, group, or tree. |
| **quota-users** | | quota-user[] optional | A list of quota users and group. |
| **soft-disk-** | | string | Soft disk space limit, in kilobytes, for the quota target. The value is |

| | | | |
|---|---|---|---|
| **limit** | | | "-" if the limit is unlimited. |
| **soft-file-limit** | | string | Soft file limit, in number of files, for the quota target. The value is "-" if the limit is unlimited. |
| **threshold** | | string | Disk space threshold, in kilobytes, for the quota target. The value is "-" if the limit is unlimited. |
| **tree** | | string | Name of the qtree to which the quota is applied. |
| **volume** | | string | Name of the volume to which the quota is applied. |
| **vserver** | | string optional | The vserver name in which the volume belongs, for which the quota is applicable |

# Element definition: **quota-entry**

[top]

Information about a single quota rule.

| Name | Range | Type | Description |
|---|---|---|---|
| **disk-limit** | | string optional | Maximum amount of disk space, in kilobytes, allowed for the quota target (hard disk space limit). The value is "-" if the limit is unlimited. |
| **file-limit** | | string optional | Maximum number of files allowed for the quota target (hard files limit). The value is "-" if the limit is unlimited. |
| **perform-user-mapping** | | boolean optional | If the value is true, user mapping will be performed for this rule. |
| **policy** | | string optional | The quota policy to which the rule belongs. |
| **qtree** | | string optional | Name of the qtree for the quota. It can be the qtree name or "" if no qtree. If there is an error in the quota entry, this value might not present. For tree rules, this field will be "". |
| **quota-target** | | string optional | The quota target of the type specified. The value will be one of: <name>, <number>, or <path name>. Mulitple targets can be specified by a comma-separated list. Quota directives in quota policy rules are used to form the quota target. If there is an error in the quota entry, this value might not present. For explicit tree rules, this field will indicate the qtree name in the format "/vol/< volume name >/ < qtree name >". |
| **quota-type** | | string optional | The type of quota rule. Possible values are "user", "group", or "tree". If there is an error in the quota entry, this value might not present. |
| **soft-disk-limit** | | string optional | Soft disk space limit, in kilobytes, for the quota target. The value is "-" if the limit is unlimited. |
| **soft-file-limit** | | string optional | Soft file limit, in number of files, for the quota target. The value is "-" if the limit is unlimited. |
| **threshold** | | string optional | Disk space threshold, in kilobytes, for the quota target. The value is "-" if the limit is unlimited. |
| **volume** | | string optional | Name of the volume for the quota. If there is an error in the quota entry, this value might not present. |
| **vserver** | | string optional | The vserver name. |

# Element definition: **quota-policy-delete-iter-info**

[top]

Information about the deletion operation that was attempted/performed against quota-policy object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **quota-policy-key** | | quota-policy-info | The keys for the quota-policy object to which the deletion applies. |

# Element definition: **quota-policy-info**

[top]

Info about a quota policy When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **last-modified** | | datetime optional | Last Modified Attributes: non-creatable, non-modifiable |
| **policy-name** | | string optional | Policy Name Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **quota-policy-rule-count-info**

[top]

Quota policy rule count(s) When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **count-where-policy** | **[0..2^32-1]** | integer optional | Total rule count matching the given Vserver and quota policy. All volumes, qtrees, and quota rule types are included. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable |
| | | | Subtotal of rules matching the given Vserver, quota policy, and |

| | | | |
|---|---|---|---|
| **count-where-policy-volume** | **[0..2^32-1]** | integer optional | volume. All qtrees and quota rule types are included. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable |
| **count-where-policy-volume-qtree** | **[0..2^32-1]** | integer optional | Subtotal of rules matching the given Vserver, quota policy, volume, and qtree. All quota rule types are included. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable |
| **count-where-policy-volume-qtree-type** | **[0..2^32-1]** | integer optional | Subtotal of rules matching the given Vserver, quota policy, volume, qtree, and quota rule type. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable |
| **count-where-policy-volume-type** | **[0..2^32-1]** | integer optional | Subtotal of rules matching the given Vserver, quota policy, volume, and quota rule type. All qtrees are included. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable |
| **policy** | | string optional | Policy Name Attributes: key, non-creatable, non-modifiable |
| **qtree** | | qtree-name optional | Qtree Name Attributes: key, non-creatable, non-modifiable |
| **quota-type** | | quota-type optional | Type Attributes: key, non-creatable, non-modifiable Possible values:<br>• "tree" ,<br>• "user" ,<br>• "group" |
| **volume** | | volume-name optional | Volume Name Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **quota-status-attributes**

[top]

Attributes of quota status

| Name | Range | Type | Description |
|---|---|---|---|
| **percent-complete** | | integer optional | The percentage complete for an "on" or "resize" operation. This is present when the status is "upgrading", "resizing" or "initializing". |
| **quota-error-msgs** | | quota-error-msg[] optional | Collection of quota errors including the value of the reason tag above. Since the quota parser does not stop when a parsing error occurs, this tag returns all the errors from the quota parser. |
| **reason** | | quota-error-msg optional | The last quota error message. If not present, there are no errors. |
| | | | Primary status of quotas on the indicated volume; Possible values:<br>• "corrupt"<br>• "initializing" |

| | | | |
|---|---|---|---|
| **status** | | string | "mixed"<br>• "off"<br>• "on"<br>• "resizing"<br>• "reverting"<br>• "unknown"<br>• "upgrading"<br><br>If a FlexGroup's constituents have differing quota statuses, the FlexGroup will return a 'mixed' quota status. If one or more of a FlexGroup's constituents are not online or otherwise cannot be reached, the FlexGroup will return an 'unknown' quota status. |
| **substatus** | | string | Minor quota status on the indicated volume. This status is only valid when primary status is "resizing" or "initializing". Possible values are:<br><br>• "done"<br>• "etc_scanning"<br>• "finishing"<br>• "mixed"<br>• "none"<br>• "queue_scan"<br>• "scanning"<br>• "setup"<br>• "transferring_rules"<br>• "unknown"<br>• "upgrading"<br><br>If a FlexGroup's constituents have differing quota substatuses, the FlexGroup will return a 'mixed' quota substatus. If one or more of a FlexGroup's constituents are not online or otherwise cannot be reached, the FlexGroup will return an 'unknown' quota substatus. |
| **volume** | | string | Name of the volume to which the quota is applied. |
| **vserver** | | string | The vserver name in which the volume belongs, for which the quota is applicable |

# Element definition: **quota-type**

[top]

tree|user|group Possible values:

- "tree" ,
- "user" ,
- "group"

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that

follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **qtree-name**

[top]

Qtree Name

[none]

# Element definition: **quota-error-msg**

[top]

Information about the single quota error.

[none]

# Element definition: **quota-user**

[top]

Information about a quota user or group.

| Name | Range | Type | Description |
|---|---|---|---|
| **quota-user-id** | | string | The id of the user. The quota-user-type determines the format. For uid and gid, the format is an integer. For sid, the format is the usual "S-*" style. |
| **quota-user-name** | | string | Name of the user, group, or sid. |
| **quota-user-type** | | string | The type of quota user. There are two possible values: sid (for Windows users), uid (for UNIX users), and gid (for UNIX groups). |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **secd**


secd-auth-get-claim-name
secd-auth-get-dc-info
secd-auth-show-ontap-admin-unix-creds-using-uid
secd-auth-show-ontap-admin-unix-creds-using-unix-user-name
secd-auth-sid-to-uid
secd-auth-sid-to-unix-user-name
secd-auth-translate-gid-to-groupname
secd-auth-translate-sid-to-win-user-name
secd-auth-translate-uid-to-username
secd-auth-translate-unix-group-name-to-gid
secd-auth-translate-unix-user-name-to-uid
secd-auth-translate-windows-user-name-to-sid
secd-auth-uid-to-sid
secd-connection-timeout-get
secd-connection-timeout-get-iter
secd-connection-timeout-modify
secd-dns-forward-lookup
secd-dns-srv-lookup
secd-name-mapping-show
secd-server-discovery-host
secd-server-discovery-reset
secd-server-discovery-site
secd-server-discovery-test


These APIs allow management of Access-check information per user

## secd-auth-get-claim-name

[top]

Get Claim-Name from Claim-cn

| Input Name | Range | Type | Description |
|---|---|---|---|
| **claim-cn** | | string | The common name of claim used for getting claim name |
| **node** | | string optional | The node on which command will be run |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **claim-name** | | string | The claim name corresponding to the input claim CN |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-auth-get-dc-info

[top]

Get the Active DC informartion give vfiler

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which command will be run |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **client-site** | | string | The client site corresponding to the domain controller |
| **domain-name** | | string | The domain name corresponding to the domain controller |
| **flags** | **[0..2^32-1]** | integer | flags correspondiing to the domain controller |
| **forest-name** | | string | The forest name corresponding to the domain controller |
| **guid** | | string | 128 bit global unique identifier corresponding to the domain controller |
| **netbios-hostname** | | string | The NetBIOS hostname corresponding to the domain controller |
| **netbios-name** | | string | The NetBIOS name corresponding to the domain controller |
| **server-site** | | string | The server site corresponding to the domain controller |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-auth-show-ontap-admin-unix-creds-using-uid

[top]

Get UNIX credentials from UNIX user ID

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **node** | | string optional | The node on which command will be run |
| **uid** | **[0..2^32-1]** | integer | The UNIX user ID passed to get the UNIX credentials |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **gid** | **[0..2^32-1]** | integer | The UNIX group ID corresponding to UNIX credentials |
| **unix-login-shell** | | string | The UNIX login shell corresponding to the UNIX credentials |
| **unix-user-name** | | string | The UNIX username passed to get the UNIX credentials |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-auth-show-ontap-admin-unix-creds-using-unix-user-name

[top]

Get UNIX credentials from UNIX User Name

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which command will be run |
| **unix-user-name** | | string | The UNIX username passed to get the UNIX credentials |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **gid** | **[0..2^32-1]** | integer | The UNIX group ID corresponding to UNIX credentials |
| **uid** | **[0..2^32-1]** | integer | The UNIX user ID passed to get the UNIX credentials |
| **unix-login-shell** | | string | The UNIX login shell corresponding to the UNIX credentials |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-auth-sid-to-uid

[top]

Get UNIX user ID from Windows SID

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which command will be run |
| **sid** | | string | The Windows SID to be looked up for its corresponding user ID |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **uid** | **[0..2^32-1]** | integer | The UNIX user ID corresponding to the input SID |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## secd-auth-sid-to-unix-user-name

[top]

Get UNIX User Name from Windows SID

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which command will be run |
| **sid** | | string | The Windows SID to be looked up for its corresponding User Name |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **unix-user-name** | | string | The UNIX User Name corresponding to the input SID |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## secd-auth-translate-gid-to-groupname

[top]

Translate Group ID to UNIX Group Name

| Input Name | Range | Type | Description |
|---|---|---|---|
| **gid** | **[0..2^32-1]** | integer | The UNIX group ID which needs to be translated |
| **node** | | string optional | The node on which the command will be run |
| **vserver** | | string | The Vserver for which the translation has to run |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **unix-group-name** | | string | The UNIX Group Name which needs to be translated |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## secd-auth-translate-sid-to-win-user-name

[top]

Translate SID to Windows User Name

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which the command will be run |
| **sid** | | string | The Windows SID which needs to be translated |
| **vserver** | | string | The Vserver for which the translation has to run |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **win-name** | | string | The Windows Name which needs to be translated |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-auth-translate-uid-to-username

[top]

Translate user ID to UNIX User Name

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which the command will be run |
| **uid** | **[0..2^32-1]** | integer | The UNIX user ID which needs to be translated |
| **vserver** | | string | The Vserver for which the translation has to run |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **unix-user-name** | | string | The UNIX User Name which needs to be translated |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-auth-translate-unix-group-name-to-gid

[top]

Translate UNIX Group Name to Group ID

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which the command will be run |
| **unix-group-name** | | string | The UNIX Group Name which needs to be translated |
| **vserver** | | string | The Vserver for which the translation has to run |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **gid** | **[0..2^32-1]** | integer | The UNIX group ID which needs to be translated |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Errno | Description |
| --- | --- |
| **EOBJECTNOTFOUND** | |

## secd-auth-translate-unix-user-name-to-uid

[top]

Translate UNIX User Name to user ID

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **node** | | string optional | The node on which the command will be run |
| **unix-user-name** | | string | The UNIX User Name which needs to be translated |
| **vserver** | | string | The Vserver for which the translation has to run |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **uid** | **[0..2^32-1]** | integer | The UNIX user ID which needs to be translated |

| Errno | Description |
| --- | --- |
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## secd-auth-translate-windows-user-name-to-sid

[top]

Translate Windows User Name to SID

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **node** | | string optional | The node on which the command will be run |
| **vserver** | | string | The Vserver for which the translation has to run |
| **win-name** | | string | The Windows Name which needs to be translated |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **sid** | | string | The Windows SID which needs to be translated |

| Errno | Description |
| --- | --- |
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## secd-auth-uid-to-sid

[top]

Get Windows SID from UNIX user ID

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **node** | | string optional | The node on which command will be run |

| | | | |
|---|---|---|---|
| **uid** | **[0..2^32-1]** | integer | The UNIX user ID to be looked up for its corresponding Windows SID |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **sid** | | string | The Windows SID corresponding to the input user ID |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-connection-timeout-get

[top]

Get the SecD connection timeout value for a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | secd-connection-timeout-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | secd-connection-timeout-info | The attributes of the secd. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# secd-connection-timeout-get-iter

[top]

Iterate through the SecD connection timeout values of the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | secd-connection-timeout-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | secd-connection-timeout- | A query that specifies which objects to return. A query could be specified on any number of attributes in the secd object. All secd |

| | | | |
|---|---|---|---|
| | | info optional | objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | secd-connection-timeout-info[] optional | The list of attributes of secd objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more secd objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# secd-connection-timeout-modify

[top]

Modify the SecD connection timeout value for a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection-timeout** | **[2..10]** | integer optional | Secd connection timeout in seconds |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# secd-dns-forward-lookup

[top]

DNS Forward Lookup for a Hostname

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hostname** | | string | The hostname for which the lookup has to be done |
| **lookup-type** | | string optional | The lookup type for the hostname passed |
| **node** | | string optional | The node on which the command will be run |
| **vserver** | | string | The Vserver for which the translation has to run |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **ip-address** | | string | Ip address of the hostname passed |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## secd-dns-srv-lookup

[top]

DNS Lookup for SRV records

| Input Name | Range | Type | Description |
|---|---|---|---|
| **lookup-string** | | string | The lookup string used to lookup the domain's authoritative name server |
| **lookup-type** | | string optional | The lookup type for the domain's authoritative name server |
| **name-servers** | | string[] optional | The name servers populated in the output |
| **node** | | string optional | The node on which the command will be run |
| **vserver** | | string | The Vserver for which the translation has to run |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **ip-address** | | string | IP Address result of SRV Lookup |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## secd-name-mapping-show

[top]

Get Name Mappings configured for particular direction

| Input Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | string | The direction for which the name mapping will be run |
| **name** | | string | Username for which the Name Mapping will be run |
| **node** | | string optional | The node on which command will be run |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | string | Mapping for the given username |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-server-discovery-host

[top]

Host Information of the Discovered Servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which command will be run |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **ad-domain** | | string[] | The AD domain Name of the discovered server |
| **cifs-domain** | | string[] | The CIFS domain Name of the discovered server |
| **host-name** | | string[] | The host name of the discovered server |
| **ip-address** | | string[] | IP address of the discovered server |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-server-discovery-reset

[top]

Reset the Discovered Servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which command will be run |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | string | Result of the server discovery reset |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-server-discovery-site

[top]

Site of the Discovered Servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which command will be run |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **site** | | string | Site information of the discovered server |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## secd-server-discovery-test

[top]

Test the Discovered Servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which command will be run |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | string | Server discovery result of the test |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# Element definition: **secd-connection-timeout-info**

[top]

SecD Connection Timeout When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **connection-timeout** | **[2..10]** | integer optional | Secd connection timeout in seconds Attributes: required-for-create, modifiable |
| **vserver** | | vserver-name optional | Vserver name Attributes: key, non-creatable, non-modifiable |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **sectrace**


sectrace-find-or-create-filter
security-trace-filter-create
security-trace-filter-delete
security-trace-filter-get-iter
security-trace-filter-modify
security-trace-result-delete
security-trace-result-show


This set of ZAPIs allow setting up and managing permission check filters and logs. Permission tracing allows users to trace permission checks that are done during multiprotocol security access. These set of ZAPIs provide an interface to create, delete and modify security tracing filters. They also allow viewing and deleting of trace records that are generated as a result of the trace filters.

## sectrace-find-or-create-filter

[top]

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-ip** | | ip-address optional | The IP address of the client. |
| **name** | | string optional | Windows or Unix User Name to trace. |
| **path** | | string optional | Path to match. |
| **protocol** | | sectrace-protocol optional | The protocol for which the permission tracing is applicable. |
| **trace-allow** | | boolean optional | The deny events are traced by default. This option is to record trace results for allow events as well. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **index** | **[0..2^32-1]** | integer | Index for output |

| Errno | Description |
|---|---|
| **E_CIFS_ERROR_SECURITY_TRACE_ENTRIES_OUT_OF_RANGE** | |
| **E_NFS_UI_SECURITY_TRACE_FLEXGROUP_ERROR** | |

## security-trace-filter-create

[top]

Creates a new Security trace entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-ip** | | ip-address optional | The IP address of the client. |
| **enabled** | | enable optional | This is used to enable or disable the filter. |
| **index** | **[0..2^32-1]** | integer | internally created index for the filter. |
| **path** | | string optional | Path to match. |
| **protocols** | | sectrace-protocol[] optional | The protocols for which the permission tracing is applicable. Possible values:<br>• "cifs" - CIFS Protocol,<br>• "nfs" - NFS Protocol |
| **return-record** | | boolean optional | If set to true, returns the security-trace-filter on successful creation. Default: false |
| **time-enabled** | **[1..720]** | integer optional | The admin can specify a timeout for this filter after which it would be disabled. |
| **trace-allow** | | boolean optional | The deny events are traced by default. This option is to record trace results for allow events as well. |
| **unix-name** | | string optional | UNIX user name or user ID to trace. |
| **windows-name** | | string optional | Windows User Name to trace. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | security-trace-filter-attributes optional | The security-trace-filter created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-trace-filter-delete

[top]

Deletes the specified Security trace entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **index** | **[0..2^32-1]** | integer | internally created index for the filter. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-trace-filter-get-iter

[top]

Gives information about one or more Security trace entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-trace-filter-attributes optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | security-trace-filter-attributes optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-trace-filter object. All security-trace-filter objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | security-trace-filter-attributes[] optional | The list of attributes of security-trace-filter objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-trace-filter objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-trace-filter-modify

[top]

Modifies settings of a Security trace entry, even if it is in use.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-ip** | | ip-address optional | The IP address of the client. |
| **enabled** | | enable optional | This is used to enable or disable the filter. |
| **index** | **[0..2^32-1]** | integer | internally created index for the filter. |
| **path** | | string optional | Path to match. |
| **protocols** | | sectrace-protocol[] optional | The protocols for which the permission tracing is applicable. Possible values:<br>• "cifs" - CIFS Protocol,<br>• "nfs" - NFS Protocol |
| **time-enabled** | **[1..720]** | integer optional | The admin can specify a timeout for this filter after which it would be disabled. |
| | | | |

| | | | |
|---|---|---|---|
| **trace-allow** | | boolean optional | The deny events are traced by default. This option is to record trace results for allow events as well. |
| **unix-name** | | string optional | UNIX user name or user ID to trace. |
| **windows-name** | | string optional | Windows User Name to trace. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-trace-result-delete

[top]

Delete the specified security tracing event record.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | The cluster node on which the permission tracing event occured. |
| **seqnum** | **[0..2^64-1]** | integer | The sequence number of the permission tracing event. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-trace-result-show

[top]

Retrieve the list of permission tracing results for the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-trace-results-logs optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | security-trace-results-logs optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-trace-result object. All security-trace-result objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **attributes-list** | | security-trace-results-logs[] optional | The list of attributes of security-trace-result objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-trace-result objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **enable**

[top]

'enabled' or 'disabled'

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **sectrace-protocol**

[top]

cifs|nfs Possible values:

- "cifs" - CIFS Protocol,
- "nfs" - NFS Protocol

[none]

# Element definition: **security-trace-filter-attributes**

[top]

Security trace configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-ip** | | ip-address optional | The IP address of the client. Attributes: optional-for-create, modifiable |
| **enabled** | | enable optional | This is used to enable or disable the filter. Attributes: optional-for-create, modifiable |
| **index** | **[0..2^32-1]** | integer optional | internally created index for the filter. Attributes: key, required-for-create, non-modifiable |
| **path** | | string optional | Path to match. Attributes: optional-for-create, modifiable |
| **protocols** | | sectrace-protocol[] optional | The protocols for which the permission tracing is applicable. Attributes: optional-for-create, modifiable Possible values:<br>• "cifs" - CIFS Protocol,<br>• "nfs" - NFS Protocol |
| **time-enabled** | **[1..720]** | integer optional | The admin can specify a timeout for this filter after which it would be disabled. Attributes: optional-for-create, modifiable |
| **trace-allow** | | boolean optional | The deny events are traced by default. This option is to record trace results for allow events as well. Attributes: optional-for-create, modifiable |
| **unix-name** | | string optional | UNIX user name or user ID to trace. Attributes: optional-for-create, modifiable |
| **vserver** | | vserver-name optional | Vserver on which the permission tracing is applied. Attributes: key, non-creatable, non-modifiable |
| **windows-name** | | string optional | Windows User Name to trace. Attributes: optional-for-create, modifiable |

# Element definition: **security-trace-results-logs**

[top]

List of security tracing results. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-ip** | | ip-address optional | The IP address of the client that triggered the permission tracing event. Attributes: required-for-create, non-modifiable |
| **index** | **[0..2^32-1]** | integer optional | The index of the filter corresponding to the permission tracing event. Attributes: required-for-create, non-modifiable |
| **keytime** | | date optional | The date and time of day when the persmission tracing event occured. Attributes: required-for-create, non-modifiable |
| **node** | | node-name optional | The cluster node on which the permission tracing event occured. Attributes: key, required-for-create, non-modifiable |
| **path** | | string optional | The path of the file whose access triggered the permission tracing event. Attributes: required-for-create, non-modifiable |
| **protocol** | | sectrace-protocol optional | Protocol for which the permission tracing is configured. Attributes: required-for-create, non-modifiable Possible values:<br>• "cifs" - CIFS Protocol,<br>• "nfs" - NFS Protocol |
| **result** | | string optional | A brief explanation of the result of the security check. Attributes: required-for-create, non-modifiable |
| **security-style** | | security-style optional | The security style of the file system where the persmission tracing event occured. Attributes: required-for-create, non-modifiable Possible values:<br>• "security_none" - Security not Set,<br>• "security_unix_modebits" - UNIX and UNIX permissions,<br>• "security_unix_acl" - UNIX and NFSv4 ACL,<br>• "security_unix_sd" - UNIX and NT ACL,<br>• "security_mixed_modebits" - MIXED and UNIX permissions,<br>• "security_mixed_acl" - MIXED and NFSv4 ACL,<br>• "security_mixed_sd" - MIXED and NT ACL,<br>• "security_ntfs_modebits" - NTFS and UNIX permissions,<br>• "security_ntfs_acl" - NTFS and NT ACL,<br>• "security_ntfs_sd" - NTFS and NT ACL,<br>• "security_unix" - UNIX,<br>• "security_mixed" - MIXED,<br>• "security_ntfs" - NTFS,<br>• "security_modebits" - UNIX permissions,<br>• "security_acl" - ACL,<br>• "security_sd" - SD |
| **seqnum** | **[0..2^64-1]** | integer optional | The sequence number of the permission tracing event. Attributes: key, required-for-create, non-modifiable |
| **session-id** | **[0..2^64-1]** | integer optional | The unique identifier for the CIFS session. Attributes: required-for-create, non-modifiable |
| **share-name** | | string optional | CIFS Share name which has been accessed. Attributes: required-for-create, non-modifiable |
| **unix-user** | | string optional | Mapped UNIX User who triggered the permission tracing event. Attributes: required-for-create, non-modifiable |
| **user-name** | | string optional | Windows User who triggered the permission tracing event. Attributes: optional-for-create, non-modifiable |
| **volume-name** | | string optional | Name of the volume that has been accessed. Attributes: required-for-create, non-modifiable |
| **vserver** | | vserver-name | The Vserver on which the permission tracing event occured. Attributes: |

| | | | |
|---|---|---|---|
| | | optional | key, non-creatable, non-modifiable |

## Element definition: **date** [top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

## Element definition: **enable** [top]

'enabled' or 'disabled'

[none]

## Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

## Element definition: **node-name** [top]

The node's name

[none]

## Element definition: **sectrace-protocol** [top]

cifs|nfs Possible values:

- "cifs" - CIFS Protocol,
- "nfs" - NFS Protocol

[none]

## Element definition: **security-style** [top]

Effective security style on file Possible values:

- "security_none" - Security not Set,
- "security_unix_modebits" - UNIX and UNIX permissions,
- "security_unix_acl" - UNIX and NFSv4 ACL,
- "security_unix_sd" - UNIX and NT ACL,
- "security_mixed_modebits" - MIXED and UNIX permissions,
- "security_mixed_acl" - MIXED and NFSv4 ACL,
- "security_mixed_sd" - MIXED and NT ACL,
- "security_ntfs_modebits" - NTFS and UNIX permissions,
- "security_ntfs_acl" - NTFS and NT ACL,
- "security_ntfs_sd" - NTFS and NT ACL,
- "security_unix" - UNIX,
- "security_mixed" - MIXED,
- "security_ntfs" - NTFS,
- "security_modebits" - UNIX permissions,
- "security_acl" - ACL,
- "security_sd" - SD

[none]

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **security**


security-config-get
security-config-modify
security-config-ocsp-disable
security-config-ocsp-enable
security-config-ocsp-get-iter
security-last-login-info
security-login-create
security-login-delete
security-login-delete-iter
security-login-expire-password
security-login-expire-password-iter
security-login-get
security-login-get-iter
security-login-lock
security-login-modify
security-login-modify-iter
security-login-modify-password
security-login-role-config-get
security-login-role-config-get-iter
security-login-role-config-modify
security-login-role-config-modify-iter
security-login-role-create
security-login-role-delete
security-login-role-delete-iter
security-login-role-get
security-login-role-get-iter
security-login-role-modify
security-login-role-modify-iter
security-login-unlock
security-login-whoami
security-protocol-get
security-protocol-modify
security-protocol-ssh-get
security-protocol-ssh-modify
security-saml-sp-create-async
security-saml-sp-destroy
security-saml-sp-get
security-saml-sp-modify
security-ssh-add
security-ssh-get-iter
security-ssh-remove
security-ssh-reset


This set of ZAPIs allow to manage security of the system.

# security-config-get

[top]

Display Cluster Security Configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **interface** | | fips-interfaces | Type Of Interface. Deprecated as of ONTAP 9.8 and may be removed in a future release. Possible values:<br>• "ssl" |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-config-info | The attributes of the security. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-config-modify

[top]

Modify Cluster Security Configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | fips-interfaces | Type Of Interface. Deprecated as of ONTAP 9.8 and may be removed in a future release. Possible values:<br>• "ssl" |
| **is-fips-enabled** | | boolean optional | Data ONTAP FIPS Mode. |
| **supported-cipher-suites** | | string[] optional | Data ONTAP Supported Cipher Suites. |
| **supported-ciphers** | | string optional | Data ONTAP Supported Ciphers. Deprecated as of ONTAP 9.8 and may be removed in a future release. |
| **supported-protocols** | | string[] optional | Data ONTAP Supported Protocols. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-config-ocsp-disable

[top]

Disable OCSP for one or more selected applications

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string[] | Application Name<br><br>Possible values:<br><br>• 'autosupport' - AutoSupport,<br>• 'audit_log' - Audit-Logging,<br>• 'fabricpool' - FabricPool,<br>• 'ems' - EMS,<br>• 'kmip' - KMIP,<br>• 'ldap_ad' - LDAP-AD,<br>• 'ldap_nis_namemap' - LDAP-NIS-NameMap,<br>• 'all' - All Applications |

| Errno | Description |
|---|---|
| **E_SECURITY_CONFIG_ALL_CANNOT_COEXIST** | |

# security-config-ocsp-enable

[top]

Enable OCSP for one or more selected applications

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string[] | Application Name<br><br>Possible values:<br><br>• 'autosupport' - AutoSupport,<br>• 'audit_log' - Audit-Logging,<br>• 'fabricpool' - FabricPool,<br>• 'ems' - EMS,<br>• 'kmip' - KMIP,<br>• 'ldap_ad' - LDAP-AD,<br>• 'ldap_nis_namemap' - LDAP-NIS-NameMap,<br>• 'all' - All Applications |

| Errno | Description |
|---|---|
| **E_SECURITY_CONFIG_ALL_CANNOT_COEXIST** | |

# security-config-ocsp-get-iter

[top]

Display OCSP Support Status for Applications

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-config-ocsp optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | security-config-ocsp optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security object. All security objects matching this query up to 'max-records' will be returned. |

| | | | |
|---|---|---|---|
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | security-config-ocsp[] optional | The list of attributes of security objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-last-login-info

[top]

Show the last login time, unsuccessful login attempts and role change since last login.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **username** | | string | Name of user or group. |
| **vserver** | | string | Name of vserver. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **last-login-time** | | date optional | last successful login time |
| **last-role-change** | | true-false optional | Role change since last login |
| **last-unsuccessful-attempts** | | integer optional | Unsuccessful login attempts |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-login-create

[top]

Create a new user account associated with the specified application and authentication method. The new account can be local to ONTAP or an user/group configured in an external Active-Directory/LDAP/NIS server. In case of Active-Directory/LDAP/NIS group as the user account, access will be granted to its member users.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string | Name of the application. Possible values:<br>• 'amqp'<br>• 'console'<br>• 'http'<br>• 'ontapi'<br>• 'rsh'<br>• 'snmp' |

| | | | |
|---|---|---|---|
| | | | • 'service-processor'<br>• 'ssh'<br>• 'telnet'<br>. |
| **authentication-method** | | string | Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are:<br>• 'password' for 'amqp'' application.<br>• 'password' for 'console' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'http' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application.<br>• 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users).<br>• 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users).<br>• 'password' for 'service-processor' application.<br>• 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application. |
| **comment** | | string optional | Comments for the user account. The length of comment should be less than or equal to 128 charaters. |
| **is-ldap-fastbind** | | boolean optional | Whether the Authentication is LDAP Fastbind or not. |
| **is-ns-switch-group** | | boolean optional | Whether the added group is ns-switch group or not. |
| **is-password-hashed** | | boolean optional | This optionally specifies whether password entered by user is pre-hashed. This is ignored for creating snmp users. This is required for creating non-snmp users. |
| **password** | | string optional | Password for the user account. This field is not required (and will be ignored if present) when creating a user for the SNMP application. It is required for all other applications. |
| **remote-switch-ipaddress** | | string optional | This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model). |
| **role-name** | | string optional | The profile/role to be associated with the user. The default value is 'admin' for Admin Vserver. |
| **second-authentication-method** | | string optional | second authentication method for ssh application. Possible values: 'none', 'password', 'publickey' && 'nsswitch'.<br>• 'none'.<br>• 'password'.<br>• 'publickey'.<br>• 'nsswitch'. |
| **snmpv3-login-info** | | snmpv3-login-info optional | SNMPv3 user login information for 'usm' authentication method |
| **user-name** | | string | Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application. |
| **vserver** | | string | Name of the Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

| | |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EINVALIDUSERNAME** | |
| **EINVALIDAPPLICATION** | |
| **EINVALIDAUTHENTICATIONMETHOD** | |
| **EROLENOTFOUND** | |
| **EINVALID_ENGINE_ID** | |
| **E_INVALID_AUTHENTICATION_PROTOCOL** | |
| **E_INVALID_PRIVACY_PROTOCOL** | |
| **E_RSH_USER_CREATION_NOT_SUPPORTED** | |
| **E_TELNET_USER_CREATION_NOT_SUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |
| **EINVALIDPASSWORD** | |
| **EINVALIDACCESS** | |
| **EASUPUSEROPERATIONFAILED** | |
| **E_COMMUNITY_CREATE_FAILED** | |
| **E_FAILED_TO_CREATE_SNMPV3_USER** | |
| **E_SECOND_AUTH_METHOD_SHOULD_BE_USED_WITH_SSH** | |
| **E_SECOND_AUTH_METHOD_SHOULD_BE_USED_WITH_FIRST_METHOD_PWD_PUB_NSSWITCH** | |
| **E_SECOND_AUTH_METHOD_SHOULD_BE_DIFF_FIRST_METHOD** | |
| **E_AUTH_METHOD_ALREADY_EXISTS_COMPLEMENTARY_PAIR** | |
| **E_SAME_USER_ALREADY_EXISTS_MFA_ENTRY** | |
| **E_RBAC_FAILED_TO_DISCOVER_SNMPV3_ENGINEID** | |
| **E_RBAC_REMOTEIP_SPECIFIED_FOR_NON_ADMIN_VSERVER** | |
| **E_RBAC_REMOTEIP_SPECIFIED_FOR_NON_SNMPV3_USER** | |
| **E_RBAC_ALL_ZEROS_REMOTEIP** | |
| **E_RBAC_ENGINEID_ASSOCIATED_WITH_EXISTING_USERNAME** | |
| **E_SNMPV3_CLIENT_UNAVAILABLE** | |

# security-login-delete

[top]

Delete an existing user account object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string | Name of the application. Possible values:<br>• 'amqp'<br>• 'console'<br>• 'http'<br>• 'ontapi'<br>• 'rsh'<br>• 'snmp'<br>• 'service-processor'<br>• 'ssh'<br>• 'telnet'<br>. |
| | | | Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are:<br>• 'password' for 'amqp'' application. |

| | | | |
|---|---|---|---|
| **authentication-method** | | string | • 'password' for 'console' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'http' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application.<br>• 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users).<br>• 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users).<br>• 'password' for 'service-processor' application.<br>• 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application. |
| **remote-switch-ipaddress** | | string optional | This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model). |
| **user-name** | | string | Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application. |
| **vserver** | | string | Name of the Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EUSERNOTFOUND** | |
| **EAPPLICATIONNOTFOUND** | |
| **EAUTHENTICATIONMETHODNOTFOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |
| **EINVALIDACCESS** | |
| **EASUPUSEROPERATIONFAILED** | |

# security-login-delete-iter

[top]

Delete an existing user account or a group of user account objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security login account objects match a given query. If set to true, the API will continue deleting the next matching security login account even when the deletion of a previous security login account fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching security login account even when the deletion of a previous matching security login account fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of security login account objects to delete in this call. Default: 20 |
| | | security- | |

| | | | |
|---|---|---|---|
| **query** | | login-account-info | If deleting a specific security login account, this input element must specify all keys. If deleting multiple security login account objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security login account objects (just keys) that were not deleted due to some error. If set to false, the list of security login account objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security login account objects (just keys) that were successfully deleted. If set to false, the list of security login account objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-login-delete-iter-info[] optional | Information about security login account objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security login account objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of security login account objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security login account objects that matched the query and were successfully deleted. |
| **success-list** | | security-login-delete-iter-info[] optional | The security login account objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-login-expire-password

[top]

If the user has a password enabled, this API will cause it to immediately expire. Current login sessions will still remain available.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **password-hash-algorithm** | | string optional | This optionally specifies password hash algorithm used to encrypt user's password. Possible values:<br>• sha512<br>• sha256<br>• md5 |
| **user-name** | | string | Name of the user whose password need to be expired. |
| **vserver** | | string | Name of the Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

| EUSERNOTFOUND | |
|---|---|

# security-login-expire-password-iter

[top]

Iterate over a list of user account that uses password as authentication method to immedialtely expire their passwords. Current login sessions will still remain available.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security objects match a given query. If set to true, the API will continue with the next matching security even when the operation fails for the security. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching security even when the operation on a previous matching security fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of security objects to be operated in this call. Default: 20 |
| **query** | | security-login-password-user-info | If operating on a specific security, this input element must specify all keys. If operating on security objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security objects (just keys) that were not operated on due to some error. If set to false, the list of security objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security objects (just keys) that were successfully operated on. If set to false, the list of security objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-login-expire-password-iter-info[] optional | Information about security objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of security objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security objects that matched the query and were successfully processed. |
| **success-list** | | security-login-expire-password-iter-info[] optional | The security objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|

| EINTERNALERROR | |
|---|---|

# security-login-get

[top]

Get the attributes of a user account.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string | Name of the application. Possible values:<br>• 'amqp'<br>• 'console'<br>• 'http'<br>• 'ontapi'<br>• 'rsh'<br>• 'snmp'<br>• 'service-processor'<br>• 'ssh'<br>• 'telnet'<br>. |
| **authentication-method** | | string | Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are:<br>• 'password' for 'amqp'' application.<br>• 'password' for 'console' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'http' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application.<br>• 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users).<br>• 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users).<br>• 'password' for 'service-processor' application.<br>• 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application. |
| **desired-attributes** | | security-login-account-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **remote-switch-ipaddress** | | string optional | This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model). |
| **user-name** | | string | Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application. |
| **vserver** | | string | Name of the Vserver. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-login-account-info | The attributes of the security login account. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVSERVERNOTFOUND | |
| EUSERNOTFOUND | |
| EAPPLICATIONNOTFOUND | |
| EAUTHENTICATIONMETHODNOTFOUND | |

# security-login-get-iter

[top]

Iterate over a list of user account objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | security-login-account-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | security-login-account-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security login account object. All security login account objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | security-login-account-info[] optional | The list of attributes of security login account objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more security login account objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# security-login-lock

[top]

Lock a user account that uses password as the authentication method. Returns an error if the user account does not use password authentication.

| Input Name | Range | Type | Description |
|---|---|---|---|
| user-name | | string | Name of the user account to be locked. |
| vserver | | string | Name of the Vserver. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVSERVERNOTFOUND | |
| EUSERNOTFOUND | |
| EUSERLOCKFAILED | |
| E_LOCK_NOT_SUPPORTED | |
| EINVALIDACCESS | |

# security-login-modify

[top]

Modify the attributes of a user account object. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| application | | string | Name of the application. Possible values:<br>• 'amqp'<br>• 'console'<br>• 'http'<br>• 'ontapi'<br>• 'rsh'<br>• 'snmp'<br>• 'service-processor'<br>• 'ssh'<br>• 'telnet'<br>. |
| authentication-method | | string | Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are:<br>• 'password' for 'amqp'' application.<br>• 'password' for 'console' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'http' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application.<br>• 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users).<br>• 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users).<br>• 'password' for 'service-processor' application.<br>• 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application. |
| comment | | string optional | Comments for the user account. The length of comment should be less than or equal to 128 charaters. |
| is-ldap-fastbind | | boolean optional | Whether the Authentication is LDAP Fastbind or not. |
| is-ns-switch-group | | boolean optional | Whether the added group is ns-switch group or not. |
| remote-switch-ipaddress | | string optional | This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model). |
| role-name | | string | The profile/role to be associated with the user. The default value is 'admin' for Admin Vserver. |

| | | | |
|---|---|---|---|
| **second-authentication-method** | | string optional | second authentication method for ssh application. Possible values: 'none', 'password', 'publickey' && 'nsswitch'.<br>• 'none'.<br>• 'password'.<br>• 'publickey'.<br>• 'nsswitch'. |
| **user-name** | | string | Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application. |
| **vserver** | | string | Name of the Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EUSERNOTFOUND** | |
| **EAPPLICATIONNOTFOUND** | |
| **EAUTHENTICATIONMETHODNOTFOUND** | |
| **EROLENOTFOUND** | |
| **E_NO_PASSWORD** | |
| **E_INVALID_AUTHENTICATION_PROTOCOL** | |
| **E_INVALID_PRIVACY_PROTOCOL** | |
| **E_NO_AUTHENTICATION_PASSWORD** | |
| **E_NO_PRIVACY_PASSWORD** | |
| **E_INVALID_AUTHENTICATION_PASSWORD** | |
| **E_INVALID_PRIVACY_PASSWORD** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |
| **EINVALIDACCESS** | |
| **EASUPUSEROPERATIONFAILED** | |
| **E_SAME_USER_ALREADY_EXISTS_MFA_ENTRY** | |
| **E_TWO_DIFFERENT_PROFILES** | |

# security-login-modify-iter

[top]

Modify the attributes of a user account or a group of user account objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-login-account-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security login account objects match a given query. If set to true, the API will continue modifying the next matching security login account even when modification of a previous security login account fails. If set to false, the API will return on the first failure. Default: false |
| | | | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching security login account even when the modification of a |

| | | | |
|---|---|---|---|
| **max-failure-count** | **[1..2^32-1]** | integer optional | previous matching security login account fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | security-login-account-info | If modifying a specific security login account, this input element must specify all keys. If modifying security login account objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security login account objects (just keys) that were not modified due to some error. If set to false, the list of security login account objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security login account objects (just keys) that were successfully updated. If set to false, the list of security login account objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-login-modify-iter-info[] optional | Information about security login account objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security login account objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of security login account objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security login account objects that matched the query and were successfully updated. |
| **success-list** | | security-login-modify-iter-info[] optional | The security login account objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-login-modify-password

[top]

Changes the password of a specified user.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-password-hashed** | | boolean optional | This optionally specifies whether password entered by user is pre-hashed. |
| **new-password** | | string | New password of the user. |
| **password-** | | string | This optionally specifies password hash algorithm used to encrypt user's password. The default value is 'sha512'. Possible values: |

| | | | |
|---|---|---|---|
| **hash-algorithm** | | optional | • sha512<br>• sha256 |
| **user-name** | | string<br>optional | The user whose password should be changed. This is mandatory when a user with admin role is modifying the password of another user. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDPASSWORD** | |
| **EONTAPI_EPERM** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-login-role-config-get

[top]

Get the attributes of a role configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-login-role-config-info<br>optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **role-name** | | string | Name of the role. |
| **vserver** | | string | Name of the Vserver. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-login-role-config-info | The attributes of the security login roleconfig. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EROLENOTFOUND** | |
| **EROLECONFIGNOTFOUND** | |

# security-login-role-config-get-iter

[top]

Iterate over a list of role objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-login-role-config-info<br>optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer<br>optional | The maximum number of records to return in this call. Default: 20 |
| | | security- | |

| | | | |
|---|---|---|---|
| **query** | | login-role-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security login roleconfig object. All security login roleconfig objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | security-login-role-config-info[] optional | The list of attributes of security login roleconfig objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security login roleconfig objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-login-role-config-modify

[top]

Modify the specified attributes of role configuration object. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **account-expiry-time** | | string optional | This optionally specifies the expiration period of user accounts. The default setting is 2^32-1 meaning that no accounts will be marked for expiration. |
| **account-inactive-limit** | | string optional | This optionally specifies the maximum duration of inactivity leading to expiration of user account. The default setting is 2^32-1, meaning that no account will expire based on inactivity. |
| **change-password-duration-in-days** | **[0..1000]** | integer optional | This optionally specifies the number of days that must pass between password changes. The default setting is 0 (zero) meaning the user is allowed to change the password immediately. |
| **delay-after-failed-login** | **[1..60]** | integer optional | This optionally specifies the delay after each failed login attempt in seconds. Default is 4 secs. |
| **last-passwords-disallowed-count** | **[1..25]** | integer optional | This optionally specifies the number of previous passwords that are disallowed for reuse. The default setting is 6. |
| **lockout-duration** | **[0..2^32-1]** | integer optional | This optionally specifies the number of days to lock the account if maximum number of failed attempts occur. Default is 0. |
| **max-failed-login-attempts** | **[0..2^32-1]** | integer optional | This optionally specifies the maximum number of invalid login attempts after which the account gets locked. Default is 0. |
| **min-passwd-specialchar** | **[0..64]** | integer optional | This optionally specifies the minimum special characters required in password. The default setting is no special chars i.e. 0. |
| **min-password-size** | **[3..64]** | integer optional | This optionally specifies the minimum length of the password. Possible values range from 3 to 64 characters. The default setting is 8 characters. |
| **min-username-size** | **[3..16]** | integer optional | The minimum length of the user name. Possible values range from 3 to 16 characters. The default setting is 3 characters. |
| **passwd-expiry-** | | string | If configured, this optionally specifies when the user starts receiving warning messages regarding upcoming password expiry. The default |

| | | | |
|---|---|---|---|
| **warn-time** | | optional | setting is 2^32-1. |
| **passwd-min-digits** | **[0..64]** | integer optional | This optionally specifies the minimum number of digits required in the password. The default setting is 0. |
| **passwd-min-lowercase-chars** | **[0..64]** | integer optional | This optionally specifies the minimum number of lowercase alphabetic characters required in the password. The default setting is 0. |
| **passwd-min-uppercase-chars** | **[0..64]** | integer optional | This optionally specifies the minimum number of uppercase alphabetic characters required in the password. The default setting is 0. |
| **password-expiration-duration** | | string optional | This optionally specifies the password expiry in days. A value of 0 means it expiries now. Default is 2^32-1 (ie., never expire). |
| **require-initial-password-update** | | boolean optional | This optionally specifies to change the password upon first-login to the storage controller from SSH or serial-console. Default is false. |
| **require-password-alpha-numeric** | | boolean optional | If this field is set it specifies that the password must have atleast 1 alpha and 1 numeric character. |
| **require-username-alpha-numeric** | | boolean optional | If this field is set it specifies that the username must have atleast 1 alpha and 1 numeric character. |
| **role-name** | | string | Name of the role. |
| **vserver** | | string | Name of the Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EROLENOTFOUND** | |
| **EROLECONFIGNOTFOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-login-role-config-modify-iter

[top]

Modify the attributes of role configuration or a group of role configuration objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-login-role-config-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security login roleconfig objects match a given query. If set to true, the API will continue modifying the next matching security login roleconfig even when modification of a previous security login roleconfig fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching security login roleconfig even when the modification of a previous matching security login roleconfig fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the |

| | | | |
|---|---|---|---|
| | | | number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | security-login-role-config-info | If modifying a specific security login roleconfig, this input element must specify all keys. If modifying security login roleconfig objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security login roleconfig objects (just keys) that were not modified due to some error. If set to false, the list of security login roleconfig objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security login roleconfig objects (just keys) that were successfully updated. If set to false, the list of security login roleconfig objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-login-role-config-modify-iter-info[] optional | Information about security login roleconfig objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security login roleconfig objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of security login roleconfig objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security login roleconfig objects that matched the query and were successfully updated. |
| **success-list** | | security-login-role-config-modify-iter-info[] optional | The security login roleconfig objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-login-role-create

[top]

Create a new user role.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-level** | | string optional | Access level for the role. Possible values: 'none', 'readonly', 'all'. The default value is 'all'. |
| **command-directory-name** | | string | The command or command directory to which the role has an access. |

| | | | |
|---|---|---|---|
| **return-record** | | boolean optional | If set to true, returns the security login role on successful creation. Default: false |
| **role-name** | | string | Name of the role. |
| **role-query** | | string optional | A query for the role. The query must apply to the specified command or directory name. Example: The command is 'volume show' and the query is '-volume vol1'. The query is applied to the command resulting in populating only the volumes with name vol1. |
| **vserver** | | string | Name of the Vserver. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | security-login-role-info optional | The security login role created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EINVALIDROLENAME** | |
| **EINVALIDCMDDIRNAME** | |
| **EINVALIDACCESS** | |
| **EINVALIDQUERY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-login-role-delete

[top]

Delete an existing user role object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **command-directory-name** | | string | The command or command directory to which the role has an access. |
| **role-name** | | string | Name of the role. |
| **vserver** | | string | Name of the Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EROLENOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **ECMDDIRNOTFOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-login-role-delete-iter

[top]

Delete an existing user role or a group of user role objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security login role objects match a given query. If set to true, the API will continue deleting the next matching security login role even when the deletion of a previous security login role fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching security login role even when the deletion of a previous matching security login role fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of security login role objects to delete in this call. Default: 20 |
| **query** | | security-login-role-info | If deleting a specific security login role, this input element must specify all keys. If deleting multiple security login role objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security login role objects (just keys) that were not deleted due to some error. If set to false, the list of security login role objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security login role objects (just keys) that were successfully deleted. If set to false, the list of security login role objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-login-role-delete-iter-info[] optional | Information about security login role objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security login role objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of security login role objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security login role objects that matched the query and were successfully deleted. |
| **success-list** | | security-login-role-delete-iter-info[] optional | The security login role objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-login-role-get

[top]

Get the attributes of a user role.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **command-directory-name** | | string | The command or command directory to which the role has an access. |
| **desired-attributes** | | security-login-role-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **role-name** | | string | Name of the role. |
| **vserver** | | string | Name of the Vserver. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-login-role-info | The attributes of the security login role. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EROLENOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **ECMDDIRNOTFOUND** | |

# security-login-role-get-iter

[top]

Iterate over a list of user role objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-login-role-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | security-login-role-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security login role object. All security login role objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | security-login-role-info[] optional | The list of attributes of security login role objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security login role objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-login-role-modify

[top]

Modify the attributes of user role object. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-level** | | string optional | Access level for the role. Possible values: 'none', 'readonly', 'all'. The default value is 'all'. |
| **command-directory-name** | | string | The command or command directory to which the role has an access. |
| **role-name** | | string | Name of the role. |
| **role-query** | | string optional | A query for the role. The query must apply to the specified command or directory name. Example: The command is 'volume show' and the query is '-volume vol1'. The query is applied to the command resulting in populating only the volumes with name vol1. |
| **vserver** | | string | Name of the Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EINVALIDROLENAME** | |
| **EINVALIDCMDDIRNAME** | |
| **EINVALIDACCESS** | |
| **EINVALIDACCESSLEVEL** | |
| **EINVALIDQUERY** | |
| **EINVALIDROLEQUERY** | |
| **E_PREDEFINED_ROLES_UNMUTABLE** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-login-role-modify-iter

[top]

Modify the attributes of user role or a group of user role objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-login-role-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security login role objects match a given query. If set to true, the API will continue modifying the next matching security login role even when modification of a previous security login role fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching security login role even when the modification of a previous matching security login role fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | security-login-role-info | If modifying a specific security login role, this input element must specify all keys. If modifying security login role objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security login role objects (just keys) that were not modified due to some error. If set to false, the list of security login role objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security login role objects (just keys) that were successfully updated. If set to false, the list of security login role objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-login-role-modify-iter-info[] optional | Information about security login role objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security login role objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of security login role objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security login role objects that matched the query and were successfully updated. |
| **success-list** | | security-login-role-modify-iter-info[] optional | The security login role objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-login-unlock

[top]

Unlock a user account that uses password as authentication method. Returns an error if the user account does not use password authentication.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **user-name** | | string | Name of the user account to be unlocked. |
| **vserver** | | string | Name of the Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EUSERNOTFOUND** | |
| **EUSERUNLOCKFAILED** | |

| | |
|---|---|
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |
| **EINVALIDACCESS** | |

## security-login-whoami

[top]

Show the current user and role of this session.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-login-account-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-login-account-info | The attributes of the security login whoami. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## security-protocol-get

[top]

Get the security protocol configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string | Name of the application.Possible values:<br>• 'rsh'<br>• 'telnet'<br>. |
| **desired-attributes** | | security-protocol-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-protocol-info | The attributes of the security protocol. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-protocol-modify

[top]

Modify the security protocol configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string | Name of the application.Possible values:<br>• 'rsh'<br>• 'telnet'<br>. |
| **enabled** | | boolean | To enable or disable application. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-protocol-ssh-get

[top]

Get the security protocol ssh configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-protocol-ssh-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-protocol-ssh-info | The attributes of the security protocol ssh. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-protocol-ssh-modify

[top]

Modifies the security protocol ssh configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connections-per-second** | **[1..70]** | integer | Connections Per Second |
| **max-instances** | **[1..128]** | integer | Maximum Number of Instances |
| **per-source-limit** | **[1..64]** | integer | Per-Source Limit |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-saml-sp-create-async

[top]

Configure SAML service provider information. Note that this restarts the web server. Any HTTP/S connections that are active will be disrupted.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cert-ca** | | string optional | Specify the service prvider's certificate issuing CA. |
| **cert-common-name** | | common-name optional | Specify the service providers certificate's common name. |
| **cert-serial** | | string optional | Specify the service providers certificate's serial number. |
| **idp-uri** | | uri | Specify the URI containing the metadata of the identity provider. |
| **sp-host** | | remote-inet-address optional | Specify the SAML SP service provider host address. |
| **verify-metadata-server** | | boolean optional | Specify whether to verify the IdP metadata server identity. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | saml-sp-config-info optional | The security created (keys or the entire object if requested) |
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | The ID of the job that was spawned to create this security. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-saml-sp-destroy

[top]

Delete SAML service provider configuration information. Note that this restarts the web server. Any HTTP/S connections that are active will be disrupted.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

[top]

# security-saml-sp-get

Get SAML service provider configuration information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | saml-sp-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | saml-sp-config-info | The attributes of the security. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-saml-sp-modify

[top]

Modify SAML service provider configuration information. Note that this may restart the web server. Any HTTP/S connections that are active may be disrupted. Prior to disabling SAML service provider authentication, to prevent losing access, ensure that there are user accounts configured for non-SAML authentication.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Enable or disable the configured SAML SP for authentication. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-ssh-add

[top]

Adds the input algorithms, ciphers and mac algorithms to the SSH configuration. Existing algorithms, ciphers and mac algorithms remain in the configuration. API will succeed if requested kex algorithm or cipher or MAC algorithm is not currently enabled in the configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ciphers** | | ciphers[] optional | List of SSH Ciphers to Add |
| **key-exchange-algorithms** | | kex-algorithms[] optional | List of SSH Key Exchange Algorithms to Add |
| **mac-algorithms** | | mac-algorithms[] optional | List of SSH MAC Algorithms to Add |
| **vserver** | | vserver-name-data-admin optional | Name of Vserver. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# security-ssh-get-iter

[top]

Display SSH configuration options

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | security-ssh-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | security-ssh-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ssh object. All ssh objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | security-ssh-info[] optional | The list of attributes of ssh objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more ssh objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# security-ssh-remove

[top]

Removes the input algorithms, ciphers and MAC algorithms from the SSH configuration. API will succeed if requested kex algorithm or cipher or MAC algorithm is already currently enabled in the configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| ciphers | | ciphers[] optional | List of SSH Ciphers to Remove |
| key-exchange-algorithms | | kex-algorithms[] optional | List of SSH Key Exchange Algorithms to Remove |
| mac-algorithms | | mac-algorithms[] optional | List of SSH MAC algorithms to Remove |
| vserver | | vserver-name-data-admin optional | Name of Vserver. |

| | |
|---|---|

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# security-ssh-reset

[top]

Enable and replace SSH configuration options to this new setting

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ciphers** | | ciphers[] optional | List of SSH Ciphers enabled. Possible values:<br>• "aes256_ctr" ,<br>• "aes192_ctr" ,<br>• "aes128_ctr" ,<br>• "aes256_cbc" ,<br>• "aes192_cbc" ,<br>• "aes128_cbc" ,<br>• "3des_cbc" ,<br>• "aes128_gcm" ,<br>• "aes256_gcm" |
| **key-exchange-algorithms** | | kex-algorithms[] optional | List of SSH key exchange algorithms enabled. Possible values:<br>• "diffie_hellman_group_exchange_sha256" ,<br>• "diffie_hellman_group_exchange_sha1" ,<br>• "diffie_hellman_group14_sha1" ,<br>• "diffie_hellman_group1_sha1" ,<br>• "ecdh_sha2_nistp256" ,<br>• "ecdh_sha2_nistp384" ,<br>• "ecdh_sha2_nistp521" ,<br>• "curve25519_sha256" |
| **mac-algorithms** | | mac-algorithms[] optional | List of SSH MAC algorithms enabled. Possible values:<br>• "hmac_md5" ,<br>• "hmac_md5_96" ,<br>• "hmac_md5_etm" ,<br>• "hmac_md5_96_etm" ,<br>• "hmac_ripemd160" ,<br>• "hmac_ripemd160_etm" ,<br>• "hmac_sha1" ,<br>• "hmac_sha1_etm" ,<br>• "hmac_sha1_96" ,<br>• "hmac_sha1_96_etm" ,<br>• "hmac_sha2_256" ,<br>• "hmac_sha2_256_etm" ,<br>• "hmac_sha2_512" ,<br>• "hmac_sha2_512_etm" ,<br>• "umac_64" ,<br>• "umac_128" ,<br>• "umac_64_etm" ,<br>• "umac_128_etm" |
| **max-authentication-retry-count** | **[2..6]** | integer optional | Maximum Authentication Retry Count. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

## Element definition: **ciphers**

[top]

cipher name Possible values:

- "aes256_ctr" ,
- "aes192_ctr" ,
- "aes128_ctr" ,
- "aes256_cbc" ,
- "aes192_cbc" ,
- "aes128_cbc" ,
- "3des_cbc" ,
- "aes128_gcm" ,
- "aes256_gcm"

[none]

## Element definition: **common-name**

[top]

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

## Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

## Element definition: **fips-interfaces**

[top]

SSL Possible values:

- "ssl"

[none]

## Element definition: **kex-algorithms**

[top]

algorithm name Possible values:

- "diffie_hellman_group_exchange_sha256" ,
- "diffie_hellman_group_exchange_sha1" ,
- "diffie_hellman_group14_sha1" ,
- "diffie_hellman_group1_sha1" ,
- "ecdh_sha2_nistp256" ,
- "ecdh_sha2_nistp384" ,
- "ecdh_sha2_nistp521" ,
- "curve25519_sha256"

[none]

## Element definition: **mac-algorithms**

[top]

MAC name Possible values:

- "hmac_md5" ,
- "hmac_md5_96" ,
- "hmac_md5_etm" ,
- "hmac_md5_96_etm" ,
- "hmac_ripemd160" ,
- "hmac_ripemd160_etm" ,
- "hmac_sha1" ,
- "hmac_sha1_etm" ,
- "hmac_sha1_96" ,
- "hmac_sha1_96_etm" ,
- "hmac_sha2_256" ,
- "hmac_sha2_256_etm" ,
- "hmac_sha2_512" ,
- "hmac_sha2_512_etm" ,
- "umac_64" ,
- "umac_128" ,
- "umac_64_etm" ,
- "umac_128_etm"

[none]

## Element definition: **remote-inet-address**

[top]

IPv4 Address, IPv6 Address or Host Name

[none]

## Element definition: **saml-sp-config-info**

[top]

SAML SP configuration information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cert-ca** | | string optional | Specify the service prvider's certificate issuing CA. Attributes: optional-for-create, non-modifiable |
| **cert-common-name** | | common-name optional | Specify the service providers certificate's common name. Attributes: optional-for-create, non-modifiable |
| **cert-serial** | | string optional | Specify the service providers certificate's serial number. Attributes: optional-for-create, non-modifiable |
| **idp-uri** | | uri optional | Specify the URI containing the metadata of the identity provider. Attributes: required-for-create, non-modifiable |
| **is-enabled** | | boolean optional | Enable or disable the configured SAML SP for authentication. Attributes: non-creatable, modifiable |
| **sp-host** | | remote-inet-address optional | Specify the SAML SP service provider host address. Attributes: optional-for-create, non-modifiable |
| **verify-metadata-server** | | boolean optional | Specify whether to verify the IdP metadata server identity. Attributes: optional-for-create, non-modifiable |

# Element definition: **security-config-info**

[top]

Provide Security Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster-security-config-ready** | | boolean optional | Cluster Security Configuration Ready. Deprecated as of ONTAP 9.9 and may be removed in a future release. Attributes: non-creatable, non-modifiable |
| **interface** | | fips-interfaces optional | Type Of Interface. Deprecated as of ONTAP 9.8 and may be removed in a future release. Attributes: key, optional-for-create, non-modifiable Possible values:<br>• "ssl" |
| **is-fips-enabled** | | boolean optional | Data ONTAP FIPS Mode. Attributes: optional-for-create, modifiable |
| **supported-cipher-suites** | | string[] optional | Data ONTAP Supported Cipher Suites. Attributes: optional-for-create, modifiable |
| **supported-ciphers** | | string optional | Data ONTAP Supported Ciphers. Deprecated as of ONTAP 9.8 and may be removed in a future release. Attributes: optional-for-create, modifiable |
| **supported-protocols** | | string[] optional | Data ONTAP Supported Protocols. Attributes: optional-for-create, modifiable |

# Element definition: **security-config-ocsp**

[top]

OCSP Support Status for Applications When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string optional | Application Name<br><br>Possible values:<br><br>• 'autosupport' - AutoSupport,<br>• 'audit_log' - Audit-Logging,<br>• 'fabricpool' - FabricPool,<br>• 'ems' - EMS,<br>• 'kmip' - KMIP,<br>• 'ldap_ad' - LDAP-AD,<br>• 'ldap_nis_namemap' - LDAP-NIS-NameMap,<br>• 'all' - All Applications<br><br>Attributes: key, non-creatable, non-modifiable |
| **is-ocsp-enabled** | | boolean optional | Is OCSP-based Certificate Status Check Enabled? Attributes: non-creatable, non-modifiable |

# Element definition: **security-login-account-info**

[top]

User account information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string optional | Name of the application. Possible values:<br><br>• 'amqp'<br>• 'console'<br>• 'http'<br>• 'ontapi'<br>• 'rsh'<br>• 'snmp'<br>• 'service-processor'<br>• 'ssh'<br>• 'telnet'<br>. Attributes: key, required-for-create, non-modifiable |
| | | | Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication |

| | | | |
|---|---|---|---|
| **authentication-method** | | string optional | methods are valid for an application. Valid authentication methods for each application are:<br><br>• 'password' for 'amqp'' application.<br>• 'password' for 'console' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'http' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application.<br>• 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users).<br>• 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users).<br>• 'password' for 'service-processor' application.<br>• 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application.<br><br>Attributes: key, required-for-create, non-modifiable |
| **comment** | | string optional | Comments for the user account. The length of comment should be less than or equal to 128 charaters. Attributes: optional-for-create, modifiable |
| **is-ldap-fastbind** | | boolean optional | Whether the Authentication is LDAP Fastbind or not. Attributes: optional-for-create, modifiable |
| **is-locked** | | boolean optional | Account Locked Attributes: non-creatable, non-modifiable |
| **is-ns-switch-group** | | boolean optional | Whether the added group is ns-switch group or not. Attributes: optional-for-create, modifiable |
| **password-hash-algorithm** | | string optional | This optionally specifies password hash algorithm used to encrypt user's password. The default value is 'sha512'. Possible values:<br><br>• sha512<br>• sha256<br>• md5<br><br>Attributes: non-creatable, non-modifiable |
| **remote-switch-ipaddress** | | string optional | This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model). Attributes: key, optional-for-create, non-modifiable |
| **role-name** | | string optional | The profile/role to be associated with the user. The default value is 'admin' for Admin Vserver. Attributes: required-for-create, modifiable |
| **second-authentication-method** | | string optional | second authentication method for ssh application. Possible values: 'none', 'password', 'publickey' && 'nsswitch'.<br><br>• 'none'.<br>• 'password'.<br>• 'publickey'.<br>• 'nsswitch'.<br><br>Attributes: optional-for-create, modifiable |
| **user-name** | | string optional | Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | string optional | Name of the Vserver. Attributes: key, non-creatable, non-modifiable |

## Element definition: **security-login-delete-iter-info**

[top]

Information about the deletion operation that was attempted/performed against security login account object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **security-key** | | security-login-account-info | The keys for the security login account object to which the deletion applies. |

# Element definition: **security-login-expire-password-iter-info**

[top]

Information about the operation that was attempted/performed against security object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **security-key** | | security-login-password-user-info | The keys for the security object to which the operation applies. |

# Element definition: **security-login-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against security login account object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **security-key** | | security-login-account-info | The keys for the security login account object to which the modify operation applies. |

# Element definition: **security-login-password-user-info**

[top]

Information of users with password authentication method When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **password-hash-algorithm** | | string optional | Password Hash Function Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **user-name** | | string optional | Username Attributes: key, required-for-create, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **security-login-role-config-info**

[top]

User role configuration information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **account-expiry-time** | | string optional | This optionally specifies the expiration period of user accounts. The default setting is 2^32-1 meaning that no accounts will be marked for expiration. Attributes: non-creatable, modifiable |
| **account-inactive-limit** | | string optional | This optionally specifies the maximum duration of inactivity leading to expiration of user account. The default setting is 2^32-1, meaning that no account will expire based on inactivity. Attributes: non-creatable, modifiable |
| **change-password-duration-in-days** | **[0..1000]** | integer optional | This optionally specifies the number of days that must pass between password changes. The default setting is 0 (zero) meaning the user is allowed to change the password immediately. Attributes: non-creatable, modifiable |
| **delay-after-failed-login** | **[1..60]** | integer optional | This optionally specifies the delay after each failed login attempt in seconds. Default is 4 secs. Attributes: non-creatable, modifiable |
| **last-passwords-disallowed-count** | **[1..25]** | integer optional | This optionally specifies the number of previous passwords that are disallowed for reuse. The default setting is 6. Attributes: non-creatable, modifiable |
| **lockout-duration** | **[0..2^32-1]** | integer optional | This optionally specifies the number of days to lock the account if maximum number of failed attempts occur. Default is 0. Attributes: non-creatable, modifiable |
| **max-failed-login-attempts** | **[0..2^32-1]** | integer optional | This optionally specifies the maximum number of invalid login attempts after which the account gets locked. Default is 0. Attributes: non-creatable, modifiable |
| **min-passwd-specialchar** | **[0..64]** | integer optional | This optionally specifies the minimum special characters required in password. The default setting is no special chars i.e. 0. Attributes: non-creatable, modifiable |
| **min-password-size** | **[3..64]** | integer optional | This optionally specifies the minimum length of the password. Possible values range from 3 to 64 characters. The default setting is 8 characters. Attributes: non-creatable, modifiable |
| **min-username-size** | **[3..16]** | integer optional | The minimum length of the user name. Possible values range from 3 to 16 characters. The default setting is 3 characters. Attributes: non-creatable, modifiable |
| **passwd-expiry-warn-time** | | string optional | If configured, this optionally specifies when the user starts receiving warning messages regarding upcoming password expiry. The default setting is 2^32-1. Attributes: non-creatable, modifiable |
| **passwd-min-digits** | **[0..64]** | integer optional | This optionally specifies the minimum number of digits required in the password. The default setting is 0. Attributes: non-creatable, modifiable |
| **passwd-min-lowercase-chars** | **[0..64]** | integer optional | This optionally specifies the minimum number of lowercase alphabetic characters required in the password. The default setting is 0. Attributes: non-creatable, modifiable |

| | | | |
|---|---|---|---|
| **passwd-min-uppercase-chars** | **[0..64]** | integer optional | This optionally specifies the minimum number of uppercase alphabetic characters required in the password. The default setting is 0. Attributes: non-creatable, modifiable |
| **password-expiration-duration** | | string optional | This optionally specifies the password expiry in days. A value of 0 means it expiries now. Default is 2^32-1 (ie., never expire). Attributes: non-creatable, modifiable |
| **require-initial-password-update** | | boolean optional | This optionally specifies to change the password upon first-login to the storage controller from SSH or serial-console. Default is false. Attributes: non-creatable, modifiable |
| **require-password-alpha-numeric** | | boolean optional | If this field is set it specifies that the password must have atleast 1 alpha and 1 numeric character. Attributes: non-creatable, modifiable |
| **require-username-alpha-numeric** | | boolean optional | If this field is set it specifies that the username must have atleast 1 alpha and 1 numeric character. Attributes: non-creatable, modifiable |
| **role-name** | | string optional | Name of the role. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Name of the Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **security-login-role-config-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against security login roleconfig object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **security-key** | | security-login-role-config-info | The keys for the security login roleconfig object to which the modify operation applies. |

# Element definition: **security-login-role-delete-iter-info**

[top]

Information about the deletion operation that was attempted/performed against security login role object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **security-key** | | security-login-role-info | The keys for the security login role object to which the deletion applies. |

# Element definition: **security-login-role-info**

[top]

User role information. When returned as part of the output, all elements of this typedef are reported, unless

otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **access-level** | | string optional | Access level for the role. Possible values: 'none', 'readonly', 'all'. The default value is 'all'. Attributes: optional-for-create, modifiable |
| **command-directory-name** | | string optional | The command or command directory to which the role has an access. Attributes: key, required-for-create, non-modifiable |
| **role-name** | | string optional | Name of the role. Attributes: key, required-for-create, non-modifiable |
| **role-query** | | string optional | A query for the role. The query must apply to the specified command or directory name. Example: The command is 'volume show' and the query is '-volume vol1'. The query is applied to the command resulting in populating only the volumes with name vol1. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Name of the Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **security-login-role-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against security login role object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **security-key** | | security-login-role-info | The keys for the security login role object to which the modify operation applies. |

# Element definition: **security-protocol-info**

[top]

Security protocol fields When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string optional | Name of the application.Possible values:<br>• 'rsh'<br>• 'telnet'<br>. Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **enabled** | | boolean optional | To enable or disable application. Attributes: non-creatable, modifiable |

# Element definition: **security-protocol-ssh-info**

[top]

Security protocol ssh fields When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **connections-per-second** | | integer optional | Connections Per Second Attributes: non-creatable, modifiable |
| **max-instances** | | integer optional | Maximum Number of Instances Attributes: non-creatable, modifiable |
| **per-source-limit** | | integer optional | Per-Source Limit Attributes: non-creatable, modifiable |

# Element definition: **security-ssh-info**

[top]

Provide SSH configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ciphers** | | ciphers[] optional | List of SSH Ciphers enabled. Attributes: optional-for-create, modifiable Possible values:<br>• "aes256_ctr" ,<br>• "aes192_ctr" ,<br>• "aes128_ctr" ,<br>• "aes256_cbc" ,<br>• "aes192_cbc" ,<br>• "aes128_cbc" ,<br>• "3des_cbc" ,<br>• "aes128_gcm" ,<br>• "aes256_gcm" |
| **key-exchange-algorithms** | | kex-algorithms[] optional | List of SSH key exchange algorithms enabled. Attributes: optional-for-create, modifiable Possible values:<br>• "diffie_hellman_group_exchange_sha256" ,<br>• "diffie_hellman_group_exchange_sha1" ,<br>• "diffie_hellman_group14_sha1" ,<br>• "diffie_hellman_group1_sha1" , |

| | | | |
|---|---|---|---|
| | | | • "ecdh_sha2_nistp256" ,<br>• "ecdh_sha2_nistp384" ,<br>• "ecdh_sha2_nistp521" ,<br>• "curve25519_sha256" |
| **mac-algorithms** | | mac-algorithms[] optional | List of SSH MAC algorithms enabled. Attributes: optional-for-create, modifiable Possible values:<br>• "hmac_md5" ,<br>• "hmac_md5_96" ,<br>• "hmac_md5_etm" ,<br>• "hmac_md5_96_etm" ,<br>• "hmac_ripemd160" ,<br>• "hmac_ripemd160_etm" ,<br>• "hmac_sha1" ,<br>• "hmac_sha1_etm" ,<br>• "hmac_sha1_96" ,<br>• "hmac_sha1_96_etm" ,<br>• "hmac_sha2_256" ,<br>• "hmac_sha2_256_etm" ,<br>• "hmac_sha2_512" ,<br>• "hmac_sha2_512_etm" ,<br>• "umac_64" ,<br>• "umac_128" ,<br>• "umac_64_etm" ,<br>• "umac_128_etm" |
| **max-authentication-retry-count** | **[2..6]** | integer optional | Maximum Authentication Retry Count. Attributes: optional-for-create, modifiable |
| **vserver-name** | | vserver-name-data-admin optional | Name of Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **snmpv3-login-info**

[top]

SNMPv3 user login information for 'usm' authentication method

| Name | Range | Type | Description |
|---|---|---|---|
| **authentication-password** | | string optional | Password for the authentication protocol. This should be minimum 8 characters long. This is required for 'md5', 'sha' and 'sha2-256' authentication protocols and not required for 'none'. Attributes: optional-for-create, non-modifiable |
| **authentication-protocol** | | string optional | Authentication protocol for the snmp user. Possible values: 'none', 'md5', 'sha' and 'sha2-256'. When cluster FIPS mode is on, 'sha' and 'sha2-256' are the only possible and valid values. When cluster FIPS mode is off, the default value is 'none'. When cluster FIPS mode is on, the default value is 'sha'. Attributes: optional-for-create, non-modifiable |
| **engine-id** | | hex-string optional | Authoritative entity's EngineID for the SNMPv3 user. This is required for creating SNMPv3 users (users for SNMPv3 INFORMs) with 'usm' authentication method only. This should be specified as a hexadecimal string. Engine ID with first bit set to 1 in first octet should have a minimum of 5 or maximum of 32 octets. Engine Id with first bit set to 0 in the first octet should be 12 octets in length. Engine Id cannot have all zeros in its address For e.g. 800001460300000000000. Attributes: optional-for-create, non-modifiable |
| **privacy-password** | | string optional | Password for the privacy protocol. This should be minimum 8 characters long. This is required for 'des' and 'aes128' privacy protocols and not required for 'none'. Attributes: optional-for-create, non-modifiable |
| **privacy-protocol** | | string optional | Privacy protocol for the snmp user. Possible values: 'none', 'des' and 'aes128'. When cluster FIPS mode is on, 'aes128' is the only possible and valid value. When cluster FIPS mode is off, the default value is 'none'. When cluster FIPS |

| | | | |
|---|---|---|---|
| | | | mode is on, the default value is 'aes128'. Attributes: optional-for-create, non-modifiable |

## Element definition: **true-false**

[top]

True/False

[none]

## Element definition: **uri**

[top]

[none]

## Element definition: **vserver-name-data-admin**

[top]

The name of the Vserver.

[none]

## Element definition: **ciphers**

[top]

cipher name Possible values:

- "aes256_ctr" ,
- "aes192_ctr" ,
- "aes128_ctr" ,
- "aes256_cbc" ,
- "aes192_cbc" ,
- "aes128_cbc" ,
- "3des_cbc" ,
- "aes128_gcm" ,
- "aes256_gcm"

[none]

## Element definition: **common-name**

[top]

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

## Element definition: **fips-interfaces**

[top]

SSL Possible values:

- "ssl"

[none]

## Element definition: **hex-string**

[top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

## Element definition: **kex-algorithms**

[top]

algorithm name Possible values:

- "diffie_hellman_group_exchange_sha256" ,
- "diffie_hellman_group_exchange_sha1" ,
- "diffie_hellman_group14_sha1" ,
- "diffie_hellman_group1_sha1" ,
- "ecdh_sha2_nistp256" ,
- "ecdh_sha2_nistp384" ,
- "ecdh_sha2_nistp521" ,
- "curve25519_sha256"

[none]

## Element definition: **mac-algorithms**

[top]

MAC name Possible values:

- "hmac_md5" ,
- "hmac_md5_96" ,
- "hmac_md5_etm" ,
- "hmac_md5_96_etm" ,
- "hmac_ripemd160" ,
- "hmac_ripemd160_etm" ,
- "hmac_sha1" ,
- "hmac_sha1_etm" ,
- "hmac_sha1_96" ,
- "hmac_sha1_96_etm" ,
- "hmac_sha2_256" ,
- "hmac_sha2_256_etm" ,
- "hmac_sha2_512" ,
- "hmac_sha2_512_etm" ,
- "umac_64" ,
- "umac_128" ,
- "umac_64_etm" ,
- "umac_128_etm"

[none]

## Element definition: **remote-inet-address** [top]

IPv4 Address, IPv6 Address or Host Name

[none]

## Element definition: **security-login-account-info** [top]

User account information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string optional | Name of the application. Possible values:<br>• 'amqp'<br>• 'console'<br>• 'http'<br>• 'ontapi'<br>• 'rsh'<br>• 'snmp'<br>• 'service-processor'<br>• 'ssh'<br>• 'telnet'<br>. Attributes: key, required-for-create, non-modifiable |
| **authentication-method** | | string optional | Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are:<br>• 'password' for 'amqp'' application.<br>• 'password' for 'console' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'http' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application.<br>• 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users).<br>• 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users).<br>• 'password' for 'service-processor' application.<br>• 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application.<br>Attributes: key, required-for-create, non-modifiable |
| **comment** | | string optional | Comments for the user account. The length of comment should be less than or equal to 128 charaters. Attributes: optional-for-create, modifiable |
| **is-ldap-fastbind** | | boolean optional | Whether the Authentication is LDAP Fastbind or not. Attributes: optional-for-create, modifiable |
| | | boolean | |

| | | | |
|---|---|---|---|
| **is-locked** | | optional | Account Locked Attributes: non-creatable, non-modifiable |
| **is-ns-switch-group** | | boolean optional | Whether the added group is ns-switch group or not. Attributes: optional-for-create, modifiable |
| **password-hash-algorithm** | | string optional | This optionally specifies password hash algorithm used to encrypt user's password. The default value is 'sha512'. Possible values:<br>• sha512<br>• sha256<br>• md5<br><br>Attributes: non-creatable, non-modifiable |
| **remote-switch-ipaddress** | | string optional | This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model). Attributes: key, optional-for-create, non-modifiable |
| **role-name** | | string optional | The profile/role to be associated with the user. The default value is 'admin' for Admin Vserver. Attributes: required-for-create, modifiable |
| **second-authentication-method** | | string optional | second authentication method for ssh application. Possible values: 'none', 'password', 'publickey' && 'nsswitch'.<br>• 'none'.<br>• 'password'.<br>• 'publickey'.<br>• 'nsswitch'.<br><br>Attributes: optional-for-create, modifiable |
| **user-name** | | string optional | Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | string optional | Name of the Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **security-login-role-config-info**

[top]

User role configuration information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **account-expiry-time** | | string optional | This optionally specifies the expiration period of user accounts. The default setting is 2^32-1 meaning that no accounts will be marked for expiration. Attributes: non-creatable, modifiable |
| **account-inactive-limit** | | string optional | This optionally specifies the maximum duration of inactivity leading to expiration of user account. The default setting is 2^32-1, meaning that no account will expire based on inactivity. Attributes: non-creatable, modifiable |
| **change-** | | | This optionally specifies the number of days that must pass between |

| | | | |
|---|---|---|---|
| **password-duration-in-days** | **[0..1000]** | integer optional | password changes. The default setting is 0 (zero) meaning the user is allowed to change the password immediately. Attributes: non-creatable, modifiable |
| **delay-after-failed-login** | **[1..60]** | integer optional | This optionally specifies the delay after each failed login attempt in seconds. Default is 4 secs. Attributes: non-creatable, modifiable |
| **last-passwords-disallowed-count** | **[1..25]** | integer optional | This optionally specifies the number of previous passwords that are disallowed for reuse. The default setting is 6. Attributes: non-creatable, modifiable |
| **lockout-duration** | **[0..2^32-1]** | integer optional | This optionally specifies the number of days to lock the account if maximum number of failed attempts occur. Default is 0. Attributes: non-creatable, modifiable |
| **max-failed-login-attempts** | **[0..2^32-1]** | integer optional | This optionally specifies the maximum number of invalid login attempts after which the account gets locked. Default is 0. Attributes: non-creatable, modifiable |
| **min-passwd-specialchar** | **[0..64]** | integer optional | This optionally specifies the minimum special characters required in password. The default setting is no special chars i.e. 0. Attributes: non-creatable, modifiable |
| **min-password-size** | **[3..64]** | integer optional | This optionally specifies the minimum length of the password. Possible values range from 3 to 64 characters. The default setting is 8 characters. Attributes: non-creatable, modifiable |
| **min-username-size** | **[3..16]** | integer optional | The minimum length of the user name. Possible values range from 3 to 16 characters. The default setting is 3 characters. Attributes: non-creatable, modifiable |
| **passwd-expiry-warn-time** | | string optional | If configured, this optionally specifies when the user starts receiving warning messages regarding upcoming password expiry. The default setting is 2^32-1. Attributes: non-creatable, modifiable |
| **passwd-min-digits** | **[0..64]** | integer optional | This optionally specifies the minimum number of digits required in the password. The default setting is 0. Attributes: non-creatable, modifiable |
| **passwd-min-lowercase-chars** | **[0..64]** | integer optional | This optionally specifies the minimum number of lowercase alphabetic characters required in the password. The default setting is 0. Attributes: non-creatable, modifiable |
| **passwd-min-uppercase-chars** | **[0..64]** | integer optional | This optionally specifies the minimum number of uppercase alphabetic characters required in the password. The default setting is 0. Attributes: non-creatable, modifiable |
| **password-expiration-duration** | | string optional | This optionally specifies the password expiry in days. A value of 0 means it expiries now. Default is 2^32-1 (ie., never expire). Attributes: non-creatable, modifiable |
| **require-initial-password-update** | | boolean optional | This optionally specifies to change the password upon first-login to the storage controller from SSH or serial-console. Default is false. Attributes: non-creatable, modifiable |
| **require-password-alpha-numeric** | | boolean optional | If this field is set it specifies that the password must have atleast 1 alpha and 1 numeric character. Attributes: non-creatable, modifiable |
| **require-username-alpha-numeric** | | boolean optional | If this field is set it specifies that the username must have atleast 1 alpha and 1 numeric character. Attributes: non-creatable, modifiable |
| **role-name** | | string optional | Name of the role. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Name of the Vserver. Attributes: key, non-creatable, non-modifiable |

## Element definition: **security-login-role-info**

[top]

User role information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **access-level** | | string optional | Access level for the role. Possible values: 'none', 'readonly', 'all'. The default value is 'all'. Attributes: optional-for-create, modifiable |
| **command-directory-name** | | string optional | The command or command directory to which the role has an access. Attributes: key, required-for-create, non-modifiable |
| **role-name** | | string optional | Name of the role. Attributes: key, required-for-create, non-modifiable |
| **role-query** | | string optional | A query for the role. The query must apply to the specified command or directory name. Example: The command is 'volume show' and the query is '-volume vol1'. The query is applied to the command resulting in populating only the volumes with name vol1. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Name of the Vserver. Attributes: key, non-creatable, non-modifiable |

# APIs in Category: **security-certificate**


security-certificate-ca-issued-get
security-certificate-ca-issued-get-iter
security-certificate-create
security-certificate-delete
security-certificate-delete-iter
security-certificate-file-get-iter
security-certificate-generate-csr
security-certificate-get
security-certificate-get-iter
security-certificate-install
security-certificate-remove-precluster-cert
security-certificate-rename
security-certificate-revoke
security-certificate-sign
security-certificate-truststore-clear
security-certificate-truststore-load


This set of ZAPIs allows to manage certificates in a cluster environment including: creation, deletion, installation, generation of CSR, signing of certificate and revocation.

## security-certificate-ca-issued-get

[top]

Get the attributes of the security-certificate-ca-issued.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ca-serial-number** | | string | Serial number of CA certificate. |
| **certificate-authority** | | string | Certificate Authority |
| **desired-attributes** | | certificate-ca-issued-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **serial-number** | | string | Serial number of certificate. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | certificate-ca-issued- | The attributes of the security-certificate-ca-issued. |

| | | | |
|---|---|---|---|
| | | info | |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-certificate-ca-issued-get-iter

[top]

Iterate over a list of security-certificate-ca-issued objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | certificate-ca-issued-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | certificate-ca-issued-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-certificate-ca-issued object. All security-certificate-ca-issued objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | certificate-ca-issued-info[] optional | The list of attributes of security-certificate-ca-issued objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more security-certificate-ca-issued objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# security-certificate-create

[top]

If a certificate is created with the existing Common Name then a new certificate is generated with a different serial number

| Input Name | Range | Type | Description |
|---|---|---|---|
| cert-name | | string optional | Specifies the system's internal identifier for the certificate. It must be unique within a Vserver. If not provided, it is automatically generated by the system. |
| common- | | | Represents the domain name in FQDN form that specifies its exact |

| | | | |
|---|---|---|---|
| **name** | | string | location in the tree hierarchy of the Domain Name System (DNS). |
| **country** | | string optional | Name of the country. Default value is 'US'. |
| **email-address** | | string optional | Email address of administrator. Default value is empty string. |
| **expire-days** | | integer optional | Number of days until expiration. Default value is '365'. |
| **hash-function** | | string optional | Hashing function used to sign the certificate. Default value is 'sha256'.<br><br>Possible values:<br><br>• 'sha1' ,<br>• 'sha256' ,<br>• 'md5' ,<br>• 'sha224' ,<br>• 'sha384' ,<br>• 'sha512 |
| **is-system-internal-certificate** | | boolean optional | Is System Internal Certificate. Default value is 'false'. |
| **locality** | | string optional | Name of the locality Default value is empty string. |
| **organization** | | string optional | Name of the organization. Default value is empty string. |
| **organization-unit** | | string optional | Name of the unit. Example: IT, Finance. Default value is empty string. |
| **size** | | string optional | Size of requested certificate in bits. Default value is '2048'.<br><br>Possible values:<br><br>• '512' - 512 bits private key,<br>• '1024' - 1024 bits private key,<br>• '1536' - 1536 bits private key,<br>• '2048' - 2048 bits private key,<br>• '3072' - 3072 bits private key |
| **state** | | string optional | Name of the state. Default value is empty string. |
| **type** | | string | Type of certificate.<br><br>Possible values:<br><br>• 'server' - Server certificate,<br>• 'client' - Certificate for Data ONTAP as an SSL client,<br>• 'root_ca' - Self-Signed Root CA,<br>• 'client_ca' - CA who signed user certificates on client,<br>• 'server_ca' - CA who signed user certificates on server,<br>• 'server_chain' - Intermediate certificate for server authentication |
| **vserver** | | string optional | Name of vserver. Default value is Cserver. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-certificate-delete

[top]

Delete an existing security-certificate object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cert-name** | | string optional | System's internal identifier for the certificate. Is is unique within a Vserver. |
| **certificate-authority** | | string | Certificate Authority |
| **common-name** | | string | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). |
| **is-system-internal-certificate** | | boolean optional | Is System Internal Certificate |
| **serial-number** | | string optional | Serial number of certificate. |
| **subtype** | | string optional | Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release. |
| **type** | | string | Type of certificate.<br><br>Possible values:<br><br>• 'server' - Server certificate,<br>• 'client' - Certificate for Data ONTAP as an SSL client,<br>• 'root_ca' - Self-Signed Root CA,<br>• 'client_ca' - CA who signed user certificates on client,<br>• 'server_ca' - CA who signed user certificates on server,<br>• 'server_chain' - Intermediate certificate for server authentication |
| **vserver** | | string optional | Name of vserver. Default value is Cserver. |

| Errno | Description |
|---|---|
| **E_CERTIFICATE_CANNOT_DELETE_DEFAULT** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-certificate-delete-iter

[top]

Delete an existing security-certificate or a group of security-certificate objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security-certificate objects match a given query. If set to true, the API will continue deleting the next matching security-certificate even when the deletion of a previous security-certificate fails. If set to false, the API will return on the first failure. Default: false |

| | | | |
|---|---|---|---|
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching security-certificate even when the deletion of a previous matching security-certificate fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of security-certificate objects to delete in this call. Default: 20 |
| **query** | | certificate-info | If deleting a specific security-certificate, this input element must specify all keys. If deleting multiple security-certificate objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security-certificate objects (just keys) that were not deleted due to some error. If set to false, the list of security-certificate objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security-certificate objects (just keys) that were successfully deleted. If set to false, the list of security-certificate objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-certificate-delete-iter-info[] optional | Information about security-certificate objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security-certificate objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of security-certificate objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security-certificate objects that matched the query and were successfully deleted. |
| **success-list** | | security-certificate-delete-iter-info[] optional | The security-certificate objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **E_CERTIFICATE_CANNOT_DELETE_DEFAULT** | |

# security-certificate-file-get-iter

[top]

Iterate over a list of security-certificate-file objects.

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | certificate-file-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | certificate-file-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-certificate-file object. All security-certificate-file objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | certificate-file-info[] optional | The list of attributes of security-certificate-file objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-certificate-file objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-certificate-generate-csr

[top]

Generate a digital certificate signing request(CSR)

| Input Name | Range | Type | Description |
|---|---|---|---|
| **common-name** | | string | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). |
| **country** | | string optional | Name of the country. |
| **email-address** | | string optional | Email address of administrator. |
| **hash-function** | | string optional | Hashing function used to sign the certificate. Default value is 'sha256'.<br><br>Possible values:<br><br>• 'sha1' ,<br>• 'sha256' ,<br>• 'md5' ,<br>• 'sha224' ,<br>• 'sha384' ,<br>• 'sha512' |
| **locality** | | string optional | Name of the locality. |
| **organization** | | string | Name of the organization. |

| | | | |
|---|---|---|---|
| | | optional | |
| **organization-unit** | | string optional | Name of the unit. Example: IT, Finance. |
| **size** | | string optional | Size of requested certificate in bits. Default value is '2048'. Deprecated as of ONTAP 9.8 and may be removed in future releases.<br><br>Possible values:<br><br>• '512' - 512 bits private key,<br>• '1024' - 1024 bits private key,<br>• '1536' - 1536 bits private key,<br>• '2048' - 2048 bits private key,<br>• '3072' - 3072 bits private key |
| **state** | | string optional | Name of the state. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **csr** | | string | Certificate Signing Request |
| **private-key** | | string | Private Key |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-certificate-get

[top]

Get the attributes of the security-certificate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cert-name** | | string optional | System's internal identifier for the certificate. Is is unique within a Vserver. |
| **certificate-authority** | | string | Certificate Authority |
| **common-name** | | string | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). |
| **desired-attributes** | | certificate-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **serial-number** | | string optional | Serial number of certificate. |
| **subtype** | | string optional | Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release. |
| **type** | | string | Type of certificate.<br><br>Possible values:<br><br>• 'server' - Server certificate,<br>• 'client' - Certificate for Data ONTAP as an SSL client,<br>• 'root_ca' - Self-Signed Root CA,<br>• 'client_ca' - CA who signed user certificates on the client, |

| | | | |
|---|---|---|---|
| | | | 'server_ca' - CA who signed user certificates on the server,<br>• 'server_chain' - Intermediate certificate for server authentication |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | certificate-info | The attributes of the security-certificate. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-certificate-get-iter

[top]

Iterate over a list of security-certificate objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | certificate-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | certificate-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-certificate object. All security-certificate objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | certificate-info[] optional | The list of attributes of security-certificate objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-certificate objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-certificate-install

[top]

Install a digital certificate

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cert-name** | | string optional | Specifies the system's internal identifier for the certificate. It must be unique within a Vserver. If not provided, it is automatically generated by the system. |
| **certificate** | | string | Public Key Certificate |
| **common-name** | | common-name optional | FQDN or custom common name. This field is available from Data ONTAP 8.3.3 onwards and is only applicable if the certificate has an empty subject field and a valid subject alternate name extension. This field must have a valid common name to install such a certificate. |
| **intermediate-cert-list** | | pubcertificate[] optional | Chain of Intermediate Certificates |
| **is-system-internal-certificate** | | boolean optional | Netapp internal certificate. Default value is 'false'. |
| **private-key** | | string optional | Private Key |
| **subtype** | | subtype optional | Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release. |
| **type** | | string | Type of certificate.<br><br>Possible values:<br><br>• 'server' - Server certificate,<br>• 'client' - Certificate for Data ONTAP as an SSL client,<br>• 'client_ca' - CA who signed user certificates on client,<br>• 'server_ca' - CA who signed user certificates on server |
| **vserver** | | string optional | Name of vserver. Default value is Cserver. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **ca** | | string optional | Installed certificate's CA for reference. |
| **serial** | | string optional | Installed certificate's serial number for reference. |

| Errno | Description |
|---|---|
| **E_CERTIFICATE_SUBTYPE_ONLY_SUPPORT_FOR_ADMIN_VSERVER** | |
| **E_CERTIFICATE_CERT_TYPE_WITH_SUBTYPE_NOT_APPLICABLE** | |
| **E_CERTIFICATE_CERT_EMPTY** | |
| **E_CERTIFICATE_PRIVATE_KEY_EMPTY** | |
| **E_CERTIFICATE_INTERMEDIATE_EMPTY** | |
| **E_CERTIFICATE_MULTIPLE_INTERMEDIATE_EMPTY** | |
| **E_CERTIFICATE_INTERMEDIATE_UNSUPPORTED_TYPE** | |
| **E_CERTIFICATE_DUPLICATE_SERVER_CHAIN_ENTRY** | |
| **E_CERTIFICATE_EMPTY_VSERVER_DIR_PATH** | |
| **E_CERTIFICATE_INSTALLATION_NEEDS_COMMON_NAME** | |
| **E_CERTIFICATE_FAILED_TO_INSTALL_CERTIFICATE** | |
| **E_CERTIFICATE_CANNOT_ACCEPT_PRIVATE_KEY** | |
| **E_CERTIFICATE_FAILED_TO_EXTRACT_CERTIFICATE_INFORMATION** | |
| **E_CERTIFICATE_CANNOT_EXTRACT_ISSUER** | |
| **E_CERTIFICATE_INVALID_COMMON_NAME** | |

| | |
|---|---|
| **E_CERTIFICATE_FAILED_TO_EXTRACT_COMMON_NAME** | |
| **E_LIBSSLMGNT_UI_EVP_PKEY_READ_KEY** | |
| **E_LIBSSLMGNT_UI_X509_READ_BIO** | |
| **E_LIBSSLMGNT_UI_X509_MISMATCH_KEY** | |
| **E_LIBSSLMGNT_UI_X509_TOO_EARLY** | |
| **E_LIBSSLMGNT_UI_X509_EXPIRED** | |
| **E_LIBSSLMGNT_UI_X509_VERIFY_CHAIN** | |
| **E_LIBSSLMGNT_UI_X509_FIPS_UNSUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-certificate-remove-precluster-cert

[top]

Removes the auto-generated precluster certificate

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-certificate-rename

[top]

Rename a digital certificate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cert-name** | | string | The current name for the certificate. |
| **new-name** | | string | The desired name for the certificate. |
| **vserver** | | vserver-name-data-admin | Name of vserver. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EONTAPI_EEXIST** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-certificate-revoke

[top]

Revoke a digital certificate

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **ca-serial-number** | | string | Serial number of CA certificate. |
| **certificate-authority** | | string | Certificate Authority |
| **common-name** | | string optional | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). |
| **serial-number** | | string | Serial number of certificate. |
| **vserver** | | string optional | Name of vserver. Default value is Cserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-certificate-sign

[top]

Sign a certificate using self-signed root CA

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ca-serial-number** | | string | Serial number of CA certificate. |
| **certificate-authority** | | string | Certificate Authority to Sign |
| **csr** | | string | Certificate signing request. |
| **destination** | | uri optional | URI to send file to. Example: ftp://abc.com. |
| **expire-days** | | integer optional | Number of days until expiration. Default value is '365'. |
| **filepassword** | | string optional | Password for PKCS12 file |
| **format** | | string optional | Certificate Format. Default value is 'PEM'.<br><br>Possible values:<br>• 'pkcs12' ,<br>• 'pem' |
| **hash-function** | | string optional | Hashing function used to sign the certificate. Default value is 'sha256'.<br><br>Possible values:<br>• 'sha1' ,<br>• 'sha256' ,<br>• 'md5' ,<br>• 'sha224' ,<br>• 'sha384' ,<br>• 'sha512' |
| **password** | | string | Destination URI password |

| | | | |
|---|---|---|---|
| | | optional | |
| **private-key** | | string optional | Private Key |
| **username** | | string optional | Destination URI username |
| **vserver** | | string optional | Name of vserver. Default value is Cserver. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **signed-cert** | | string | Signed certificate. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-certificate-truststore-clear

[top]

Clear the default root certificates from truststore

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-certificate-truststore-load

[top]

Load the default root certificates to truststore

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ontap-version** | | ontap-version optional | Certificates from specific ONTAP version |
| **password** | | string optional | Password to access the URL |
| **path** | | string optional | File to load PEM certificates from |
| **uri** | | string optional | URL to download PEM certificates from |
| **username** | | string optional | Username to access the URL |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **certificate-ca-issued-info**

[top]

Information about issued digital certificates by Self-Signed Root CA When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ca-serial-number** | | string optional | Serial number of CA certificate. Attributes: key, required-for-create, non-modifiable |
| **certificate-authority** | | string optional | Certificate Authority Attributes: key, required-for-create, non-modifiable |
| **common-name** | | string optional | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). Attributes: required-for-create, non-modifiable |
| **country** | | string optional | Name of the country. Attributes: required-for-create, non-modifiable |
| **email-addr** | | string optional | Email address of administrator. Attributes: required-for-create, non-modifiable |
| **expiration-date** | **[0..2^31-1]** | integer optional | Certificate expiration date. Attributes: non-creatable, non-modifiable |
| **locality** | | string optional | Name of the locality. Attributes: required-for-create, non-modifiable |
| **organization** | | string optional | Name of the organization. Attributes: required-for-create, non-modifiable |
| **organization-unit** | | string optional | Name of the unit. Example: IT, Finance. Attributes: required-for-create, non-modifiable |
| **revocation-date** | **[0..2^31-1]** | integer optional | Certificate revocation date. Attributes: optional-for-create, modifiable |
| **serial-number** | | string optional | Serial number of certificate. Attributes: key, required-for-create, non-modifiable |
| **state** | | string optional | Name of the state. Attributes: required-for-create, non-modifiable |
| **status** | | string optional | Status of certificate. Attributes: required-for-create, non-modifiable Possible values:<br>• "active" ,<br>• "revoked" |
| **vserver** | | string optional | Name of vserver. Default value is Cserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **certificate-file-info**

[top]

Information about location of certificate files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ s description or limited by a set of

desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **certificate-authority** | | string optional | Certificate Authority. Attributes: key, non-creatable, non-modifiable |
| **common-name** | | string optional | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). Attributes: key, non-creatable, non-modifiable |
| **exists** | | boolean optional | Certificate File Exists Attributes: non-creatable, non-modifiable |
| **file** | | string optional | Type of file. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "certificate" - Public Key,<br>• "key" - Private Key,<br>• "crl" - Certificate Revocation List |
| **node-name** | | string optional | The node on which the file exists. Attributes: key, non-creatable, non-modifiable |
| **path** | | string optional | Path of the file in the file system. Attributes: non-creatable, non-modifiable |
| **protocol** | | string optional | Protocol Attributes: non-creatable, non-modifiable Possible values:<br>• "ssl" |
| **serial-number** | | string optional | Serial number of certificate. Attributes: key, non-creatable, non-modifiable |
| **subtype** | | string optional | Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release. Attributes: key, non-creatable, non-modifiable |
| **type** | | string optional | Type of certificate.<br><br>Possible values:<br>• 'server' - Server certificate,<br>• 'client' - Certificate for Data ONTAP as an SSL client,<br>• 'root_ca' - Self-Signed Root CA,<br>• 'client_ca' - CA who signed user certificates on client,<br>• 'server_ca' - CA who signed user certificates on server,<br>• 'server_chain' - Intermediate certificate for server authentication<br><br>Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Name of vserver. Default value is Cserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **certificate-info**

[top]

Information about a Digital Certificate When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ s description or limited by a set of desired

attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cert-name** | | string optional | System's internal identifier for the certificate. Is is unique within a Vserver. Attributes: key, optional-for-create, non-modifiable |
| **certificate-authority** | | string optional | Certificate Authority Attributes: key, required-for-create, non-modifiable |
| **common-name** | | string optional | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). Attributes: key, required-for-create, non-modifiable |
| **country** | | string optional | Name of the country. Default value is 'US'. Attributes: required-for-create, non-modifiable |
| **email-address** | | string optional | Email address of administrator. Default value is empty string. Attributes: required-for-create, non-modifiable |
| **expiration-date** | **[0..2^63-1]** | integer optional | Certificate Expiration Date Attributes: non-creatable, non-modifiable |
| **expire-days** | **[1..3652]** | integer optional | Number of days until expiration. Default value is '365'. Attributes: required-for-create, non-modifiable |
| **hash-function** | | string optional | Hashing function used to sign the certificate. Default value is 'sha256'. Attributes: required-for-create, non-modifiable |
| **is-default** | | boolean optional | Indicates if the certificate is part of the pre-installed truststore certificates. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-root** | | boolean optional | Is Root CA Certificate? Attributes: non-creatable, non-modifiable |
| **is-system-generated** | | boolean optional | Indicates if the certificate is created by Data ONTAP. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **locality** | | string optional | Name of the locality Default value is empty string. Attributes: required-for-create, non-modifiable |
| **organization** | | string optional | Name of the organization. Default value is empty string. Attributes: required-for-create, non-modifiable |
| **organization-unit** | | string optional | Name of the unit. Example: IT, Finance. Default value is empty string. Attributes: required-for-create, non-modifiable |
| **protocol** | | string optional | Protocol Attributes: required-for-create, non-modifiable Possible values:<br>• "ssl" |
| **public-certificate** | | string optional | Public Key Certificate Attributes: non-creatable, non-modifiable |
| **self-signed** | | boolean optional | Indicates if it is a self-signed certificate. Default value is 'false'. Attributes: non-creatable, non-modifiable |
| **serial-number** | | string optional | Serial number of certificate. Attributes: key, required-for-create, non-modifiable |
| **size** | | string optional | Size of requested certificate in bits. Default value is '2048'. Attributes: required-for-create, non-modifiable |
| **start-date** | **[0..2^31-1]** | integer optional | Certificate Start Date Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **state** | | string optional | Name of the state. Default value is empty string. Attributes: required-for-create, non-modifiable |
| **subtype** | | string optional | Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release. Attributes: key, optional-for-create, non-modifiable |
| **type** | | string optional | Type of certificate.<br><br>Possible values:<br><br>• 'server' - Server certificate,<br>• 'client' - Certificate for Data ONTAP as an SSL client,<br>• 'root_ca' - Self-Signed Root CA,<br>• 'client_ca' - CA who signed user certificates on client,<br>• 'server_ca' - CA who signed user certificates on server,<br>• 'server_chain' - Intermediate certificate for server authentication<br><br>Attributes: key, required-for-create, non-modifiable |
| **vserver** | | string optional | Name of vserver. Default value is Cserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **common-name**

[top]

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

# Element definition: **ontap-version**

[top]

Possible values:

- "9_2" ,
- "9_7" ,
- "9_8" ,
- "9_9_1" ,
- "9_10_0" ,
- "9_10_1" ,
- "9_11_0" ,
- "9_12_0"

[none]

# Element definition: **pubcertificate**

[top]

[none]

# Element definition: **security-certificate-delete-iter-info** [top]

Information about the deletion operation that was attempted/performed against security-certificate object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **security-certificate-key** | | certificate-info | The keys for the security-certificate object to which the deletion applies. |

# Element definition: **subtype** [top]

Certificate subtype

[none]

# Element definition: **uri** [top]

[none]

# Element definition: **vserver-name-data-admin** [top]

The name of the Vserver.

[none]

# Element definition: **certificate-info** [top]

Information about a Digital Certificate When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cert-name** | | string optional | System's internal identifier for the certificate. Is is unique within a Vserver. Attributes: key, optional-for-create, non-modifiable |
| **certificate-authority** | | string optional | Certificate Authority Attributes: key, required-for-create, non-modifiable |
| **common-name** | | string optional | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). Attributes: key, required-for-create, non-modifiable |
| **country** | | string optional | Name of the country. Default value is 'US'. Attributes: required-for-create, non-modifiable |
| **email-address** | | string optional | Email address of administrator. Default value is empty string. Attributes: required-for-create, non-modifiable |
| **expiration-date** | **[0..2^63-1]** | integer optional | Certificate Expiration Date Attributes: non-creatable, non-modifiable |
| **expire-days** | **[1..3652]** | integer optional | Number of days until expiration. Default value is '365'. Attributes: required-for-create, non-modifiable |
| **hash-function** | | string optional | Hashing function used to sign the certificate. Default value is 'sha256'. Attributes: required-for-create, non-modifiable |
| **is-default** | | boolean optional | Indicates if the certificate is part of the pre-installed truststore certificates. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-root** | | boolean optional | Is Root CA Certificate? Attributes: non-creatable, non-modifiable |
| **is-system-generated** | | boolean optional | Indicates if the certificate is created by Data ONTAP. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **locality** | | string optional | Name of the locality Default value is empty string. Attributes: required-for-create, non-modifiable |
| **organization** | | string optional | Name of the organization. Default value is empty string. Attributes: required-for-create, non-modifiable |
| **organization-unit** | | string optional | Name of the unit. Example: IT, Finance. Default value is empty string. Attributes: required-for-create, non-modifiable |
| **protocol** | | string optional | Protocol Attributes: required-for-create, non-modifiable Possible values:<br>• "ssl" |
| **public-certificate** | | string optional | Public Key Certificate Attributes: non-creatable, non-modifiable |
| **self-signed** | | boolean optional | Indicates if it is a self-signed certificate. Default value is 'false'. Attributes: non-creatable, non-modifiable |
| **serial-number** | | string optional | Serial number of certificate. Attributes: key, required-for-create, non-modifiable |
| **size** | | string optional | Size of requested certificate in bits. Default value is '2048'. Attributes: required-for-create, non-modifiable |
| **start-date** | **[0..2^31-1]** | integer optional | Certificate Start Date Attributes: non-creatable, non-modifiable |
| **state** | | string optional | Name of the state. Default value is empty string. Attributes: required-for-create, non-modifiable |
| **subtype** | | string optional | Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release. Attributes: key, optional-for-create, non-modifiable |
| | | | Type of certificate. |

| | | | |
|---|---|---|---|
| **type** | | string optional | Possible values:<br><br>• 'server' - Server certificate,<br>• 'client' - Certificate for Data ONTAP as an SSL client,<br>• 'root_ca' - Self-Signed Root CA,<br>• 'client_ca' - CA who signed user certificates on client,<br>• 'server_ca' - CA who signed user certificates on server,<br>• 'server_chain' - Intermediate certificate for server authentication<br><br>Attributes: key, required-for-create, non-modifiable |
| **vserver** | | string optional | Name of vserver. Default value is Cserver. Attributes: key, non-creatable, non-modifiable |

# APIs in Category: **security-key-manager**

This set of APIs manages the key manager and its attributes.


external-restore-get-iter
external-status-get-iter
key-query-get-iter
security-key-manager-add
security-key-manager-add-iter
security-key-manager-backup-get
security-key-manager-config-get
security-key-manager-config-modify
security-key-manager-create-key
security-key-manager-delete
security-key-manager-delete-iter
security-key-manager-delete-keys
security-key-manager-delete-kmip-config
security-key-manager-external-add-servers
security-key-manager-external-disable
security-key-manager-external-enable
security-key-manager-external-get
security-key-manager-external-get-iter
security-key-manager-external-modify
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security-key-manager-external-remove-servers
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security-key-manager-key-database-create-key
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security-key-manager-key-migrate
security-key-manager-key-store-get-iter
security-key-manager-

onboard-backup-get
security-key-manager-onboard-disable
security-key-manager-onboard-enable
security-key-manager-onboard-sync
security-key-manager-onboard-update-passphrase
security-key-manager-query-get
security-key-manager-query-get-iter
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security-key-manager-restore-v2-get
security-key-manager-restore-v2-get-iter
security-key-manager-setup
security-key-manager-update-passphrase
security-key-manager-volume-encryption-supported

# external-restore-get-iter

[top]

Restore the key IDs from all the key management servers known to this cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-external-restore optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | key-manager-external-restore optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager object. All security-key-manager objects matching this query up to 'max-records' will be returned. |
| | | string | Specify the tag from the last call. It is usually not specified for the |

| | | | |
|---|---|---|---|
| **tag** | | optional | first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | key-manager-external-restore[] optional | The list of attributes of security-key-manager objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# external-status-get-iter

[top]

Lists the connectivity status for all key management servers known to the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | external-key-manager-status optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | external-key-manager-status optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager object. All security-key-manager objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | external-key-manager-status[] optional | The list of attributes of security-key-manager objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# key-query-get-iter

[top]

Lists the keys in the key managers.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | keymanager-key-query-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | keymanager-key-query-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager object. All security-key-manager objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | keymanager-key-query-info[] optional | The list of attributes of security-key-manager objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-key-manager-add

[top]

Add a key management server to Data ONTAP. Deprecated as of ONTAP 9.6 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **key-manager-ip-address** | | string | The IP address of the key management server. |
| **key-manager-tcp-port** | | integer optional | The TCP port on which the key management server listens for incoming connections. The default value for this parameter is 5696. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-add-iter

[top]

(DEPRECATED)-Add a key management server to each node in the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security-key-manager objects match a given query. If set to true, the API will continue with the next matching security-key-manager even when the operation fails for the security-key-manager. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching security-key-manager even when the operation on a previous matching security-key-manager fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of security-key-manager objects to be operated in this call. Default: 20 |
| **query** | | key-manager-info | If operating on a specific security-key-manager, this input element must specify all keys. If operating on security-key-manager objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security-key-manager objects (just keys) that were not operated on due to some error. If set to false, the list of security-key-manager objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security-key-manager objects (just keys) that were successfully operated on. If set to false, the list of security-key-manager objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-key-manager-add-iter-info[] optional | Information about security-key-manager objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security-key-manager objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of security-key-manager objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security-key-manager objects that matched the query and were successfully processed. |
| **success-list** | | security-key-manager- | The security-key-manager objects that were successfully processed. This element will be returned only if input element |

| | | | |
|---|---|---|---|
| | | add-iter-info[] optional | 'return-success-list' is true. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# security-key-manager-backup-get

[top]

Get backup of key hierarchy. Deprecated as of ONTAP 9.6 and might be removed in a future release.

| Output Name | Range | Type | Description |
|---|---|---|---|
| key-backup | | string | Backup of key hierarchy |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-key-manager-config-get

[top]

Display Key Management Configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | keymanager-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | keymanager-config-info | The attributes of the security-key-manager. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-key-manager-config-modify

[top]

Modify Key Management Configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| are-unencrypted-metadata-volumes-allowed-in-cc-mode | | boolean optional | Are Unencrypted Metadata Volumes Allowed in Common Criteria Mode |
| | | boolean | |

| | | | |
|---|---|---|---|
| **cc-mode-enabled** | | optional | CC-Mode Enabled. |
| **health-monitor-polling-interval** | **[15..30]** | integer optional | Health Monitor Polling Period (in minutes) |
| **okm-on-usb-enabled** | | boolean optional | OKM-on-USB Enabled. |
| **onboard-passphrase** | | string optional | Current onboard cluster-wide passphrase. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-create-key

[top]

Create a new authentication key with the key management servers. Deprecated as of ONTAP 9.6 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **key-tag** | | string optional | Key Tag |
| **passphrase** | | string optional | Authentication Passphrase |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **error-status** | | keymanager-status optional | Action Status |
| **key-id** | | string optional | Authentication Key ID |
| **restore-failure-list** | | node-name[] optional | Nodes that Failed Restoring Key Pair |
| **restore-success-list** | | node-name[] optional | Nodes that Succesfully Restored Key Pair |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-delete

[top]

Delete a key management server from Data ONTAP. Deprecated as of ONTAP 9.6 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **key-manager-ip-address** | | string | The IP address of the key management server. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-delete-iter

[top]

(DEPRECATED)-Delete a key management server from Data ONTAP

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security-key-manager objects match a given query. If set to true, the API will continue with the next matching security-key-manager even when the operation fails for the security-key-manager. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching security-key-manager even when the operation on a previous matching security-key-manager fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of security-key-manager objects to be operated in this call. Default: 20 |
| **query** | | key-manager-info | If operating on a specific security-key-manager, this input element must specify all keys. If operating on security-key-manager objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security-key-manager objects (just keys) that were not operated on due to some error. If set to false, the list of security-key-manager objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security-key-manager objects (just keys) that were successfully operated on. If set to false, the list of security-key-manager objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-key-manager-delete-iter-info[] optional | Information about security-key-manager objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security-key-manager objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of security-key-manager objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security-key-manager objects that matched the query and were successfully processed. |

| | | | |
|---|---|---|---|
| **success-list** | | security-key-manager-delete-iter-info[] optional | The security-key-manager objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-key-manager-delete-keys

[top]

Deletes the key hierarchy for the Onboard Key Manager. Deprecated as of ONTAP 9.6 and might be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **passphrase** | | string optional | The Onboard Key Manager cluster-wide passphrase. |

| Errno | Description |
|---|---|
| **E_KEY_MANAGER_NOT_ENABLED** | |
| **E_KEY_MANAGER_NOT_SETUP** | |
| **E_PASSPHRASE_LEN_EXCEEDS_RANGE** | |
| **E_FAILED_PASSPHRASE_VERIFY** | |
| **E_INCORRECT_PASSPHRASE** | |
| **E_FOUND_ENCRYPTED_VOLUMES** | |
| **E_UNSUPPORTED_ONB_ECV** | |
| **EINTERNALERROR** | |

# security-key-manager-delete-kmip-config

[top]

Deletes the KMIP configuration. Deprecated as of ONTAP 9.6 and might be removed in a future release.

| Errno | Description |
|---|---|
| **E_UNSUPPORTED_ONB_ECV** | |
| **E_KMIP_NOT_CONFIGURED** | |
| **E_NSE_AK_IS_SET** | |
| **E_FOUND_ENCRYPTED_VOLUMES** | |
| **EINTERNALERROR** | |
| **E_EXT_KMIP_SERVER_CONF** | |
| **E_CHECKING_KMIP_SERVER** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-key-manager-external-add-servers

[top]

Add additional external key management servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **key-servers** | | string[] | The key management servers to add. |
| **vserver** | | vserver-name | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-key-manager-external-disable

[top]

Disable external key management

| Input Name | Range | Type | Description |
|---|---|---|---|
| **vserver** | | vserver-name | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-key-manager-external-enable

[top]

Enable external key management

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-cert** | | string | The name of the client certificate. |
| **key-servers** | | string[] | The set of key management servers. |
| **keyservers-are-clustered** | | boolean optional | Are the key servers clustered? |
| **policy** | | string optional | The key manager policy. |
| **server-ca-certs** | | string[] | The names of the server CA certificates. |
| **vserver** | | vserver-name | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

| License |
|---|
| MT_EK_MGMT |

# security-key-manager-external-get

[top]

Get information about a registered key management server.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | external-key-manager-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| key-server | | string optional | The key server name with port. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | external-key-manager-info | The attributes of the security-key-manager-external. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-key-manager-external-get-iter

[top]

Lists registered key management servers known to the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | external-key-manager-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | external-key-manager-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager-external object. All security-key-manager-external objects matching this query up to 'max-records' will be returned. |
| | | | Specify the tag from the last call. It is usually not specified for the |

| | | | |
|---|---|---|---|
| **tag** | | string optional | first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | external-key-manager-info[] optional | The list of attributes of security-key-manager-external objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager-external objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-key-manager-external-modify

[top]

Modify external key management

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-cert** | | string optional | The name of the new client certificate. |
| **keyservers-are-clustered** | | boolean optional | Are the key servers clustered? |
| **server-ca-certs** | | string[] optional | The names of the new server CA certificates. |
| **vserver** | | vserver-name | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-key-manager-external-modify-server

[top]

Modify information about an external key management server

| Input Name | Range | Type | Description |
|---|---|---|---|
| **key-server** | | string | The key server to modify. |
| **password** | | string optional | The new key server authentication password. |
| **secondary-key-servers** | | remote-inet-address[] optional | The secondary key servers. |
| | | | |

| | | | |
|---|---|---|---|
| **timeout** | | integer<br>optional | The new key server I/O timeout. |
| **username** | | string<br>optional | The new key server authentication username. |
| **vserver** | | vserver-name | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-key-manager-external-remove-servers

[top]

Remove external key management servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **key-servers** | | string[] | The key management servers to remove. |
| **vserver** | | vserver-name | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-key-manager-get

[top]

Lists all registered key management servers known to a specified node. Deprecated as of ONTAP 9.6 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-info<br>optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **key-manager-ip-address** | | string | The IP address of the key management server. |
| **node-name** | | string | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | key-manager-info | The attributes of the security-key-manager. |

| | |
|---|---|

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-key-manager-get-iter

[top]

Lists registered key management servers known to the cluster. Deprecated as of ONTAP 9.6 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | key-manager-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | key-manager-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager object. All security-key-manager objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | key-manager-info[] optional | The list of attributes of security-key-manager objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more security-key-manager objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# security-key-manager-key-database-create-key

[top]

Create a new authentication key on the key manager

| Input Name | Range | Type | Description |
|---|---|---|---|
| key-tag | | string optional | The key tag. |
| passphrase | | string optional | The key AK passphrase. |

| | | | |
|---|---|---|---|

| Output Name | Range | Type | Description |
|---|---|---|---|
| **error-status** | | keymanager-status optional | The action status. |
| **key-id** | | hex-string optional | The key ID. |
| **restore-failure-list** | | node-name[] optional | Nodes on which the newly-created key was not successfully restored. |
| **restore-success-list** | | node-name[] optional | Nodes on which the newly-created key was successfully restored. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-key-database-delete-key

[top]

Delete an existing authentication key on the key manager

| Input Name | Range | Type | Description |
|---|---|---|---|
| **key-id** | | hex-string | The ID of the key to delete. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-key-migrate

[top]

Migrate keys from one vserver to another

| Input Name | Range | Type | Description |
|---|---|---|---|
| **from-vserver** | | vserver-name | The Vserver name to migrate from. |
| **to-vserver** | | vserver-name | The Vserver name to migrate to. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-key-store-get-iter

[top]

Lists all configured key managers.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **desired-attributes** | | keymanager-key-store-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | keymanager-key-store-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager object. All security-key-manager objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | keymanager-key-store-info[] optional | The list of attributes of security-key-manager objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-key-manager-onboard-backup-get

[top]

Get backup of key hierarchy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **vserver** | | string optional | The admin Vserver. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **key-backup** | | string | The salt and wrapped keys as a hex dump. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-onboard-disable

[top]

Disable the Onboard Key Manager

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **vserver** | | vserver-name optional | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-onboard-enable

[top]

Enable the Onboard Key Manager

| Input Name | Range | Type | Description |
|---|---|---|---|
| **are-unencrypted-metadata-volumes-allowed-in-cc-mode** | | boolean optional | Are Unencrypted Metadata Volumes Allowed in Common Criteria Mode |
| **cc-mode-enabled** | | boolean optional | Common Criteria mode enabled? |
| **okm-on-usb-enabled** | | boolean optional | OKM-on-USB enabled? |
| **onboard-passphrase** | | string optional | The Onboard Key Manager Cluster-Wide Passphrase |
| **vserver** | | vserver-name optional | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-onboard-sync

[top]

Sync the Onboard Key Manager Keys

| Input Name | Range | Type | Description |
|---|---|---|---|
| **passphrase** | | string | Onboard Cluster-wide Passphrase |
| **vserver** | | vserver-name optional | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-onboard-update-passphrase

[top]

Update the Onboard Key Manager Passphrase

| Input Name | Range | Type | Description |
|---|---|---|---|
| **existing-passphrase** | | string | The existing the Onboard Key Manager passphrase. |
| **new-passphrase** | | string | The new the Onboard Key Manager passphrase. |
| **vserver** | | vserver-name optional | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-query-get

[top]

(DEPRECATED)-Return the key IDs stored in a key management server and whether restored (present in the node's key table).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-query-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **key-manager-ip-address** | | string | IP Address |
| **node-name** | | string | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | key-manager-query-info | The attributes of the security-key-manager-query. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-query-get-iter

[top]

(DEPRECATED)-Return the key IDs stored in all of the key management servers known to the cluster and whether restored (present in the nodes' key tables).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-query-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | key-manager-query-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager-query object. All security-key-manager-query objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | key-manager-query-info[] optional | The list of attributes of security-key-manager-query objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager-query objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-key-manager-query-v2-get

[top]

Return the key IDs stored in a key management server and whether restored (present in the node's key table). Deprecated as of ONTAP 9.6 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-query-info-v2 optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **key-id** | | string | Key ID |
| **key-manager-ip-address** | | string | IP Address |
| **node-name** | | string | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | key-manager-query-info-v2 | The attributes of the security-key-manager-query-v2. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-query-v2-get-iter

[top]

Return the key IDs stored in all of the key management servers known to the cluster and whether restored (present in the nodes' key tables). Deprecated as of ONTAP 9.6 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-query-info-v2 optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | key-manager-query-info-v2 optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager-query-v2 object. All security-key-manager-query-v2 objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | key-manager-query-info-v2[] optional | The list of attributes of security-key-manager-query-v2 objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager-query-v2 objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-key-manager-restore-get

[top]

(DEPRECATED)-Restore the key IDs stored in the specified key management server for the specified node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-restore-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **key-manager-ip-address** | | string | IP Address |
| **key-tag** | | string optional | Key Tag |
| **node-name** | | string | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | key-manager-restore-info | The attributes of the security-key-manager-restore. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-restore-get-iter

[top]

(DEPRECATED)-Restore the key IDs from all the key management servers known to this cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-restore-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | key-manager-restore-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager-restore object. All security-key-manager-restore objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | key-manager-restore-info[] optional | The list of attributes of security-key-manager-restore objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager-restore objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-key-manager-restore-v2-get

[top]

Restore the key IDs from the specified key management server for the specified node. Deprecated as of ONTAP 9.6 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-restore-info-v2 optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **key-id** | | string | Key ID |
| **key-manager-ip-address** | | string | IP Address |
| **key-tag** | | string optional | Key Tag |
| **node-name** | | string | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | key-manager-restore-info-v2 | The attributes of the security-key-manager-restore-v2. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-restore-v2-get-iter

[top]

Restore the key IDs from all the key management servers known to this cluster. Deprecated as of ONTAP 9.6 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-restore-info-v2 optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | key-manager-restore-info-v2 optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager-restore-v2 object. All security-key-manager-restore-v2 objects matching this query up to 'max-records' will be returned. |
| | | | Specify the tag from the last call. It is usually not specified for the |

| | | | |
|---|---|---|---|
| **tag** | | string optional | first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | key-manager-restore-info-v2[] optional | The list of attributes of security-key-manager-restore-v2 objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager-restore-v2 objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-key-manager-setup

[top]

Configure key manager connectivity. Deprecated as of ONTAP 9.6 and might be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **are-unencrypted-metadata-volumes-allowed-in-cc-mode** | | boolean optional | Are Unencrypted Metadata Volumes Allowed in CC-Mode |
| **cc-mode-enabled** | | boolean optional | Enable Common Criteria Mode? |
| **key-manager-boot-address** | | ip-address optional | Key Manager Boot Node IPv4 Address |
| **key-manager-boot-addressV6** | | ip-address optional | Key Manager Boot Node IPv6 Address |
| **key-manager-boot-gateway** | | ip-address optional | IPv4 Gateway for the Key Server |
| **key-manager-boot-gatewayV6** | | ip-address optional | IPv6 Gateway for the Key Server |
| **key-manager-boot-interface** | | lif-bindable optional | Physical Interface Used to Contact Key Server |
| **key-manager-boot-netmask** | | ip-address optional | Netmask for the Key Server |
| **key-manager-boot-port** | | integer optional | TCP Port for the Key Server |
| **key-manager-boot-prefixlen** | | integer optional | IPv6 Prefix Length |
| **node** | | filer-id optional | Node Name |

| | | | |
|---|---|---|---|
| **onboard-passphrase** | | string optional | Onboard Key Manager Cluster-wide Passphrase |
| **sync-metrocluster-config** | | boolean optional | Sync MetroCluster Configuration from Peer |
| **use-external-usb** | | boolean optional | Use external USB for Onboard Key Storage |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## security-key-manager-update-passphrase

[top]

Update passphrase for the Onboard Key Manager. Deprecated as of ONTAP 9.6 and might be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-passphrase** | | string | New onboard cluster-wide passphrase |
| **onboard-passphrase** | | string | Current onboard cluster-wide passphrase |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## security-key-manager-volume-encryption-supported

[top]

Checks if Volume encryption is supported on this node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Node Name |
| **vserver** | | string optional | Vserver Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **vol-encryption-supported** | | boolean | Volume encryption supported |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **external-key-manager-info**

[top]

Returns External Key Management Server Information When returned as part of the output, all

elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-cert** | | string optional | The name of the client certificate. Attributes: non-creatable, non-modifiable |
| **info** | | string optional | Any Key Server Registered or Not Attributes: non-creatable, non-modifiable |
| **key-server** | | string optional | The key server name with port. Attributes: key, non-creatable, non-modifiable |
| **keyservers-are-clustered** | | boolean optional | Are the key servers clustered? Attributes: non-creatable, non-modifiable |
| **secondary-key-servers** | | string[] optional | The secondary key servers. Attributes: non-creatable, non-modifiable |
| **server-ca-certs** | | string[] optional | The names of the server CA certificates. Attributes: non-creatable, non-modifiable |
| **timeout** | **[-1..60]** | integer optional | The key server I/O timeout. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | The Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **external-key-manager-status**

[top]

Returns External Key Management Server Status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **key-server** | | string optional | Primary Key Server Attributes: key, non-creatable, non-modifiable |
| **key-server-status** | | keymanager-server-status optional | Key Server Status Attributes: non-creatable, non-modifiable Possible values:<br>• "available" - Key server available,<br>• "not_responding" - Key server is not responding,<br>• "unknown" - Key server status is unknown |
| **node** | | node-name optional | Node Name Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **secondary-key-servers** | | string[] optional | Secondary Key Servers Attributes: non-creatable, non-modifiable |
| **status-details** | | string optional | Key Server Status Details Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **filer-id** [top]

Filer UUID

[none]

# Element definition: **hex-string** [top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

# Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

# Element definition: **key-manager-external-restore** [top]

Information about the key ID pairs restored from a key management server When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **key-id** | | hex-string optional | The ID of the restored key. Attributes: key, non-creatable, non-modifiable |
| **key-server** | | string optional | The key server from which the key was restored. Attributes: key, non-creatable, non-modifiable |
| | | string | The tag of the restored key. Attributes: key, non-creatable, non- |

| | | | |
|---|---|---|---|
| **key-tag** | | optional | modifiable |
| **node-name** | | node-name optional | The node name. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | The Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **key-manager-info**

[top]

Returns Key Management Server Info connectivity status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **key-manager-ip-address** | | string optional | The IP address of the key management server. Attributes: key, non-creatable, non-modifiable |
| **key-manager-server-status** | | string optional | The status of the given key management server. Attributes: non-creatable, non-modifiable Possible values:<br>• "available" - Key server available,<br>• "not_responding" - Key server is not responding,<br>• "unknown" - Key server status is unknown |
| **key-manager-tcp-port** | **[1..65535]** | integer optional | The TCP port on which the key management server listens for incoming connections. The default value for this parameter is 5696. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **key-manager-query-info**

[top]

Returns key manager query result When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **key-id-count** | **[0..2^32-1]** | integer optional | AK/Key ID Pair Count Attributes: non-creatable, non-modifiable |
| **key-ids** | | key-id-info[] optional | Information about AK/key ID pairs and their associated key-tags. |
| **key-manager-ip-address** | | string optional | IP Address Attributes: key, non-creatable, non-modifiable |
| **key-manager-server-status** | | string optional | Command Error Code Attributes: non-creatable, non-modifiable Possible values:<br>• "available" - Key server available,<br>• "not_responding" - Key server is not responding,<br>• "unknown" - Key server status is unknown |
| **node-name** | | string optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **key-manager-query-info-v2**

[top]

Returns key manager query result When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **key-id** | | string optional | Key ID Attributes: key, non-creatable, non-modifiable |
| **key-manager-ip-address** | | string optional | IP Address Attributes: key, non-creatable, non-modifiable |
| **key-manager-server-status** | | string optional | Command Error Code Attributes: non-creatable, non-modifiable Possible values:<br>• "available" - Key server available,<br>• "not_responding" - Key server is not responding,<br>• "unknown" - Key server status is unknown |
| **key-tag** | | string optional | Key Tag Attributes: non-creatable, non-modifiable |
| **key-type** | | string optional | Key Type Attributes: non-creatable, non-modifiable Possible values:<br>• "nse_ak" - Authentication Key for NSE drive,<br>• "aek" - Aggregate Encryption Key,<br>• "vek" - Volume Encryption Key,<br>• "nek" - NVRAM Encryption Key,<br>• "svm_kek" - SVM Key Encryption Key for wrapping VEK |
| | | string | |

| | | | |
|---|---|---|---|
| **node-name** | | optional | Node Attributes: key, non-creatable, non-modifiable |
| **restored** | | boolean optional | Key/Key ID Pair Present in Node's Key Table? Attributes: non-creatable, non-modifiable |

# Element definition: **key-manager-restore-info**

[top]

Information about the authentication key and key ID pairs restored from a key management server When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **key-id-count** | **[0..2^32-1]** | integer optional | AK/Key ID Pair Count Attributes: non-creatable, non-modifiable |
| **key-ids** | | key-id-info[] optional | List of restored key IDs |
| **key-manager-ip-address** | | string optional | IP Address Attributes: key, non-creatable, non-modifiable |
| **key-manager-server-status** | | string optional | Command Error Code Attributes: non-creatable, non-modifiable Possible values:<br>• "available" - Key server available,<br>• "not_responding" - Key server is not responding,<br>• "unknown" - Key server status is unknown |
| **key-tag** | | string optional | Key Tag Attributes: key, non-creatable, non-modifiable |
| **node-name** | | string optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **key-manager-restore-info-v2**

[top]

Information about the key ID pairs restored from a key management server When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| | | | |
|---|---|---|---|

| Name | Range | Type | Description |
|---|---|---|---|
| **key-id** | | string optional | Key ID Attributes: key, non-creatable, non-modifiable |
| **key-manager-ip-address** | | string optional | IP Address Attributes: key, non-creatable, non-modifiable |
| **key-manager-server-status** | | string optional | Command Error Code Attributes: non-creatable, non-modifiable Possible values:<br>• "available" - Key server available,<br>• "not_responding" - Key server is not responding,<br>• "unknown" - Key server status is unknown |
| **key-tag** | | string optional | Key Tag Attributes: key, non-creatable, non-modifiable |
| **node-name** | | string optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **keymanager-config-info**

[top]

Provide Key Management Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **are-unencrypted-metadata-volumes-allowed-in-cc-mode** | | boolean optional | Are Unencrypted Metadata Volumes Allowed in Common Criteria Mode Attributes: non-creatable, modifiable |
| **cc-mode-enabled** | | boolean optional | CC-Mode Enabled. Attributes: non-creatable, modifiable |
| **health-monitor-polling-interval** | **[15..30]** | integer optional | Health Monitor Polling Period (in minutes) Attributes: non-creatable, modifiable |
| **okm-on-usb-enabled** | | boolean optional | OKM-on-USB Enabled. Attributes: non-creatable, modifiable |
| **onboard-passphrase** | | string optional | Current onboard cluster-wide passphrase. Attributes: non-creatable, modifiable |

# Element definition: **keymanager-key-query-info**

[top]

Returns Information About the Keys in the Key Manager When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **key-id** | | hex-string optional | The key ID. Attributes: key, non-creatable, non-modifiable |
| **key-server** | | string optional | The key server. Attributes: key, non-creatable, non-modifiable |
| **key-store** | | keystore optional | The key manager type. Attributes: non-creatable, non-modifiable Possible values:<br>• "onboard" - Onboard Key Database,<br>• "external" - External KMIP Server Key Database |
| **key-tag** | | string optional | The key tag. Attributes: non-creatable, non-modifiable |
| **key-type** | | keyusagetype optional | The key type. Attributes: non-creatable, non-modifiable Possible values:<br>• "nse_ak" - Authentication Key for NSE drive,<br>• "aek" - Aggregate Encryption Key,<br>• "vek" - Volume Encryption Key,<br>• "nek" - NVRAM Encryption Key,<br>• "svm_kek" - SVM Key Encryption Key for wrapping VEK |
| **key-user** | | vserver-name optional | The key user. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | The node name. Attributes: key, non-creatable, non-modifiable |
| **restored** | | boolean optional | Is Key/Key ID Pair in Node's Key Table? Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | The Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **keymanager-key-store-info**

[top]

Returns Information About Configured Key Managers When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | The key store. Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **key-store** | | keystore optional | • "onboard" - Onboard Key Database,<br>• "external" - External KMIP Server Key Database |
| **vserver** | | vserver-name optional | The Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **keymanager-status**

[top]

Key Manager Command Error Status Possible values:

- "ok" ,
- "error_unknown" ,
- "error_invalid_op" ,
- "error_internal" ,
- "error_operation_timeout" ,
- "error_client_cert_file_missing" ,
- "error_server_cert_missing" ,
- "error_server_connection" ,
- "error_server_duplicate" ,
- "error_server_not_found" ,
- "error_server_not_supported" ,
- "error_server_not_registered" ,
- "error_server_max" ,
- "error_server_delete_failed" ,
- "error_key_restore_completed" ,
- "error_key_restore_init" ,
- "error_key_restore_in_progress" ,
- "error_key_restore_failed" ,
- "error_key_gen_crypto_failed" ,
- "error_key_gen_hexstr_failed" ,
- "error_key_backup_failed" ,
- "error_key_duplicate_found" ,
- "error_key_del_crypto_failed" ,
- "error_kmip_bootarg_unset" ,
- "error_wrapping_key_not_found" ,
- "error_key_unwrapping_failed" ,
- "error_key_manager_not_setup"

[none]

# Element definition: **lif-bindable**

[top]

|

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **remote-inet-address** [top]

IPv4 Address, IPv6 Address or Host Name

[none]

## Element definition: **security-key-manager-add-iter-info** [top]

Information about the operation that was attempted/performed against security-key-manager object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **security-key-manager-key** | | key-manager-info | The keys for the security-key-manager object to which the operation applies. |

## Element definition: **security-key-manager-delete-iter-info** [top]

Information about the operation that was attempted/performed against security-key-manager object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **security-key-manager-key** | | key-manager-info | The keys for the security-key-manager object to which the operation applies. |

## Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

# Element definition: **hex-string**

[top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

# Element definition: **key-id-info**

[top]

List of restored key IDs

| Name | Range | Type | Description |
|---|---|---|---|
| **key-id** | | string optional | Authentication Key ID Attributes: non-creatable, non-modifiable |

# Element definition: **key-manager-info**

[top]

Returns Key Management Server Info connectivity status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **key-manager-ip-address** | | string optional | The IP address of the key management server. Attributes: key, non-creatable, non-modifiable |
| **key-manager-server-status** | | string optional | The status of the given key management server. Attributes: non-creatable, non-modifiable Possible values:<br>• "available" - Key server available,<br>• "not_responding" - Key server is not responding,<br>• "unknown" - Key server status is unknown |
| **key-manager-tcp-port** | **[1..65535]** | integer optional | The TCP port on which the key management server listens for incoming connections. The default value for this parameter is 5696. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **keymanager-server-status**

[top]

available|not-responding|unknown Possible values:

- "available" - Key server available,
- "not_responding" - Key server is not responding,
- "unknown" - Key server status is unknown

[none]

## Element definition: **keystore**

[top]

Key Store Possible values:

- "onboard" - Onboard Key Database,
- "external" - External KMIP Server Key Database

[none]

## Element definition: **keyusagetype**

[top]

Key Usage Type Possible values:

- "nse_ak" - Authentication Key for NSE drive,
- "aek" - Aggregate Encryption Key,
- "vek" - Volume Encryption Key,
- "nek" - NVRAM Encryption Key,
- "svm_kek" - SVM Key Encryption Key for wrapping VEK

[none]

# APIs in Category: **security-key-manager-key**

| | |
|---|---|
| security-key-manager-key-get-iter | This ZAPI provides information related to the keys present in the cluster. |

## security-key-manager-key-get-iter

[top]

Show information related to the keys present in the cluster. Deprecated as of ONTAP 9.6 and might be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-key-manager-key-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | security-key-manager-key-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager-key object. All security-key-manager-key objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | security-key-manager-key-info[] optional | The list of attributes of security-key-manager-key objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager-key objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **security-key-manager-key-info**

[top]

Display Encryption Key Information When returned as part of the output, all elements of this typedef

are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **key-id** | | string optional | Key Identifier Attributes: key, non-creatable, non-modifiable |
| **key-location** | | string optional | Key Location Attributes: non-creatable, non-modifiable |
| **key-store** | | string optional | Key Store Attributes: key, non-creatable, non-modifiable Possible values:<br>• "onboard" - Onboard Key Database,<br>• "external" - External KMIP Server Key Database |
| **key-tag** | | string optional | Key Tag Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Node Attributes: key, non-creatable, non-modifiable |
| **restored** | | boolean optional | Restored Attributes: non-creatable, non-modifiable |
| **used-by** | | string optional | Used By Attributes: non-creatable, non-modifiable Possible values:<br>• "nse_ak" - Authentication Key for NSE drive,<br>• "aek" - Aggregate Encryption Key,<br>• "vek" - Volume Encryption Key,<br>• "nek" - NVRAM Encryption Key,<br>• "svm_kek" - SVM Key Encryption Key for wrapping VEK |

# APIs in Category: **security-session**


security-session-application-stats-get-iter
security-session-kill-cli-iter
security-session-limit-application-create
security-session-limit-application-delete
security-session-limit-application-get-iter
security-session-limit-application-modify
security-session-limit-create
security-session-limit-delete
security-session-limit-get-iter
security-session-limit-location-create
security-session-limit-location-delete
security-session-limit-location-get-iter
security-session-limit-location-modify
security-session-limit-modify
security-session-limit-request-create
security-session-limit-request-delete
security-session-limit-request-get-iter
security-session-limit-request-modify
security-session-limit-user-create
security-session-limit-user-delete
security-session-limit-user-get-iter
security-session-limit-user-modify
security-session-limit-vserver-create
security-session-limit-vserver-delete
security-session-limit-vserver-get-iter
security-session-limit-vserver-modify


This set of APIs allows viewing session statistics and configuring session limits.

security-session-location-stats-get-iter
security-session-request-stats-get-iter
security-session-running-stats-get-iter
security-session-user-stats-get-iter
security-session-vserver-stats-get-iter

# security-session-application-stats-get-iter

[top]

Returns session application statistics.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-application-stats-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-application-stats-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-application-stats-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-kill-cli-iter

[top]

Kill a CLI session

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security-session objects match a given query. If set to true, the API will continue with the next matching security-session even when the operation fails for the security-session. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching security-session even when the operation on a previous matching security-session fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of security-session objects to be operated in this call. Default: 20 |
| **query** | | session-running-stats-info | If operating on a specific security-session, this input element must specify all keys. If operating on security-session objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security-session objects (just keys) that were not operated on due to some error. If set to false, the list of security-session objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security-session objects (just keys) that were successfully operated on. If set to false, the list of security-session objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-session-kill-cli-iter-info[] optional | Information about security-session objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security-session objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of security-session objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security-session objects that matched the query and were successfully processed. |
| **success-list** | | security-session-kill-cli-iter-info[] optional | The security-session objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-application-create

[top]

Creates a per-application session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string | The name of the application for this limit. An application name of '-default-' specifies the default application limit for any application. |
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| **max-active-limit** | **[0..250]** | integer | The maximum number of concurrent sessions allowed for this interface and application. |
| **return-record** | | boolean optional | If set to true, returns the security-session on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | session-application-limits-info optional | The security-session created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-application-delete

[top]

Deletes a per-application session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string | The name of the application for this limit. An application name of '-default-' specifies the default application limit for any application. |
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-session-limit-application-get-iter

[top]

Returns per-application session limits.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | session- | Specify the attributes that should be returned. If not present, all |

| | | | |
|---|---|---|---|
| **desired-attributes** | | application-limits-info optional | attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-application-limits-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-application-limits-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-application-modify

[top]

Modifies a per-application session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string | The name of the application for this limit. An application name of '-default-' specifies the default application limit for any application. |
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface and application. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-session-limit-create

[top]

Creates a session default limit.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **category** | | session-limit-type | The session type for this default limit. The following categories are defined:<br>• 'application': Identifies the default limit for any single application<br>• 'location': Identifies the default limit for any single location<br>• 'request': Identifies the default limit for any single request type<br>• 'user': Identifies the default limit for any single user<br>• 'vserver': Identifies the default limit for any single Vserver |
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this default limit. |
| **max-active-limit** | **[0..250]** | integer | The maximum number of concurrent sessions allowed for this interface and category. |
| **return-record** | | boolean<br>optional | If set to true, returns the security-session on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | session-default-limits-info<br>optional | The security-session created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-delete

[top]

Deletes a session default limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **category** | | session-limit-type | The session type for this default limit. The following categories are defined:<br>• 'application': Identifies the default limit for any single application<br>• 'location': Identifies the default limit for any single location<br>• 'request': Identifies the default limit for any single request type<br>• 'user': Identifies the default limit for any single user<br>• 'vserver': Identifies the default limit for any single Vserver |
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this default limit. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-session-limit-get-iter

[top]

Returns session default limits.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-default-limits-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-default-limits-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-default-limits-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-location-create

[top]

Creates a per-location session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| **ipspace** | | string optional | The IPspace from which the client location is seen. If not specified, changes are made in the 'Default' IPspace. |
| **location** | | string | A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. A location name of '-default-' specifies the default location limit for any location. |
| **max-active-limit** | **[0..250]** | integer | The maximum number of concurrent sessions allowed for this interface and location. |
| **return-record** | | boolean optional | If set to true, returns the security-session on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | session-location-limits-info optional | The security-session created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-location-delete

[top]

Deletes a per-location session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| **ipspace** | | string optional | The IPspace from which the client location is seen. If not specified, changes are made in the 'Default' IPspace. |
| **location** | | string | A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. A location name of '-default-' specifies the default location limit for any location. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-session-limit-location-get-iter

[top]

Returns per-location session limits.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-location-limits-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-location-limits-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' |

| | | | |
|---|---|---|---|
| | | | obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-location-limits-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-location-modify

[top]

Modifies a per-location session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| **ipspace** | | string optional | The IPspace from which the client location is seen. If not specified, changes are made in the 'Default' IPspace. |
| **location** | | string | A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. A location name of '-default-' specifies the default location limit for any location. |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface and location. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-session-limit-modify

[top]

Modifies a session default limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **category** | | session-limit-type | The session type for this default limit. The following categories are defined:<br>• 'application': Identifies the default limit for any single application<br>• 'location': Identifies the default limit for any single location<br>• 'request': Identifies the default limit for any single request |

| | | | |
|---|---|---|---|
| | | | type<br>• 'user': Identifies the default limit for any single user<br>• 'vserver': Identifies the default limit for any single Vserver |
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this default limit. |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface and category. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-session-limit-request-create

[top]

Creates a per-request session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| **max-active-limit** | **[0..250]** | integer | The maximum number of concurrent sessions allowed for this interface and request type. |
| **request** | | string | The name of the request for this limit. A request name of '-default-' specifies the default request limit for any request type. |
| **return-record** | | boolean optional | If set to true, returns the security-session on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | session-request-limits-info optional | The security-session created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-request-delete

[top]

Deletes a per-request session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| **request** | | string | The name of the request for this limit. A request name of '-default-' specifies the default request limit for any request type. |

| Errno | Description |
|---|---|
| | |

| Errno | Description |
| --- | --- |
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-session-limit-request-get-iter

[top]

Returns per-request session limits.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| desired-attributes | | session-request-limits-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | session-request-limits-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| attributes-list | | session-request-limits-info[] optional | The list of attributes of security-session objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

# security-session-limit-request-modify

[top]

Modifies a per-request session limit.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| interface | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| max-active-limit | [0..250] | integer optional | The maximum number of concurrent sessions allowed for this interface and request type. |
| request | | string | The name of the request for this limit. A request name of '-default-' |

| | | | |
|---|---|---|---|
| | | | specifies the default request limit for any request type. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-session-limit-user-create

[top]

Creates a per-user session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| interface | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| max-active-limit | [0..250] | integer | The maximum number of concurrent sessions allowed for this interface, Vserver, and user. |
| return-record | | boolean optional | If set to true, returns the security-session on successful creation. Default: false |
| username | | string | The name of the authenticated user for this limit. A user name of '-default-' specifies the default user limit for the specified Vserver. |
| vserver | | vserverid | The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| result | | session-user-limits-info optional | The security-session created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# security-session-limit-user-delete

[top]

Deletes a per-user session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| interface | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| username | | string | The name of the authenticated user for this limit. A user name of '-default-' specifies the default user limit for the specified Vserver. |
| vserver | | vserverid | The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-session-limit-user-get-iter

[top]

Returns per-user session limits.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-user-limits-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-user-limits-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-user-limits-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-user-modify

[top]

Modifies a per-user session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface, Vserver, and user. |
| **username** | | string | The name of the authenticated user for this limit. A user name of '-default-' specifies the default user limit for the specified Vserver. |
| **vserver** | | vserverid | The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-session-limit-vserver-create

[top]

Creates a per-vserver session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| interface | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| max-active-limit | [0..250] | integer | The maximum number of concurrent sessions allowed for this interface and Vserver. |
| return-record | | boolean optional | If set to true, returns the security-session on successful creation. Default: false |
| vserver | | vserverid | The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| result | | session-vserver-limits-info optional | The security-session created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# security-session-limit-vserver-delete

[top]

Deletes a per-vserver session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| interface | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| vserver | | vserverid | The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-session-limit-vserver-get-iter

[top]

Returns per-vserver session limits.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-vserver-limits-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-vserver-limits-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-vserver-limits-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-vserver-modify

[top]

Modifies a per-vserver session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface and Vserver. |
| **vserver** | | vserverid | The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-session-location-stats-get-iter

[top]

Returns session location statistics.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-location-stats-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-location-stats-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-location-stats-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-request-stats-get-iter

[top]

Returns session request statistics.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-request-stats-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-request-stats-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| | | | Specify the tag from the last call. It is usually not specified for the |

| | | | |
|---|---|---|---|
| **tag** | | string optional | first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-request-stats-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## security-session-running-stats-get-iter

[top]

Returns session running statistics.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-running-stats-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-running-stats-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-running-stats-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-user-stats-get-iter

[top]

Returns session user statistics.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-user-stats-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-user-stats-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-user-stats-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-vserver-stats-get-iter

[top]

Returns session vserver statistics.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-vserver-stats-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | session- | |

| | | | |
|---|---|---|---|
| **query** | | vserver-stats-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-vserver-stats-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **security-session-kill-cli-iter-info**

[top]

Information about the operation that was attempted/performed against security-session object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **security-session-key** | | session-running-stats-info | The keys for the security-session object to which the operation applies. |

# Element definition: **session-application-limits-info**

[top]

Session Application Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **application** | | string optional | The name of the application for this limit. An application name of '-default-' specifies the default application limit for any application. Attributes: key, required-for-create, non-modifiable |
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface and application. Attributes: required-for-create, modifiable |

# Element definition: **session-application-stats-info**

[top]

Session Application Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **active** | **[0..2^32-1]** | integer optional | The number of sessions that are currently active. Attributes: non-creatable, non-modifiable |
| **application** | | string optional | The name of the calling application. Attributes: key, required-for-create, non-modifiable |
| **average-time** | **[0..2^64-1]** | integer optional | The average time spent on a request. Attributes: non-creatable, non-modifiable |
| **blocked-percent** | **[0..100]** | integer optional | The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable |
| **blocked-requests** | **[0..2^64-1]** | integer optional | The number of requests blocked due to configured limits. Attributes: required-for-create, modifiable |
| **failed-percent** | **[0..100]** | integer optional | The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable |
| **failed-requests** | **[0..2^64-1]** | integer optional | The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, modifiable |
| **idle-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last session ended. This is only present when there are no active sessions. Attributes: non-creatable, non-modifiable |
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **last-active-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last session started. This is only present when there are active sessions. Attributes: non-creatable, non-modifiable |
| **last-time** | **[0..2^32-1]** | integer optional | The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable |
| **max-active** | **[0..2^32-1]** | integer optional | The maximum number of concurrently active sessions. Attributes: required-for-create, modifiable |

| | | | |
|---|---|---|---|
| **max-active-limit** | **[0..250]** | integer optional | The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, modifiable |
| **max-time** | **[0..2^32-1]** | integer optional | The maximum time (in milliseconds) that a request took. Attributes: required-for-create, modifiable |
| **node-name** | | node-name optional | The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **success-percent** | **[0..100]** | integer optional | The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable |
| **total-requests** | **[0..2^64-1]** | integer optional | The total number of requests received. Attributes: non-creatable, non-modifiable |
| **total-seconds** | **[0..2^64-1]** | integer optional | The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable |

# Element definition: **session-default-limits-info**

[top]

Session Default Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **category** | | session-limit-type optional | The session type for this default limit. The following categories are defined:<br>• 'application': Identifies the default limit for any single application<br>• 'location': Identifies the default limit for any single location<br>• 'request': Identifies the default limit for any single request type<br>• 'user': Identifies the default limit for any single user<br>• 'vserver': Identifies the default limit for any single Vserver<br>Attributes: key, required-for-create, non-modifiable |
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) for this default limit. Attributes: key, required-for-create, non-modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface and category. Attributes: required-for-create, modifiable |

# Element definition: **session-if-type**

[top]

Session Interface Type

[none]

# Element definition: **session-limit-type**

[top]

Session Limit Type

[none]

# Element definition: **session-location-limits-info**

[top]

Session Location Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable |
| **ipspace** | | string optional | The IPspace from which the client location is seen. If not specified, changes are made in the 'Default' IPspace. Attributes: key, optional-for-create, non-modifiable |
| **location** | | string optional | A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. A location name of '-default-' specifies the default location limit for any location. Attributes: key, required-for-create, non-modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface and location. Attributes: required-for-create, modifiable |

# Element definition: **session-location-stats-info**

[top]

Session Location Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **active** | **[0..2^32-1]** | integer optional | The number of sessions that are currently active. Attributes: non-creatable, non-modifiable |
| **average-time** | **[0..2^64-1]** | integer optional | The average time spent on a request. Attributes: non-creatable, non-modifiable |
| **blocked-percent** | **[0..100]** | integer optional | The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable |
| **blocked-requests** | **[0..2^64-1]** | integer optional | The number of requests blocked due to configured limits. Attributes: required-for-create, modifiable |
| **failed-percent** | **[0..100]** | integer optional | The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable |
| **failed-requests** | **[0..2^64-1]** | integer optional | The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, modifiable |
| **idle-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last session ended. This is only present when there are no active sessions. Attributes: non-creatable, non-modifiable |
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **ipspace** | | string optional | The IPspace from which the client location is seen. Attributes: key, required-for-create, non-modifiable |
| **last-active-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last session started. This is only present when there are active sessions. Attributes: non-creatable, non-modifiable |
| **last-time** | **[0..2^32-1]** | integer optional | The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable |
| **location** | | string optional | A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. Attributes: key, required-for-create, non-modifiable |
| **max-active** | **[0..2^32-1]** | integer optional | The maximum number of concurrently active sessions. Attributes: required-for-create, modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, modifiable |
| **max-time** | **[0..2^64-1]** | integer optional | The maximum time (in milliseconds) that a request took. Attributes: required-for-create, modifiable |
| **node-name** | | node-name optional | The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **success-percent** | **[0..100]** | integer optional | The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable |
| **total-requests** | **[0..2^64-1]** | integer optional | The total number of requests received. Attributes: non-creatable, non-modifiable |
| **total-seconds** | **[0..2^64-1]** | integer optional | The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable |

## Element definition: **session-request-limits-info**

[top]

Session Request Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface and request type. Attributes: required-for-create, modifiable |
| **request** | | string optional | The name of the request for this limit. A request name of '-default-' specifies the default request limit for any request type. Attributes: key, required-for-create, non-modifiable |

# Element definition: **session-request-stats-info**

[top]

Session Request Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **active** | **[0..2^32-1]** | integer optional | The number of requests that are currently active. Attributes: non-creatable, non-modifiable |
| **average-time** | **[0..2^64-1]** | integer optional | The average time spent on a request. Attributes: non-creatable, non-modifiable |
| **blocked-percent** | **[0..100]** | integer optional | The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable |
| **blocked-requests** | **[0..2^64-1]** | integer optional | The number of requests blocked due to configured limits. Attributes: required-for-create, non-modifiable |
| **failed-percent** | **[0..100]** | integer optional | The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable |
| **failed-requests** | **[0..2^64-1]** | integer optional | The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, non-modifiable |
| **idle-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last request completed. This is only present when there are no active requests. Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **last-active-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last request started. This is only present when there are active requests. Attributes: non-creatable, non-modifiable |
| **last-time** | **[0..2^32-1]** | integer optional | The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable |
| **max-active** | **[0..2^32-1]** | integer optional | The maximum number of concurrently active requests. Attributes: required-for-create, non-modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, non-modifiable |
| **max-time** | **[0..2^32-1]** | integer optional | The maximum time (in milliseconds) that a request took. Attributes: required-for-create, non-modifiable |
| **node-name** | | node-name optional | The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **request** | | string optional | The name of the request that was issued. Attributes: key, required-for-create, non-modifiable |
| **success-percent** | **[0..100]** | integer optional | The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable |
| **total-requests** | **[0..2^64-1]** | integer optional | The total number of requests received. Attributes: non-creatable, non-modifiable |
| **total-seconds** | **[0..2^64-1]** | integer optional | The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable |

# Element definition: **session-running-stats-info**

[top]

Session Location Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **active-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last request started. Attributes: non-creatable, non-modifiable |
| **application** | | string optional | The name of the calling application. Attributes: key, non-creatable, non-modifiable |
| **failed-requests** | **[0..2^64-1]** | integer optional | The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable |
| **idle-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last request completed. Attributes: non-creatable, non-modifiable |
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) that is processing the session. Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **ipspace** | | string optional | The IPspace from which the client location is seen. Attributes: non-creatable, non-modifiable |
| **last-time** | **[0..2^32-1]** | integer optional | The time (in milliseconds) that the last request took on this session. Attributes: non-creatable, non-modifiable |
| **location** | | string optional | A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. Attributes: key, non-creatable, non-modifiable |
| **max-time** | **[0..2^32-1]** | integer optional | The maximum time (in milliseconds) that a request took on this session. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The name of the node that is processing the session. Attributes: key, non-creatable, non-modifiable |
| **request** | | string optional | The request input that is currently being handled by the session. Attributes: non-creatable, non-modifiable |
| **session-id** | **[0..2^32-1]** | integer optional | A monotonically increasing number for each node that helps make each session uniquely identifiable. Attributes: key, non-creatable, non-modifiable |
| **start-time** | **[0..2^31-1]** | integer optional | The start time of the current session. Attributes: key, non-creatable, non-modifiable |
| **state** | | session-state optional | The state (pending, active, or idle) of the session. The state is 'pending' if it hit a session limit and the session is waiting for another session to end. The state is 'idle' for CLI sessions that are waiting at the command prompt. The state is 'active' if the session is actively working on a request. Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "pending" ,<br>• "active" ,<br>• "idle" |
| **total-requests** | **[0..2^64-1]** | integer optional | The total number of requests received so far on this session. Attributes: non-creatable, non-modifiable |
| **total-seconds** | **[0..2^32-1]** | integer optional | The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable |
| **username** | | string optional | The name of the authenticated user that originated this request. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserverid optional | The name of the Vserver that originated this request. Attributes: key, non-creatable, non-modifiable |

# Element definition: **session-user-limits-info**

[top]

Session User Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface, Vserver, and user. Attributes: required-for-create, modifiable |
| **username** | | string optional | The name of the authenticated user for this limit. A user name of '-default-' specifies the default user limit for the specified Vserver. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserverid optional | The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. Attributes: key, required-for-create, non-modifiable |

# Element definition: **session-user-stats-info**

[top]

Session User Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **active** | **[0..2^32-1]** | integer optional | The number of sessions that are currently active. Attributes: non-creatable, non-modifiable |
| **average-time** | **[0..2^64-1]** | integer optional | The average time spent on a request. Attributes: non-creatable, non-modifiable |
| **blocked-percent** | **[0..100]** | integer optional | The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable |
| **blocked-requests** | **[0..2^64-1]** | integer optional | The number of requests blocked due to configured limits. Attributes: required-for-create, modifiable |
| **failed-percent** | **[0..100]** | integer optional | The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable |
| **failed-requests** | **[0..2^64-1]** | integer optional | The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, modifiable |
| **idle-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last session ended. This is only present when there are no active sessions. Attributes: non-creatable, non-modifiable |
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **last-active-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last session started. This is only present when there are active sessions. Attributes: non-creatable, non-modifiable |
| **last-time** | **[0..2^32-1]** | integer optional | The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable |
| **max-** | **[0..2^32-** | integer | The maximum number of concurrently active sessions. Attributes: |

| | | | |
|---|---|---|---|
| **active** | **1]** | optional | required-for-create, modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, modifiable |
| **max-time** | **[0..2^32-1]** | integer optional | The maximum time (in milliseconds) that a request took. Attributes: required-for-create, modifiable |
| **node-name** | | node-name optional | The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **success-percent** | **[0..100]** | integer optional | The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable |
| **total-requests** | **[0..2^64-1]** | integer optional | The total number of requests received. Attributes: non-creatable, non-modifiable |
| **total-seconds** | **[0..2^64-1]** | integer optional | The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable |
| **username** | | string optional | The name of the authenticated user that originated this request. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserverid optional | The name of the Vserver that originated this request. Attributes: key, required-for-create, non-modifiable |

# Element definition: **session-vserver-limits-info**

[top]

Session Vserver Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface and Vserver. Attributes: required-for-create, modifiable |
| **vserver** | | vserverid optional | The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. Attributes: key, required-for-create, non-modifiable |

# Element definition: **session-vserver-stats-info**

[top]

Session Vserver Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **active** | **[0..2^32-1]** | integer optional | The number of sessions that are currently active. Attributes: non-creatable, non-modifiable |
| **average-time** | **[0..2^64-1]** | integer optional | The average time spent on a request. Attributes: non-creatable, non-modifiable |
| **blocked-percent** | **[0..100]** | integer optional | The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable |
| **blocked-requests** | **[0..2^64-1]** | integer optional | The number of requests blocked due to configured limits. Attributes: required-for-create, modifiable |
| **failed-percent** | **[0..100]** | integer optional | The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable |
| **failed-requests** | **[0..2^64-1]** | integer optional | The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, modifiable |
| **idle-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last session ended. This is only present when there are no active sessions. Attributes: non-creatable, non-modifiable |
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **last-active-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last session started. This is only present when there are active sessions. Attributes: non-creatable, non-modifiable |
| **last-time** | **[0..2^32-1]** | integer optional | The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable |
| **max-active** | **[0..2^32-1]** | integer optional | The maximum number of concurrently active sessions. Attributes: required-for-create, modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, modifiable |
| **max-time** | **[0..2^32-1]** | integer optional | The maximum time (in milliseconds) that a request took. Attributes: required-for-create, modifiable |
| **node-name** | | node-name optional | The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **success-percent** | **[0..100]** | integer optional | The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable |
| **total-requests** | **[0..2^64-1]** | integer optional | The total number of requests received. Attributes: non-creatable, non-modifiable |
| **total-seconds** | **[0..2^64-1]** | integer optional | The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserverid optional | The name of the Vserver that originated this request. Attributes: key, required-for-create, non-modifiable |

## Element definition: **vserverid** [top]

Vserver Id

[none]

## Element definition: **node-name** [top]

The node's name

[none]

## Element definition: **session-if-type** [top]

Session Interface Type

[none]

## Element definition: **session-state** [top]

pending|active|idle Possible values:

- "pending" ,
- "active" ,
- "idle"

[none]

# APIs in Category: **security-ssl**


security-ssl-get
security-ssl-get-iter
security-ssl-modify


This is an auto generated category.

## security-ssl-get

[top]

Get the attributes of SSL security

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-ssl-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vserver-ssl-info | The attributes of the SSL security. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## security-ssl-get-iter

[top]

Get the attributes of SSL security

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-ssl-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vserver-ssl-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the SSL security object. All SSL security objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **attributes-list** | | vserver-ssl-info[] optional | The list of attributes of SSL security objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more SSL security objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-ssl-modify

[top]

Modify SSL authentication for a Vserver. Only field(s) that are provided will be modified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **certificate-authority** | | string optional | Issuing Certificate Authority (CA) of server certificate. This field is required when you specify server-enabled as true. |
| **certificate-serial-number** | | string optional | Serial number of certificate in hexadecimal format. This field is required when you specify server-enabled as true, if you do not specify one it will use the serial number of the default certificate. |
| **client-authentication-enabled** | | boolean optional | Informs if SSL Client Authentication is enabled. |
| **common-name** | | string optional | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). This field is optional when you specify server-enabled as true. |
| **ocsp-default-responder** | | string optional | This parameter sets the default OCSP responder to use. If the â€œocsp-override-responderâ€ parameter is not enabled, the URI given will be used only if no responder URI is specified in the certificate being verified. |
| **ocsp-enabled** | | boolean optional | This parameter enables OCSP validation of the client certificate chain. If this parameter is enabled, certificates in the client's certificate chain will be validated against an OCSP responder after normal verification (including CRL checks) have taken place. The OCSP responder used is either extracted from the certificate itself, or derived by configuration. |
| **ocsp-max-response-age** | | string optional | This parameter sets the maximum allowable age (freshness), in seconds, for OCSP responses. The default value (unlimited) does not enforce a maximum age, which means that OCSP responses are considered valid as long as their expiration date field is in the future. |
| **ocsp-max-response-time-skew** | | time-interval optional | This parameter sets the maximum allowable time difference for OCSP responses (when validating their ThisUpdate and NextUpdate fields). |
| **ocsp-override-responder** | | boolean optional | This parameter forces the configured default OCSP responder to be used during OCSP certificate validation, regardless of whether the certificate being validated references an OCSP responder. |
| **ocsp-responder-timeout** | | time-interval optional | This parameter sets the timeout for queries to OCSP responders. Specify zero for the minimum possible timeout. The default value is 10 seconds. |
| | | | This parameter determines whether queries to OCSP responders should contain a NONCE or not. By default, a query NONCE is always |

| | | | |
|---|---|---|---|
| **ocsp-use-request-nonce** | | boolean optional | used and checked against the response's one. When the responder does not use NONCEs (e.g. Microsoft OCSP Responder), this parameter should be disabled. Note: A NONCE is a unique identifier included in each OCSP request / response to prevent a replay attack. |
| **server-authentication-enabled** | | boolean optional | Informs if SSL Server Authentication is enabled. |
| **vserver** | | string optional | Name of vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

# Element definition: **vserver-ssl-info**

[top]

Information about SSL authentication for a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **certificate-authority** | | string optional | Issuing Certificate Authority (CA) of server certificate. This field is required when you specify server-enabled as true. Attributes: non-creatable, modifiable |
| **certificate-serial-number** | | string optional | Serial number of certificate in hexadecimal format. This field is required when you specify server-enabled as true. Attributes: non-creatable, modifiable |
| **client-authentication-enabled** | | boolean optional | Informs if SSL Client Authentication is enabled. Attributes: non-creatable, modifiable |
| **common-name** | | string optional | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). This field is optional when you specify server-enabled as true. Attributes: non-creatable, modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **ocsp-default-responder** | | string optional | This parameter sets the default OCSP responder to use. If the â€œocsp-override-responderâ€ parameter is not enabled, the URI given will be used only if no responder URI is specified in the certificate being verified. Attributes: non-creatable, modifiable |
| **ocsp-enabled** | | boolean optional | This parameter enables OCSP validation of the client certificate chain. If this parameter is enabled, certificates in the client's certificate chain will be validated against an OCSP responder after normal verification (including CRL checks) have taken place. The OCSP responder used is either extracted from the certificate itself, or derived by configuration. Attributes: non-creatable, modifiable |
| **ocsp-max-response-age** | | string optional | This parameter sets the maximum allowable age (freshness), in seconds, for OCSP responses. The default value (unlimited) does not enforce a maximum age, which means that OCSP responses are considered valid as long as their expiration date field is in the future. Attributes: non-creatable, modifiable |
| **ocsp-max-response-time-skew** | | time-interval optional | This parameter sets the maximum allowable time difference for OCSP responses (when validating their ThisUpdate and NextUpdate fields). Attributes: non-creatable, modifiable |
| **ocsp-override-responder** | | boolean optional | This parameter forces the configured default OCSP responder to be used during OCSP certificate validation, regardless of whether the certificate being validated references an OCSP responder. Attributes: non-creatable, modifiable |
| **ocsp-responder-timeout** | | time-interval optional | This parameter sets the timeout for queries to OCSP responders. Specify zero for the minimum possible timeout. The default value is 10 seconds. Attributes: non-creatable, modifiable |
| **ocsp-use-request-nonce** | | boolean optional | This parameter determines whether queries to OCSP responders should contain a NONCE or not. By default, a query NONCE is always used and checked against the response's one. When the responder does not use NONCEs (e.g. Microsoft OCSP Responder), this parameter should be disabled. Note: A NONCE is a unique identifier included in each OCSP request / response to prevent a replay attack. Attributes: non-creatable, modifiable |
| **server-authentication-enabled** | | boolean optional | Informs if SSL Server Authentication is enabled. Attributes: non-creatable, modifiable |
| **vserver** | | string optional | Name of vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

# APIs in Category: **service-processor**


service-processor-api-service-disable-installed-certificates
service-processor-api-service-enable-installed-certificates
service-processor-api-service-get
service-processor-api-service-modify
service-processor-api-service-renew-internal-certificates
service-processor-asup-config-get
service-processor-asup-config-set
service-processor-asup-invoke
service-processor-auto-configuration-disable
service-processor-auto-configuration-enable
service-processor-auto-configuration-get
service-processor-get
service-processor-get-iter
service-processor-image-get
service-processor-image-modify
service-processor-image-update
service-processor-image-update-progress-get
service-processor-log-allocation-get
service-processor-log-allocation-get-iter
service-processor-network-get
service-processor-network-get-iter
service-processor-network-modify
service-processor-network-modify-iter
service-processor-reboot
service-processor-ssh-add-allowed-addresses
service-processor-ssh-get
service-processor-ssh-


These APIs enable applications to get information about the Service Processor of any node in the cluster or modifying its configuration. A Service Processor (SP) device provides remote management capabilities including console redirection, logging and power control. It also extends AutoSupport by sending additional system event alerts. The AutoSupport settings are used for sending these alerts via email over the SP LAN interface.

| | |
|---|---|
| remove-allowed-addresses | |

## service-processor-api-service-disable-installed-certificates

[top]

Disable user-installed certificates for the service processor API service - use auto-generated certificates

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## service-processor-api-service-enable-installed-certificates

[top]

Enable user-installed certificates for the service processor API service

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-cert** | | string | The name of the client certificate. |
| **rootca-cert** | | string | The names of the root CA certificates. |
| **server-cert** | | string | The name of the server certificate. |
| **vserver** | | vserver-name-data-admin | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## service-processor-api-service-get

[top]

Get service processor API service configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | service-processor-api-service optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | service-processor-api-service | The attributes of the service-processor. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# service-processor-api-service-modify

[top]

Modify service processor API service configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| is-enabled | | boolean optional | Is SP API Service Enabled |
| limit-access | | boolean optional | Only Cluster Members Can Access the Service |
| port | [49152..65535] | integer optional | SP API Service Port |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# service-processor-api-service-renew-internal-certificates

[top]

Generate SSL and SSH certificates used for secure communication with the service processor API service

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# service-processor-asup-config-get

[top]

Returns Service Processor AutoSupport Configuration Information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | service-processor-asup-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | service-processor-asup-info | The attributes of the service-processor. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

## service-processor-asup-config-set

[top]

Setup Service Processor AutoSupport Configuration Information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| is-enabled | | boolean optional | SP AutoSupport Is-enabled state |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

## service-processor-asup-invoke

[top]

Invoke AutoSupport from Specific Service-Processor

| Input Name | Range | Type | Description |
|---|---|---|---|
| node | | node-name | Node |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

## service-processor-auto-configuration-disable

[top]

Disable Service Processor Auto-Configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| address-family | | sp-ip-address-type | IPv4/IPv6 Address Family |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

## service-processor-auto-configuration-enable

[top]

Enable Service Processor Auto-Configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address-family** | | sp-ip-address-type | IPv4/IPv6 Address Family |
| **subnet-name** | | string | Subnet Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# service-processor-auto-configuration-get

[top]

Get Service Processor auto-configuration subnet name.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | sp-subnet-name-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | sp-subnet-name-info | The attributes of the service-processor. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# service-processor-get

[top]

Get basic information about the device

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | service-processor-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node on which the device is located |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | service-processor-info | The attributes of the service-processor. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# service-processor-get-iter

[top]

Get basic information about device of each node in the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | service-processor-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | service-processor-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the service-processor object. All service-processor objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | service-processor-info[] optional | The list of attributes of service-processor objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more service-processor objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# service-processor-image-get

[top]

Get information about installed firmware images

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | service-processor-image optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| | | | Is this image primary or backup firmware for the device Possible values: |

| | | | |
|---|---|---|---|
| **firmware-image** | | sp-fw-type | • "primary" - Firmware which the device boots into by default,<br>• "backup" - Firmware which the device boots into if primary fails |
| **node** | | node-name | Node on which the device is located |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | service-processor-image | The attributes of the service-processor. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# service-processor-image-modify

[top]

Enable or disable automatic firmware update

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-autoupdate-enabled** | | boolean optional | Is firmware autoupdate enabled on the device |
| **node** | | node-name | Node on which the device is located |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# service-processor-image-update

[top]

Install new firmware image

| Input Name | Range | Type | Description |
|---|---|---|---|
| **clear-logs** | | boolean optional | Clear logs on the device after update. Default value is true |
| **install-baseline-image** | | boolean optional | Install the version packaged with ONTAP if this parameter is set to true. Otherwise, -package must be used to specify the package to install |
| **node** | | node-name | Node on which the device is located |
| **package** | | string optional | Name of the package file containing the firmware to be installed. Not required when -baseline is true |
| **update-type** | | sp-fw-update-type optional | Type of firmware update to be performed |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# service-processor-image-update-progress-get

[top]

Get firmware update progress

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | service-processor-image-update-progress-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| node | | node-name | Node on which the device is located |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | service-processor-image-update-progress-info | The attributes of the service-processor. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# service-processor-log-allocation-get

[top]

Get the Service Processor log allocation map.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | service-processor-log-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| node | | node-name | The host node name where the log files are located |
| remote-node | | string | The node name the log files are collected from |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | service-processor-log-info | The attributes of the service-processor. |

| Errno | Description |
|---|---|

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# service-processor-log-allocation-get-iter

[top]

Get the Service Processor log allocation map of each node in the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | service-processor-log-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | service-processor-log-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the service-processor object. All service-processor objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | service-processor-log-info[] optional | The list of attributes of service-processor objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more service-processor objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# service-processor-network-get

[top]

Get the network configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| address-type | | sp-ip-address-type | Network configuration that is being addressed i.e. IPv4 or IPv6<br>Possible values:<br>• "ipv4" - Internet Protocol version 4,<br>• "ipv6" - Internet Protocol version 6 |
| desired- | | service-processor-network- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | info optional | present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node on which the device is located |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | service-processor-network-info | The attributes of the service-processor. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# service-processor-network-get-iter

[top]

Get the network configuration of device of each node in the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | service-processor-network-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | service-processor-network-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the service-processor object. All service-processor objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | service-processor-network-info[] optional | The list of attributes of service-processor objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more service-processor objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# service-processor-network-modify

[top]

Modify the network configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address-type** | | sp-ip-address-type | Network configuration that is being addressed i.e. IPv4 or IPv6 Possible values:<br>• "ipv4" - Internet Protocol version 4,<br>• "ipv6" - Internet Protocol version 6 |
| **dhcp** | | sp-dhcp-status optional | DHCP status for the configuration Possible values:<br>• "v4" - DHCP for IPv4,<br>• "none" - DHCP not enabled,<br>• "v6" - DHCP for IPv6 |
| **gateway-ip-address** | | ip-address optional | IP address of the network gateway |
| **ip-address** | | ip-address optional | IP address currently held by the device |
| **is-enabled** | | boolean optional | Is this address configuration enabled |
| **netmask** | | ip-address optional | Netmask for the device |
| **node** | | node-name | Node on which the device is located |
| **prefix-length** | **[0..64]** | integer optional | Prefix length of subnet mask |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# service-processor-network-modify-iter

[top]

Modify the network configuration of device of each node in the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | service-processor-network-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple service-processor objects match a given query. If set to true, the API will continue modifying the next matching service-processor even when modification of a previous service-processor fails. If set to false, the API will return on the first failure. Default: false |
| | | | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, |

| | | | |
|---|---|---|---|
| **max-failure-count** | **[1..2^32-1]** | integer optional | the API will continue modifying the next matching service-processor even when the modification of a previous matching service-processor fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | service-processor-network-info | If modifying a specific service-processor, this input element must specify all keys. If modifying service-processor objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of service-processor objects (just keys) that were not modified due to some error. If set to false, the list of service-processor objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of service-processor objects (just keys) that were successfully updated. If set to false, the list of service-processor objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | service-processor-network-modify-iter-info[] optional | Information about service-processor objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching service-processor objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of service-processor objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of service-processor objects that matched the query and were successfully updated. |
| **success-list** | | service-processor-network-modify-iter-info[] optional | The service-processor objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# service-processor-reboot

[top]

Reboot the Service Processor

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **firmware-image** | | sp-fw-type optional | Image to boot upon reboot. Default is primary |
| **node** | | node-name | Node on which the device is located |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# service-processor-ssh-add-allowed-addresses

[top]

Add IP addresses that are allowed to access the Service Processor

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allowed-addresses** | | ip-and-mask[] | Public IP Addresses |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# service-processor-ssh-get

[top]

Return SSH security information about the Service Processor.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | service-processor-ssh-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | service-processor-ssh-info | The attributes of the service-processor. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# service-processor-ssh-remove-allowed-addresses

[top]

Remove IP addresses that are allowed to access the Service Processor

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allowed-addresses** | | ip-and-mask[] | Public IP Addresses |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **service-processor-api-service**

[top]

Service Processor API service type When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Is SP API Service Enabled Attributes: non-creatable, modifiable |
| **limit-access** | | boolean optional | Only Cluster Members Can Access the Service Attributes: non-creatable, modifiable |

| | | | |
|---|---|---|---|
| **port** | **[49152..65535]** | integer optional | SP API Service Port Attributes: non-creatable, modifiable |

# Element definition: **service-processor-asup-info**

[top]

Service Processor AutoSupport Configuration Applies within the Cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | SP AutoSupport Is-enabled state Attributes: non-creatable, modifiable |

# Element definition: **service-processor-image**

[top]

Service processor firmware information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **firmware-image** | | sp-fw-type optional | Is this image primary or backup firmware for the device Attributes: key, non-creatable, non-modifiable Possible values:<br>• "primary" - Firmware which the device boots into by default,<br>• "backup" - Firmware which the device boots into if primary fails |
| **is-autoupdate-enabled** | | boolean optional | Is firmware autoupdate enabled on the device Attributes: non-creatable, non-modifiable |
| **is-current** | | boolean optional | Is device currently booted from this image Attributes: non-creatable, non-modifiable |
| **last-update-status** | | sp-pass-fail optional | Did last firmware install on the device pass or fail Attributes: non-creatable, non-modifiable Possible values:<br>• "failed" - Operation failed,<br>• "passed" - Operation was successful |
| | | node- | |

| | | | |
|---|---|---|---|
| **node** | | name optional | Node on which the device is located Attributes: key, non-creatable, non-modifiable |
| **status** | | sp-fw-status optional | Status of this firmware image Attributes: non-creatable, non-modifiable Possible values:<br>• "installed" - Firmware installed and in normal state,<br>• "corrupt" - Firmware is corrupt,<br>• "updating" - Firmware is undergoing a manual update,<br>• "auto_updating" - Firmware is undergoing an automatic update,<br>• "none" - Firmware status not known |
| **type** | | sp-type optional | Type of device Attributes: non-creatable, non-modifiable Possible values:<br>• "sp" - Service Processor,<br>• "none" - NONE,<br>• "bmc" - BMC |
| **version** | | string optional | Firmware version in this image Attributes: non-creatable, non-modifiable |

# Element definition: **service-processor-image-update-progress-info**

[top]

Service processor image update progress information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **end-time** | | datetime optional | Time when the firmware finished (if complete, else empty) Attributes: non-creatable, non-modifiable |
| **is-in-progress** | | boolean optional | Is a firmware update in progress Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node on which the device is located Attributes: key, non-creatable, non-modifiable |
| **percent-done** | **[0..100]** | integer optional | Current progress of the firmware update percentage Attributes: non-creatable, non-modifiable |
| **start-time** | | datetime optional | Time when the firmware update started Attributes: non-creatable, non-modifiable |

# Element definition: **service-processor-info**

[top]

Service processor information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired

attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **device-revision** | | string optional | Device revision. Applicable for RLM only Attributes: non-creatable, non-modifiable |
| **firmware-version** | | string optional | Firmware version installed on the device Attributes: non-creatable, non-modifiable |
| **ip-address** | | ip-address[] optional | Public IP addresses of the device Attributes: non-creatable, non-modifiable |
| **is-autoupdate-enabled** | | boolean optional | Is firmware autoupdate enabled for the device Attributes: non-creatable, non-modifiable |
| **is-ip-configured** | | boolean optional | Is network configured on the device to have at least one public IP address Attributes: non-creatable, non-modifiable |
| **mac-address** | | mac-address optional | MAC address of the device Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node on which the device is located Attributes: key, non-creatable, non-modifiable |
| **part-num** | | string optional | Part number of the device. Applicable for RLM only Attributes: non-creatable, non-modifiable |
| **serial-num** | | string optional | Serial number of the device. Applicable for RLM only Attributes: non-creatable, non-modifiable |
| **status** | | sp-status-type optional | Current status of the device Attributes: non-creatable, non-modifiable Possible values:<br>• "online" - Device is up and running fine,<br>• "offline" - Device is out of communication,<br>• "sp_daemon_offline" - Daemon which communicates with the device is not running,<br>• "node_offline" - Node that hosts the device is out of communication,<br>• "degraded" - Node that hosts the device is missing heartbeat signals from the device,<br>• "rebooting" - Device is rebooting,<br>• "unknown" - Device status could not be determined,<br>• "updating" - BMC is updating |
| **type** | | sp-type optional | Type of device Attributes: non-creatable, non-modifiable Possible values:<br>• "sp" - Service Processor,<br>• "none" - NONE,<br>• "bmc" - BMC |

# Element definition: **service-processor-log-info**

[top]

Service Processor Log Allocation Info. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name optional | The host node name where the log files are located Attributes: key, non-creatable, non-modifiable |
| **remote-node** | | string optional | The node name the log files are collected from Attributes: key, non-creatable, non-modifiable |
| **seqlist** | **[0..2^32-1]** | integer[] optional | The sequence numbers of the log files Attributes: non-creatable, non-modifiable |

# Element definition: **service-processor-network-info**

[top]

Service Processor Network Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address-type** | | sp-ip-address-type optional | Network configuration that is being addressed i.e. IPv4 or IPv6 Attributes: key, non-creatable, non-modifiable Possible values:<br>• "ipv4" - Internet Protocol version 4,<br>• "ipv6" - Internet Protocol version 6 |
| **device-type** | | sp-type optional | Type of device Attributes: non-creatable, non-modifiable Possible values:<br>• "sp" - Service Processor,<br>• "none" - NONE,<br>• "bmc" - BMC |
| **dhcp** | | sp-dhcp-status optional | DHCP status for the configuration Attributes: non-creatable, modifiable Possible values:<br>• "v4" - DHCP for IPv4,<br>• "none" - DHCP not enabled,<br>• "v6" - DHCP for IPv6 |

| | | | |
|---|---|---|---|
| **gateway-ip-address** | | ip-address optional | IP address of the network gateway Attributes: non-creatable, modifiable |
| **ip-address** | | ip-address optional | IP address currently held by the device Attributes: non-creatable, modifiable |
| **is-enabled** | | boolean optional | Is this address configuration enabled Attributes: non-creatable, modifiable |
| **is-ipv6-ra-enabled** | | boolean optional | IPv6 RA enable/disable in a node Attributes: non-creatable, non-modifiable |
| **link-local-ip-address** | | ip-address optional | Link local IP address Attributes: non-creatable, non-modifiable |
| **link-status** | | sp-link-status optional | Current status of the underlying network link used by this address Attributes: non-creatable, non-modifiable Possible values:<br>• "up" - Link is connected,<br>• "down" - Link is severed,<br>• "disabled" - Link has been disabled by user,<br>• "unknown" - Link status is no known |
| **mac-address** | | mac-address optional | MAC address of the device Attributes: non-creatable, non-modifiable |
| **netmask** | | ip-address optional | Netmask for the device Attributes: non-creatable, modifiable |
| **node** | | node-name optional | Node on which the device is located Attributes: key, non-creatable, non-modifiable |
| **prefix-length** | **[0..64]** | integer optional | Prefix length of subnet mask Attributes: non-creatable, modifiable |
| **router-ip-address** | | ip-address optional | Router assigned IP address Attributes: non-creatable, non-modifiable |
| **setup-failure-reason** | | sp-setup-errcodes optional | SP network setup failure reason Attributes: non-creatable, non-modifiable Possible values:<br>• "success" - No error,<br>• "subnet_out_of_address" - Run out of IP address,<br>• "invalid_subnet" - Invalid subnet,<br>• "other_error" - Other errors |
| **setup-status** | | sp-setup-status optional | SP network configuration status Attributes: non-creatable, non-modifiable Possible values:<br>• "not_setup" - Configuration not done,<br>• "succeeded" - Configuration succeeded,<br>• "in_progress" - Configuration in progress,<br>• "failed" - Configuration failed |
| **status** | | sp-status-type optional | Current status of the device Attributes: non-creatable, non-modifiable Possible values:<br>• "online" - Device is up and running fine,<br>• "offline" - Device is out of communication,<br>• "sp_daemon_offline" - Daemon which communicates with the device is not running,<br>• "node_offline" - Node that hosts the device is out of communication,<br>• "degraded" - Node that hosts the device is missing heartbeat signals from the device, |

| | | | |
|---|---|---|---|
| | | | "rebooting" - Device is rebooting,<br>• "unknown" - Device status could not be determined,<br>• "updating" - BMC is updating |
| **subnet-name** | | string<br>optional | Subnet Name Attributes: non-creatable, non-modifiable |

# Element definition: **service-processor-network-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against service-processor object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer<br>optional | Error code, if the modify operation caused an error. |
| **error-message** | | string<br>optional | Error description, if the modify operation caused an error. |
| **service-processor-key** | | service-processor-network-info | The keys for the service-processor object to which the modify operation applies. |

# Element definition: **service-processor-ssh-info**

[top]

Service Processor SSH Allowed IP addresses Configuration applied across the Cluster When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **allowed-addresses** | | ip-and-mask[]<br>optional | List of Allowed IP Addresses. Attributes: non-creatable, non-modifiable |

# Element definition: **sp-dhcp-status**

[top]

Possible configurations for DHCP protocol Possible values:

- "v4" - DHCP for IPv4,
- "none" - DHCP not enabled,
- "v6" - DHCP for IPv6

[none]

## Element definition: **sp-fw-type** [top]

Choices for the two firmware images installed on a SP/RLM device Possible values:

- "primary" - Firmware which the device boots into by default,
- "backup" - Firmware which the device boots into if primary fails

[none]

## Element definition: **sp-fw-update-type** [top]

Possible choices for a firmware update type Possible values:

- "serial_full" - Replace the fimrware completely with new package using package interface.,
- "serial_differential" - Replace only parts of firmware which have changed in new package using package interface.,
- "network_full" - Replace the fimrware completely with new package using network interface.,
- "full" - Deprecated version of serial-full.,
- "differential" - Deprecated version of serial-differential.

[none]

## Element definition: **sp-ip-address-type** [top]

Choices for which IP version to use Possible values:

- "ipv4" - Internet Protocol version 4,
- "ipv6" - Internet Protocol version 6

[none]

## Element definition: **sp-subnet-name-info** [top]

Service Processor subnet name that provides IP resources for auto-configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **subnet-name-v4** | | string optional | IPv4 subnet name that provides IP resources for auto-configuration. Attributes: non-creatable, non-modifiable |
| **subnet-name-v6** | | string optional | IPv6 subnet name that provides IP resources for auto-configuration. Attributes: non-creatable, non-modifiable |

## Element definition: **vserver-name-data-admin** [top]

The name of the Vserver.

[none]

## Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

## Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

## Element definition: **ip-and-mask** [top]

4-byte IP address followed by 4-byte mask

[none]

## Element definition: **mac-address** [top]

MAC Address

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **service-processor-network-info**

[top]

Service Processor Network Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address-type** | | sp-ip-address-type optional | Network configuration that is being addressed i.e. IPv4 or IPv6 Attributes: key, non-creatable, non-modifiable Possible values:<br>• "ipv4" - Internet Protocol version 4,<br>• "ipv6" - Internet Protocol version 6 |
| **device-type** | | sp-type optional | Type of device Attributes: non-creatable, non-modifiable Possible values:<br>• "sp" - Service Processor,<br>• "none" - NONE,<br>• "bmc" - BMC |
| **dhcp** | | sp-dhcp-status optional | DHCP status for the configuration Attributes: non-creatable, modifiable Possible values:<br>• "v4" - DHCP for IPv4,<br>• "none" - DHCP not enabled,<br>• "v6" - DHCP for IPv6 |
| **gateway-ip-address** | | ip-address optional | IP address of the network gateway Attributes: non-creatable, modifiable |
| **ip-address** | | ip-address optional | IP address currently held by the device Attributes: non-creatable, modifiable |
| **is-enabled** | | boolean optional | Is this address configuration enabled Attributes: non-creatable, modifiable |
| **is-ipv6-ra-enabled** | | boolean optional | IPv6 RA enable/disable in a node Attributes: non-creatable, non-modifiable |
| **link-local-ip-address** | | ip-address optional | Link local IP address Attributes: non-creatable, non-modifiable |
| **link-status** | | sp-link-status | Current status of the underlying network link used by this address Attributes: non-creatable, non-modifiable Possible values:<br>• "up" - Link is connected, |

| | | | |
|---|---|---|---|
| | | optional | "down" - Link is severed,<br>• "disabled" - Link has been disabled by user,<br>• "unknown" - Link status is no known |
| **mac-address** | | mac-address optional | MAC address of the device Attributes: non-creatable, non-modifiable |
| **netmask** | | ip-address optional | Netmask for the device Attributes: non-creatable, modifiable |
| **node** | | node-name optional | Node on which the device is located Attributes: key, non-creatable, non-modifiable |
| **prefix-length** | **[0..64]** | integer optional | Prefix length of subnet mask Attributes: non-creatable, modifiable |
| **router-ip-address** | | ip-address optional | Router assigned IP address Attributes: non-creatable, non-modifiable |
| **setup-failure-reason** | | sp-setup-errcodes optional | SP network setup failure reason Attributes: non-creatable, non-modifiable Possible values:<br>• "success" - No error,<br>• "subnet_out_of_address" - Run out of IP address,<br>• "invalid_subnet" - Invalid subnet,<br>• "other_error" - Other errors |
| **setup-status** | | sp-setup-status optional | SP network configuration status Attributes: non-creatable, non-modifiable Possible values:<br>• "not_setup" - Configuration not done,<br>• "succeeded" - Configuration succeeded,<br>• "in_progress" - Configuration in progress,<br>• "failed" - Configuration failed |
| **status** | | sp-status-type optional | Current status of the device Attributes: non-creatable, non-modifiable Possible values:<br>• "online" - Device is up and running fine,<br>• "offline" - Device is out of communication,<br>• "sp_daemon_offline" - Daemon which communicates with the device is not running,<br>• "node_offline" - Node that hosts the device is out of communication,<br>• "degraded" - Node that hosts the device is missing heartbeat signals from the device,<br>• "rebooting" - Device is rebooting,<br>• "unknown" - Device status could not be determined,<br>• "updating" - BMC is updating |
| **subnet-name** | | string optional | Subnet Name Attributes: non-creatable, non-modifiable |

# Element definition: **sp-dhcp-status**

[top]

Possible configurations for DHCP protocol Possible values:

- "v4" - DHCP for IPv4,
- "none" - DHCP not enabled,

- "v6" - DHCP for IPv6

[none]

## Element definition: **sp-fw-status**

[top]

Possible states the firmware of a SP/RLM device can be in Possible values:

- "installed" - Firmware installed and in normal state,
- "corrupt" - Firmware is corrupt,
- "updating" - Firmware is undergoing a manual update,
- "auto_updating" - Firmware is undergoing an automatic update,
- "none" - Firmware status not known

[none]

## Element definition: **sp-ip-address-type**

[top]

Choices for which IP version to use Possible values:

- "ipv4" - Internet Protocol version 4,
- "ipv6" - Internet Protocol version 6

[none]

## Element definition: **sp-link-status**

[top]

Possible states for the underlying physical link for a network insterface Possible values:

- "up" - Link is connected,
- "down" - Link is severed,
- "disabled" - Link has been disabled by user,
- "unknown" - Link status is no known

[none]

## Element definition: **sp-pass-fail**

[top]

Possible completion states of a task Possible values:

- "failed" - Operation failed,
- "passed" - Operation was successful

[none]

## Element definition: **sp-setup-errcodes**

[top]

SP network setup error codes Possible values:

- "success" - No error,
- "subnet_out_of_address" - Run out of IP address,
- "invalid_subnet" - Invalid subnet,
- "other_error" - Other errors

[none]

## Element definition: **sp-setup-status**

[top]

SP network setup status Possible values:

- "not_setup" - Configuration not done,
- "succeeded" - Configuration succeeded,
- "in_progress" - Configuration in progress,
- "failed" - Configuration failed

[none]

## Element definition: **sp-status-type**

[top]

Possible states a Service Processor or Remote LAN Module can be in Possible values:

- "online" - Device is up and running fine,
- "offline" - Device is out of communication,
- "sp_daemon_offline" - Daemon which communicates with the device is not running,
- "node_offline" - Node that hosts the device is out of communication,
- "degraded" - Node that hosts the device is missing heartbeat signals from the device,
- "rebooting" - Device is rebooting,
- "unknown" - Device status could not be determined,
- "updating" - BMC is updating

[none]

## Element definition: **sp-type**

[top]

Types of remote management device that can be found in a node Possible values:

- "sp" - Service Processor,
- "none" - NONE,
- "bmc" - BMC

[none]

## Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

## Element definition: **mac-address** [top]

MAC Address

[none]

## Element definition: **node-name** [top]

The node's name

[none]

# APIs in Category: **ses**


storage-shelf-bay-list-info
storage-shelf-environment-list-info
storage-shelf-get-channel-list
storage-shelf-get-shelf-info
storage-shelf-get-shelf-list
storage-shelf-list-info
storage-shelf-set-led-state
storage-shelf-update-fw


## storage-shelf-bay-list-info

[top]

Returns information about storage shelf bays and ports for a selected number of shelves, or optionally all shelves connected to the storage controller.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | string optional | The adapter number or switch name and the port number (together, called the channel). If missing, then information for all shelves on all channels will be presented. If missing, then shelf-id input is not allowed. Examples: 8a, switch:5 |
| **node-name** | | string optional | This field is only valid when the request is sent to the Admin Vserver LIF. If node-name is not specified when the request is sent to Admin VserverLIF, then all matching shelves in the cluster will be returned. This is the storage system name the command will be executed on. |
| **shelf-id** | **[0..99]** | integer optional | shelf-id is the shelf number for which shelf data is requested. This input requires that channel-name input also be specified. If a channel-name and shelf-id are both specified then information for the specified shelf will be presented (a single shelf). If channel-name is specified, but shelf-id is missing, then information for all shelves on the channel will be presented. If channel-name is not specified then shelf-id is not supported and an error will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **shelf-bay-list** | | shelf-bay-list-info[] | Each instance of shelf-list contains available bay information on a shelf. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ECHANNELNOTFOUND** | |
| **ESHELFNOTFOUND** | |
| **EINVALIDINPUTERROR** | |

## storage-shelf-environment-list-info

[top]

Returns the environmental information for a selected number of shelves, or optionally all shelves connected to the storage controller.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | string optional | Get environment information for shelves on this channel. shelf-id parameter can be specified to request data on a single shelf. If a channel-name is not specified, then data on all shelves on all channels will be returned. If an invalid channel-name is specified, then error code ECHANNELNOTFOUND will be returned. |
| **node-name** | | string | This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on. |
| | | | Get environment information for the specified shelf-id on the specified channel-name. This parameter requires channel-name parameter as well. |

| | | | |
|---|---|---|---|
| **shelf-id** | **[0..99]** | integer optional | If shelf-id is specified without channel-name then the error code EINVALIDINPUTERROR will be returned. If shelf-id is not specified and a channel-name is specified, then data for all shelves on the channel-name is returned. If an invalid shelf-id is specified, then error code ESHELFNOTFOUND will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **shelf-environ-channel-list** | | shelf-environ-channel-info[] | List of channels and associated environment information on the shelves in the channel. Only on-line channels that have shelves attached will be reported. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ECHANNELNOTFOUND** | |
| **ESHELFNOTFOUND** | |
| **EINVALIDINPUTERROR** | |

## storage-shelf-get-channel-list

[top]

Get the list of SES channels present on this system.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **channel-list** | | channel-info[] | The channel-list is a list of the names of channels to which enclosure services are connected. These channel names can be used by other commands, including storage-shelf-set-led-state. |

## storage-shelf-get-shelf-info

[top]

This returns information about an identified shelf. The information is the number of bays present (bay-count), and which shelf bays have drives (bay-list). Shelf bays are numbered from 0 to bay-count minus 1. Shelf bay 0 is always on the right when looking at the front of the shelf. Incidentally, the bay-list may be empty indicating the absence of any drives. However, there are some shelf designs which require a disk drive in bay 0 or 1 for any SES functionality to operate (e.g., DS14 and DS14-Mk2-FC). In these cases, shelves without drives in bay 0 or 1 will not be listed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | string | The adapter number or switch name and theport number (together, called the channel). Examples are 8a and switch:5 |
| **node-name** | | string | This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name name the command will be executed on. |
| **shelf-id** | | integer | The shelf id specifies the shelf for which a list of disk bays is desired. Range : [0..2^24-1] |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **bay-count** | **[0..255]** | integer optional | Disk bays are the slots into which disks are placed. The bays are numbered from 0 to bay-count-1. Bay 0 is the right most bay (when looking at the front of the shelf) and bay bay-count-1 is left most. These bay numbers can be used by other commands, including storage-shelf-set-led-state. Range : [0..255] |
| **bay-list** | | bay-info[] | A list of shelf-bay numbers which have disk drives. The bay-list field is not optional, but it may contain zero bay-info elements. |
| **disk-count** | **[0..255]** | integer optional | The total number of disks that are present in the shelf. |
| **firmware-rev-A** | | string optional | Shelf Module A firmware revision. |
| **firmware-rev-B** | | string optional | Shelf Module B firmware revision. |

| | | | |
|---|---|---|---|
| **firmware-revision** | | string | Shelf firmware revision. |
| **node-name** | | string optional | This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name. |
| **shelf-type** | | string optional | Shelf module type. Some examples are: "esh2", and "at-fcx". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EAPIMISSINGARGUMENT** | |
| **EINVALIDINPUTERROR** | |

## storage-shelf-get-shelf-list

[top]

Get the list of SES shelves present on a channel. Use storage-shelf-get-channel-list to determine all the channels to which shelves are connected. Note that some shelves may be connected to multiple channels.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | string | The adapter number or switch name and the port number (together, called the channel). Examples are 8a and switch:5. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **shelf-list** | | shelf-id-info[] | The shelf-list is list of the shelf-ids of the shelves connected to the supplied channel. These shelf-ids can be used by other commands, including storage-shelf-set-led-state. This list may be empty if there are no shelves attached to the specified channel. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EAPIMISSINGARGUMENT** | |
| **EINVALIDINPUTERROR** | |

## storage-shelf-list-info

[top]

This interface returns information about one or more shelves.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | string optional | The adapter number or switch name and the port number (together, called the channel). If missing, then information for all shelves on all channels will be presented. If missing, then shelf-id input is not allowed. Examples are 8a and switch:5 |
| **node-name** | | string | This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on. |
| **shelf-id** | [0..99] | integer optional | shelf-id is the shelf number for which shelf data is requested. This input requires that channel-name input also be specified. If a channel-name and shelf-id are both specified then information for the specified shelf will be presented (a single shelf). If channel-name is specified, but shelf-id is missing, then information for all shelves on the channel will be presented. If channel-name is not specified then shelf-id is not supported. In such case information for all shelves on all channels will be presented. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **shelf-list** | | shelf-info[] | Each instance of shelf-list contains all available information on a shelf hub. This can be empty if there are no shelves attached or if shelves do not support hubs. Also a partner shelf can be reported. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EAPIMISSINGARGUMENT** | |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |

## storage-shelf-set-led-state

[top]

Set or clear the LED for a disk, shelf of disks or loop of shelves. LEDs to affect can be specified as: {channel-name}, {channel-name, shelf-id}, {channel-name, shelf-id, shelf-bay}, {channel-name, shelf-id, shelf-bay}, {channel-name, shelf-id, shelf-bay, lun}.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **action** | | string required | This specifies the action to apply. Possible values are: on, and off. on: Turn the LED(s) on indefinitely. off: Turn the LED(s) off. |
| **channel-name** | | string | The channel to which the shelf or drive LED to be affected is connected. A channel-name is the adapter number or switch name and the port number (together, called the channel). Examples are 8a and switch:5. |
| **duration** | | integer optional | This parameter allows the caller to specify the duration (in seconds) that the action will be applied. Note that the action 'on' is indefinite, while 'test' uses duration. 'blink' also uses duration. |
| **identify** | | boolean optional | This parameter allows the caller to specify the identify LED. The default is for the command to affect the fault LED. Not all disks have identify LEDs. In that case, the identify option is ignored and the fault LED is affected. |
| **lun** | | integer optional | Some targets have a logical unit number. In that case, the lun will be required to uniquely specify the LED to affect. Range : [0..255] |
| **shelf-bay** | | integer optional | If present, the shelf-bay indicates the specific drive where the LED affected resides. If shelf-id is supplied but shelf-bay is not, then the LEDs for all drives in the shelf will be affected. Range : [0..255] |
| **shelf-id** | | integer optional | If present, the shelf-id indicates which shelf has the drive or drives where the LEDs to affect reside. Range : [0..2^24-1] |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDISKNOTFOUND** | |
| **EAPIMISSINGARGUMENT** | |
| **EINVALIDINPUTERROR** | |

## storage-shelf-update-fw

[top]

Start shelf firmware download process to update firmware on disk shelves. This operation is asynchronous, and therefore returns no errors that might occur during the download process. This operation will only update firmware on shelves that do not have the latest firmware revision. The firmware revision on the shelves can be monitored via the storage-shelf-get-shelf-info API. NOT IMPLEMENTED YET.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | string optional | If present, will only update firmware on all shelves (or a single shlef depending on shelf-id) on the given channel. If not present, then all shelves on all channels are updated. Example: To update firmware on 2a.shelf1, channel should be 2a and shelf should be 1. |
| **shelf-id** | | string optional | If present, will only update firmware on the given shelf on specified channel. If not present, and a channel-name is specified, then all shelves on the channel will be updated. Example: To update firmware on 2a.shelf1, channel should be 2a and shelf should be 1. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# Element definition: **bay-info**

[top]

A list of shelf bay numbers which have disks.

| Name | Range | Type | Description |
|---|---|---|---|
| **drawer-bay-slot-number** | | integer optional | Indicates which slot in the drawer the shelf-bay belongs to. Range: [0..254] |
| **drawer-number** | | integer optional | Some shelves have drawers, drawer-number indicates which drawer the shelf-bay belongs to. Range: [0..254] |
| **lun** | | integer optional | The logical unit number within the target. This field will be present in some storage configurations. In some cases, devices with a logical unit number will have LEDs that can be affected. Range : [0..255] |
| **shelf-bay** | | integer | A shelf-bay number indicates the presence of a drive in that bay. Shelf bays are numbered starting at 0 which is the right most drive bay in the shelf when viewing the shelf from the front. Range: [0..255] |

## Element definition: **channel-info**

[top]

Interconnect channel information

| Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | ha-ic-channel optional | High-availability interconnect channel name. Attributes: non-creatable, non-modifiable Possible values:<br>• "kstat" - HA Interconnect KSTAT Channel,<br>• "ofw" - HA Interconnect OFW Channel,<br>• "kill" - HA Interconnect KILL Channel,<br>• "wafl" - HA Interconnect WAFL NV Channel,<br>• "raid" - HA Interconnect RAID NV Channel,<br>• "misc" - HA Interconnect MISC NV Channel,<br>• "stream0" - HA Interconnect STREAM0 Channel,<br>• "stream1" - HA Interconnect STREAM1 Channel,<br>• "stream2" - HA Interconnect STREAM2 Channel,<br>• "stream3" - HA Interconnect STREAM3 Channel,<br>• "drsom" - HA Interconnect MCC DRSOM Channel,<br>• "drckill" - HA Interconnect MCC DRC KILL Channel,<br>• "control" - HA Interconnect CONTROL Channel,<br>• "sldiag" - HA Interconnect SLDIAG Channel,<br>• "traffic" - HA Interconnect TRAFFIC Channel,<br>• "hb" - HA Interconnect HB Channel,<br>• "ftfs" - FTFS PMEM Channel,<br>• "stream4" - HA Interconnect STREAM4 Channel,<br>• "stream5" - HA Interconnect STREAM5 Channel,<br>• "stream6" - HA Interconnect STREAM6 Channel,<br>• "stream7" - HA Interconnect STREAM7 Channel,<br>• "wafl1" - HA Interconnect WAFL1 NV Channel,<br>• "wafl2" - HA Interconnect WAFL2 NV Channel,<br>• "wafl3" - HA Interconnect WAFL3 NV Channel,<br>• "wafl4" - HA Interconnect WAFL4 NV Channel,<br>• "wafl5" - HA Interconnect WAFL5 NV Channel,<br>• "wafl6" - HA Interconnect WAFL6 NV Channel,<br>• "wafl7" - HA Interconnect WAFL7 NV Channel |
| **channel-state** | | ha-ic-channel-state optional | High-availability interconnect channel state. Attributes: non-creatable, non-modifiable Possible values:<br>• "connecting" - HA Interconnect Entity Connecting State,<br>• "established" - HA Interconnect Entity Established State,<br>• "disconnecting" - HA Interconnect Entity Disconnecting State,<br>• "disconnected" - HA Interconnect Entity Disconnected State,<br>• "unknown" - HA Interconnect Entity Unknown State |
| **handle** | **[0..2^64-1]** | integer optional | Remote entity handle associated with the channel. Attributes: non-creatable, non-modifiable |
| **ipaddress** | | string optional | IP address associated with the channel. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **link-number** | | string<br>optional | Link number on which the channel is established. Attributes: non-creatable, non-modifiable |
| **port-name** | | string<br>optional | Port name on which the channel is established. Attributes: non-creatable, non-modifiable |
| **transport** | | ha-ic-transport<br>optional | Transport type of the channel. Attributes: non-creatable, non-modifiable Possible values:<br>• "infiniband" - HA Interconnect Infiniband Transport,<br>• "fcvi" - HA Interconnect FCVI Transport,<br>• "mvia" - HA Interconnect M-VIA Transport,<br>• "unknown" - HA Interconnect Unknown Transport,<br>• "iwarp" - HA Interconnect iWARP Transport,<br>• "roce" - HA Interconnect RoCE Transport |

## Element definition: **shelf-bay-list-info**

[top]

Bay and port information on a shelf module.

| Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | string | The channel the shelf (hub) is attached to. Example: 0c. |
| **module** | | string | The shelf module attachment. Possible values: "a", "b". |
| **node-name** | | string<br>optional | This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name. |
| **port-list** | | shelf-bay-port-info[]<br>optional | Shelf bay specific information. |
| **shelf-id** | **[0..99]** | integer | The shelf id switch setting. This is the shelf id switch that is used to uniquely identify the shelf on the filer node. |
| **shelf-name** | | string | Shelf name that the hub is attached to. This can also be considered as hub name. Example: 0c.shelf1. |
| **shelf-state** | | string | Current state of the shelf. Possible values are: "no_status", "init_required", "online", "missing", "failed", "unknown". |
| **shelf-type** | | string | Shelf module type. Possible values: "edm", "vem", "esp", "lrc", "esh", "esh2", "esh4", "eshfx", "eshtx", "emu", "efh", "at-fc", "at-fc2", "at-fcx", "at-fcx2", "sas", "esas", "sas-fc", "iom3", "iom6", "iom6e". |
| **shelf-uid** | | string | Shelf unique identifier that distinguishes it from other shelves manufactured. Example: 50:05:0c:c0:02:10:64:26. |

## Element definition: **shelf-environ-channel-info**

[top]

Shelf environment information.

| Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | string | Storage controller channel the shelf is connected to. |
| **is-channel-monitor-enabled** | | boolean | Indicates whether monitoring is enabled on this channel. |
| **is-shelf-channel-failure** | | boolean | Indicates whether any shelves on this channel have experienced a failure. |
| **node-name** | | string<br>optional | This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name. |
| **shelf-environ-channel-address** | | shelf-environ-channel-address-map[]<br>optional | A list of all the shelf assigned addresses assigned on this channel. |
| **shelf-environ-shelf-list** | | shelf-environ-shelf-info[] | List of shelves in the channel and associated environment information. |
| **shelves-present** | **[0-** | integer | Number of shelves present on this channel. |

| | | | |
|---|---|---|---|
| | **99]** | | |

## Element definition: **shelf-id-info**

[top]

A list of shelf-ids that can be used in other storage-shelf interface calls.

| Name | Range | Type | Description |
|---|---|---|---|
| **shelf-id** | | integer | The shelf id itself. shelf-id's are only unique within a particular channel. An example shelf-id is 1. A channel-name and shelf-id pair are required to uniquely identify a shelf on a system. Range : [0..2^24-1] |

## Element definition: **shelf-info**

[top]

Describes a shelf.

| Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | string | The channel/port-number the shelf (hub) is attached to. If it is the partner node that is being reported, the value will be shown as "PARTNER". Examples: "0c" or "PARTNER". |
| **firmware-rev-A** | | string optional | Shelf Module A firmware revision. When the channel-name field is "PARTNER" this field will not be present. |
| **firmware-rev-B** | | string optional | Shelf Module B firmware revision. When the channel-name field is "PARTNER" this field will not be present. |
| **module** | | string | The shelf module attachment. Possible values are: "a", "b". |
| **module-state** | | string optional | Current state of the IO module attached to the shelf port (if any). Possible values are: "no_status", "ok", "missing", "transport error", "critical", "unreachable", "unknown". |
| **node-name** | | string | This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name. |
| **phy-expander-list** | | phy-expander-info[] optional | Each instance of phy-expander-list contains PHY (physical layer) expander information about each port. This applies to direct attached shelves with SAS modules only. |
| **port-hub-list** | | port-hub-info[] optional | Each instance of port-hub-list contains hub information about each port. This applies to shelves with ESH modules only. |
| **shelf-bay-info** | | shelf-bay-info optional | Detailed information on populated shelf bays. When the channel-name field is "PARTNER" this field will not be present. |
| **shelf-id** | **[0..99]** | integer | The shelf id switch setting. This is the shelf id switch that is used to uniquely identify the shelf on the filer node. |
| **shelf-name** | | string | Shelf name that the hub is attached to. This can also be considered as hub name. Example: 0c.shelf1. |
| **shelf-state** | | string | Current state of the shelf. Possible values are: "no status", "init required", "online", "missing", "unknown". |
| **shelf-type** | | string | Shelf module type. Some examples are: "esh2", and "at-fcx". |
| **shelf-uid** | | string | Similar to serial number, this is the shelf unique identifier that distinguishes it from any other shelf manufactured. Example: 50:05:0c:c0:02:10:64:26. |
| **termination-switch** | | string optional | State of the termination switch on the shelf. Possible values are: "on", "off" and "n/a". |

## Element definition: **ha-ic-channel**

[top]

kstat|ofw|kill|wafl|raid|misc|stream0|stream1|stream2|stream3|drsom|drckill|control|sldiag|traffic|hb|ftfs|stream4|stream5|stream6|stream7|wafl1|wafl2|wafl3|wafl4|wafl5|wafl6|wafl7
Possible values:

- "kstat" - HA Interconnect KSTAT Channel,
- "ofw" - HA Interconnect OFW Channel,
- "kill" - HA Interconnect KILL Channel,

- "wafl" - HA Interconnect WAFL NV Channel,
- "raid" - HA Interconnect RAID NV Channel,
- "misc" - HA Interconnect MISC NV Channel,
- "stream0" - HA Interconnect STREAM0 Channel,
- "stream1" - HA Interconnect STREAM1 Channel,
- "stream2" - HA Interconnect STREAM2 Channel,
- "stream3" - HA Interconnect STREAM3 Channel,
- "drsom" - HA Interconnect MCC DRSOM Channel,
- "drckill" - HA Interconnect MCC DRC KILL Channel,
- "control" - HA Interconnect CONTROL Channel,
- "sldiag" - HA Interconnect SLDIAG Channel,
- "traffic" - HA Interconnect TRAFFIC Channel,
- "hb" - HA Interconnect HB Channel,
- "ftfs" - FTFS PMEM Channel,
- "stream4" - HA Interconnect STREAM4 Channel,
- "stream5" - HA Interconnect STREAM5 Channel,
- "stream6" - HA Interconnect STREAM6 Channel,
- "stream7" - HA Interconnect STREAM7 Channel,
- "wafl1" - HA Interconnect WAFL1 NV Channel,
- "wafl2" - HA Interconnect WAFL2 NV Channel,
- "wafl3" - HA Interconnect WAFL3 NV Channel,
- "wafl4" - HA Interconnect WAFL4 NV Channel,
- "wafl5" - HA Interconnect WAFL5 NV Channel,
- "wafl6" - HA Interconnect WAFL6 NV Channel,
- "wafl7" - HA Interconnect WAFL7 NV Channel

[none]

## Element definition: **ha-ic-channel-state**

[top]

connecting|established|disconnecting|disconnected|unknown Possible values:

- "connecting" - HA Interconnect Entity Connecting State,
- "established" - HA Interconnect Entity Established State,
- "disconnecting" - HA Interconnect Entity Disconnecting State,
- "disconnected" - HA Interconnect Entity Disconnected State,
- "unknown" - HA Interconnect Entity Unknown State

[none]

## Element definition: **ha-ic-transport**

[top]

infiniband|fcvi|mvia|unknown|iwarp|roce Possible values:

- "infiniband" - HA Interconnect Infiniband Transport,
- "fcvi" - HA Interconnect FCVI Transport,
- "mvia" - HA Interconnect M-VIA Transport,
- "unknown" - HA Interconnect Unknown Transport,
- "iwarp" - HA Interconnect iWARP Transport,
- "roce" - HA Interconnect RoCE Transport

[none]

# Element definition: **phy-expander-info**

[top]

Expander PHY (physical layer) information of an individual port.

| Name | Range | Type | Description |
|---|---|---|---|
| **bay-number** | **[0..99]** | integer optional | Bay port number. Unique bay-number for each type of phy-type. Present when multiple phy's for a phy-type exist in the shelf, such as phy-type "disk", "P0", "P1". |
| **crc-error-count** | **[0..2^32-1]** | integer | This field presents the number of CRC errors that have been seen in any address or data frames. The value will be the count kept by the expander since either power-on or since the counts have been reset. |
| **dongle-data** | | dongle-info optional | dongle information, if there's a dongle installed. Will be missing if not supported or not available. Present for drive phy only. |
| **invalid-dword-count** | **[0..2^32-1]** | integer | The number of invalid double words seen outside of the phy reset sequence. The value will be the count kept by the expander since either power-on or since the counts have been reset. |
| **link-rate** | | string optional | If port-state is "ok", then this is a floating number, representing SAS-1.1 defined negotiated link rate value for the phy in Gb/s. Example: 3.0. For all other port states, this field will not be available. |
| **loss-dword-count** | **[0..2^32-1]** | integer | This field presents the number of times the phy has lost double-word synchronization and restarted the link reset sequence of the phy reset sequence. The value will be the count kept by the expander since either power-on or since the counts have been reset. |
| **pathway-timeout** | **[0..2^32-1]** | integer | This field the partial pathway timeout value, in microseconds, being used for the phy. |
| **phy-change-count** | **[0..2^32-1]** | integer | This field the number of times this logical phy has changed state. This count increments when the logical phy transitions from disabled to enabled. This count also increments when the logical phys transitions from enabled to disabled. The value will be the count kept by the expander since either power-on or since the counts have been reset. |
| **phy-number** | **[0..99]** | integer optional | PHY number. Unique phy-number in the shelf, regardless of phy-type. |
| **phy-power-status** | | string optional | Current power status. Possible values: "on", "off". Will be missing if not supported or not available. Present for drive phy only. |
| **phy-reset-problem** | **[0..2^32-1]** | integer | This field presents the number of times the phy reset sequence has failed. The value will be the count kept by the expander since either power-on or since the counts have been reset. |
| **phy-state** | | string optional | State of the phy. Possible values: "rate_unknown", "disabled", "speed_negotiation_failed", "sata_oob_failed", "1.5_gbps", "3.0_gbps", "6.0_gbps", "12.0_gbps", "state_unknown", |
| **phy-type** | | string optional | PHY type. Possible values: "disk", "p0", "p1", "v255", "v99". |
| **port-id** | | string | Possible values are: port id in range [0..19] or "in0", "in1", "in2", "in3", "out0", "out1", "out2", "out3", representing one of the input or output ports. |
| **port-state** | | string | Current port state. Possible values are: "ok", "unkwn_lnk", "unused", "unkwn", "empty", "dis_man", "dis_smp", "dis_loswd", "dis_dispa", "dis_invwd", "dis_reset", "dis_phchg", "dis_mir", "dis_crc", "dis_clk", "dis_resv", "dis_unusd", "unknown", "no_signal", |
| **power-cycle-count** | **[0..255]** | integer optional | This field presents the number of times the driver has been power cycled via this phy. Will be missing if not supported or not available. Present for drive phy only. |
| **release-count** | **[0..255]** | integer optional | This field presents the number of times the driver has been released (unreserved) via this phy. Will be missing if not supported or not available. Present for drive phy only. |
| **reserve-count** | **[0..255]** | integer optional | This field presents the number of times the driver has been reserved via this phy. Will be missing if not supported or not available. Present for drive phy only. |
| **running-disparity-count** | **[0..2^32-1]** | integer | The number of Dwords with a running disparity error seen outside the phy reset sequence. The value will be the count kept by the expander since either power-on or since the counts have been reset. |

# Element definition: **port-hub-info**

[top]

Hub information for an individual port.

| Name | Range | Type | Description |
|---|---|---|---|
| **clock-delta** | **[-2^31..2^31-1]** | integer | The clock delta between this port in respect to ESH clock and other ports in the ESH. |
| **disk-bay** | **[0..23]** | integer optional | If port-id is "in", "out", "aux1" or "aux2" then this is not populated, otherwise, it represents the shelf bay that the disk resides in. |
| **insert-count** | **[0..2^32-1]** | integer | Number of times this port has been inserted into the loop. |
| **invalid-crc-count** | **[0..2^32-1]** | integer | Number of times this port has seen a CRC error. |
| **invalid-word-count** | **[0..2^32-1]** | integer | Number of times this port has seen invalid FC-AL words transmitted. |
| **lip-count** | **[0..2^32-1]** | integer optional | Lip count, number of times loop initialization primitive has been generated. This field is not available on all shelf modules. |
| **loop-up-count** | **[0..2^32-1]** | integer | Number of times this port has seen the loop come up/transition to up. |
| **port-id** | | string | Possible values are: port number in the range of 0 to 255 or "in", "out", "aux1" or "aux2" representing input, output or one of auxiliary ports. This is the same as FCAL ALPA for the port. |
| **port-state** | | string | Current port state. Possible values are: "ok", "empty", "byp_init", "byp_gen", "byp_man", "byp_xmit", "byp_lipf8", "byp_dto", "byp_rlos", "byp_clos", "byp_tbi", "byp_rprt", "byp_stall", "byp_wrd", "byp_crc", "byp_lip", "byp_osc", "byp_clk", "byp_mir", "byp_lipf7", "byp_bzr", "byp_self", "byp_flt", "byp_pwr", "byp_pcycl", "warn_lip", "warn_wrdb", "warn_wrd", "warn_crc", "warn_clk", "unknown", "term-err", "term", "autoterm". |
| **stall-count** | **[0..2^32-1]** | integer | Number of times this port exceeded the OPN/CLS maximum threshold. |
| **utilization-percentage** | **[0..100]** | integer | Relative utilization of this port vs. other ports in the ESH. |

## Element definition: **shelf-bay-info**

[top]

Shelf bay information.

| Name | Range | Type | Description |
|---|---|---|---|
| **bay-count** | **[0..255]** | integer optional | Disk bays are the slots into which disks are placed. The bays are numbered from 0 to bay-count-1. Bay 0 is the right most bay (when looking at the front of the shelf) and bay bay-count-1 is left most. These bay numbers can be used by other commands, including storage-shelf-set-led-state. |
| **bay-list** | | bay-info[] | A list of shelf-bay numbers which have disk drives. The bay-list field is not optional, but it may contain zero bay-info elements. |

## Element definition: **shelf-bay-port-info**

[top]

Shelf bay port specific information.

| Name | Range | Type | Description |
|---|---|---|---|
| **bay-no** | **[0..23]** | integer optional | Disk bay number or port number, if applicable. In some instances bay numbers do apply and will not be present. An example is an ESH shelf with a single "in" and a single "out" port. |
| **disk-name** | | string optional | if port-designator is "disk_bay" and there is a disk installed in the bay, then this will be the disk name. Otherwise the field will be missing. |
| **disk-uid** | | string optional | if port-designator is "disk_bay" and there is a disk installed in the bay, then this will be UID of the disk. Otherwise the field will be missing. |
| **port-designator** | | string optional | Shelf bay port designator. Possible values: "in", "out", "aux", "sqr", "cir", "sil", "hi_ho", "a_to_b", "b_to_a", "disk_bay" and "dcm#.#" where the the first # ranges from 0 to 5 and the second # ranges from 0 to 3. |

| | | | |
|---|---|---|---|
| **port-state** | | string optional | Current port state. Possible values are: "ok", "empty", "unkwn_lnk", "no_signal", "unused", "unkwn", "unknown", "dis_man", "dis_unusd", "dis_smp", "dis_loswd", "dis_dispa", "dis_invwd", "dis_reset", "dis_phchg", "dis_mir", "dis_crc", "dis_clk", "byp_init", "byp_gen", "byp_man", "byp_xmit", "byp_lipf8", "byp_dto", "byp_rlos", "byp_clos", "byp_tbi", "byp_rprt", "byp_stall", "byp_wrd", "byp_crc", "byp_lip", "byp_osc", "byp_clk", "byp_mir", "byp_lipf7", "byp_bzr", "byp_self", "byp_flt", "byp_pwr", "byp_pcycl", "warn_lip", "warn_wrdb", "warn_wrd", "warn_crc", "warn_clk", "term-err", "term", "autoterm". |

## Element definition: **shelf-environ-channel-address-map**

[top]

A list of all the shelf assigned addresses assigned on this channel.

| Name | Range | Type | Description |
|---|---|---|---|
| **address-map** | | string | A comma separated list of addresses assigned on this channel by the shelf specified in shelf-no output above. |
| **drawer-address-map-list** | | drawer-address-map[] optional | A list of all the drawers in the shelf and the addresses assigned to each drawer devices. |
| **shelf-id** | **[0..255]** | integer | Shelf number for presented address map. |

## Element definition: **shelf-environ-shelf-info**

[top]

Shelf environment information.

| Name | Range | Type | Description |
|---|---|---|---|
| **alternate-control-path-information** | | alternate-control-path-info[] optional | Available information on the alternate control path (ACP) to the shelf. |
| **ariodata-specific-info** | | ariodata-specific-info optional | Vendor specific enclosure system information for Ariodata shelves. |
| **attached-shelf-bay-error-list** | | string optional | A list of bays numbers in this shelf that have disk devices with errors. All bays with error devices will be listed. This is a comma separated list from high to low. Example: "13, 10, 4, 1". |
| **attached-shelf-bay-list** | | string | A list of bays numbers in this shelf that have disk devices installed. All bays with disks installed will be listed. This is a comma separated list from high to low. Example: "13, 11, 10, 4, 3, 2, 1". |
| **attached-shelf-drawer-bay-error-list** | | shelf-drawer-bay-error[] optional | A list of bay numbers in this shelf drawer that have disk devices with errors. |
| **attached-shelf-drawer-bay-list** | | shelf-drawer-bay[] optional | A list of bay numbers in this shelf drawer that have disk devices installed. |
| **connector-information** | | connector-info[] optional | Cable and connector information if available and supported by the hardware. Will not be present if the feature is not supported in the hardware. |
| **control-writes-attempted** | **[0..2^32-1]** | integer | Number of times attempted to write shelf controls. |
| **control-writes-failed** | **[0..2^32-1]** | integer | Number of times failed to write shelf controls. |
| **controller-device-path** | | string | Device path to the shelf controller. Possible values: "embedded_access", "local_access", "unknown", "not_available". |
| **controller-device-path-port** | | string optional | If controller-device-path is "local_access", then this presents the local access port number. |
| | | cooling- | |

| | | | |
|---|---|---|---|
| **cooling-element-list** | | element-info[] optional | Information on installed cooling elements in the shelf. |
| **current-sensor-list** | | current-sensor-info[] optional | Information on current sensors in the shelf. |
| **dcm-list** | | dcm-info optional | Information on the installed drawer control module (dcm). This will be presented for shelves that have drawers built in. |
| **enclosure-information** | | enclosure-info optional | Information on the enclosure type. This information will be presented for ESH and SAS shelves only. |
| **es-electronics-list** | | es-electronics-info[] optional | Information on the installed enclosure services electronics. |
| **eurologic-specific-info** | | eurologic-specific-info optional | Vendor specific enclosure system information for Eurologic shelves. |
| **is-shelf-monitor-enabled** | | boolean | Indicates whether monitoring is enabled on this shelf. |
| **power-control-failure-state** | | string optional | Extension to the power-control-status to provide more information in case of shelf failures. Possible values: "dual_esh4_modules_not_present", "power_control_fault_detected", "incompatible_power_control_implementation", "power_control_function_not_available", "backplane_cpld_fault_detected". |
| **power-control-status** | | string optional | Power control element status. This is generalization of the ESH4 shelf power status. Currently available on ESH 4 shelves only. Possible values: "ok", "not_supported", "critical", "non_critical", "unknown". |
| **power-supply-list** | | power-supply-info[] optional | Information on installed power supplies in the shelf. |
| **processor-complex-information** | | processor-complex-info[] optional | Available information on the processor complex modules (PCMs) in the shelf. |
| **sas-specific-info** | | sas-specific-info optional | Vendor specific enclosure system information for SAS shelves. |
| **ses-generic-info** | | ses-generic-info | Generic SES (scsi enclosure services) information. |
| **shelf-id** | **[0-99]** | integer | Shelf number. |
| **shelf-status** | | string | Current shelf status. Possible values: "unrecoverable", "critical", "non_critical", "informational", "normal". |
| **shelf-type** | | string | Shelf type. Possible values: "edm", "vem", "esp", "lrc", "lrc2", "esh", "esh2", "esh4", "eshfx", "emu", "efh", "eshtx", "sas", "esas", "sas_fc", "iom3", "at_fcx", "at_fcx2", "iom6", "iom6e". |
| **status-reads-attempted** | **[0..2^32-1]** | integer | Number of times attempted to read shelf status. |
| **status-reads-failed** | **[0..2^32-1]** | integer | Number of times failed to read shelf status. |
| **temp-sensor-list** | | temp-sensor-info[] optional | Information on installed temperature sensors in the shelf. |
| **voltage-sensor-list** | | voltage-sensor-info[] optional | Information on voltage sensors in the shelf. |
| **xyratex-specific-info** | | xyratex-specific-info optional | Vendor specific enclosure system information for Xyratex shelves. |

## Element definition: **alternate-control-path-info**

[top]

Available information on the alternate control path (ACP) to the shelf.

| Name | Range | Type | Description |
|---|---|---|---|
| **acp-element-no** | **[1..2]** | integer | ACP element number |
| **controller-acp-connection-status** | | string optional | Storage controller's ACP connection status. Possible values: "no_connectivity", "partial_connectivity", "full_connectivity", "additional_connectivity", "unknown", "not_available", "not_applicable". |
| **controller-acp-domain** | | string optional | This fields presents the ACP's domain on the storage controller. Example: 255.255.255.0 |
| **controller-acp-ethernet-port** | | string optional | This fields presents the ACP's ethernet port on the storage controller. Example: e0a, e4d. |
| **controller-acp-ip-address** | | string optional | This fields presents the ACP's IP address on the storage controller. Example: 172.168.4.4 |
| **controller-acp-netmask** | | string optional | This fields presents the ACP's netmask on the storage controller. Example: 172.168.4.1 |
| **is-acp-element-error** | | boolean optional | Indicates if there has been a failure in the ACP block. Will not be present if an ACP element is not installed. |
| **is-acp-element-not-installed** | | boolean optional | Indicates if ACP element has been installed. Will be present only if the element is not installed, in which case no further information will be provided. |
| **is-controller-acp-active** | | boolean optional | Indicates whether the ACP function is active on the storage controller. Inactive ACP unually means there is configuration or connection error that needs to be resolved. |
| **is-controller-acp-enabled** | | boolean optional | Indicates if ACP functionality is enabled in the storage controller. If the ACP funtion is not enalbed the following fields will not be presented. |
| **module-firmware-revision** | | string optional | Firmware version of the ACP controller. This field will not be present if the value is unknown or not available, or if an ACP element is not installed. |
| **module-ip-address** | | string optional | IP address that is used by this ACP shelf module. This field will not be present if the IP address is unknown or not available, or if an ACP element is not installed. |
| **module-mac-address** | | string optional | MAC address that is used by this module's ACPP. This field will not be present if the MAC address is unknown or not available, or if an ACP element is not installed. |
| **module-name** | | string optional | Shelf module for this ACPP. Possible Values: "A", "B" This field will not be present if it is unknown or not available, or if an ACP element is not installed. |
| **module-reset-count** | **[0..2^32-1]** | integer optional | Number of times the corresponding shelf I/O module has been reset using this ACPP. This field will not be present if it is unknown or not available, or if an ACP element is not installed. |
| **module-status** | | string optional | ACP status of this shelf module. This field will not be present if it is unknown or not available, or if an ACP element is not installed. Possible values: "active", "inactive_not_ready", "inactive_waiting_for_inband_info", "inactive_no_inband_connectivity", "inactive_not_responding", "inactive_updating_firmware", "inactive_initializing", "inactive_unknown". |
| **module-status-time** | | string optional | Time of last contact with the ACP controller. This is only valid if the value of module-status field is inactive_not_responding. |

## Element definition: **ariodata-specific-info**

[top]

Vendor specific enclosure system information for Ariodata shelf.

| Name | Range | Type | Description |
|---|---|---|---|
| **ariodata-serial-no** | | string | Serial number for Ariodata shelf. |

## Element definition: **bay-info**

[top]

A list of shelf bay numbers which have disks.

| Name | Range | Type | Description |
|---|---|---|---|
| **drawer-bay-slot-number** | | integer optional | Indicates which slot in the drawer the shelf-bay belongs to. Range: [0..254] |
| **drawer-number** | | integer optional | Some shelves have drawers, drawer-number indicates which drawer the shelf-bay belongs to. Range: [0..254] |
| **lun** | | integer optional | The logical unit number within the target. This field will be present in some storage configurations. In some cases, devices with a logical unit number will have LEDs that can be affected. Range : [0..255] |
| **shelf-bay** | | integer | A shelf-bay number indicates the presence of a drive in that bay. Shelf bays are numbered starting at 0 which is the right most drive bay in the shelf when viewing the shelf from the front. Range: [0..255] |

## Element definition: **connector-info**

[top]

Information on cables and/or connectors connected to the shelf

| Name | Range | Type | Description |
|---|---|---|---|
| **sas-connector-list** | | sas-connector-info[] optional | Information on SAS connectors & cables. |

## Element definition: **cooling-element-info**

[top]

Information on individual cooling elements (fans).

| Name | Range | Type | Description |
|---|---|---|---|
| **cooling-element-is-error** | | boolean optional | Indicated whether cooling elements has failed or reported any errors. Will not be present if cooling element is not installed. |
| **cooling-element-is-not-installed** | | boolean optional | Indicates the cooling elements is not installed. This will only be present if the element is missing, in such case no further data for this element will be presented. |
| **cooling-element-number** | **[0..255]** | integer | Cooling element number. |
| **rpm** | **[0..32766]** | integer optional | Current RPM (revolutions per minutes) of the fan. Will not be present if RPM is not available at the time API is executed or if RPM detection hardware is not supported by the shelf or if cooling element is not installed. |

## Element definition: **current-sensor-info**

[top]

Presents the electrical current sensor information, if implemented on the system.

| Name | Range | Type | Description |
|---|---|---|---|
| **current-sensor-no** | **[1..20]** | integer | Current sensor number. |
| **is-sensor-error** | | boolean optional | Will indicate whether the sensor has encountered an error. |
| **is-sensor-not-installed** | | boolean optional | Indicates the current sensor elements is not installed. This will only be present if the element is missing, in such case no further data for this element will be presented. |

| | | | |
|---|---|---|---|
| **sensor-condition** | | string optional | A Text string describing whether the sensor-reading field is within normal operating range. This field is present only if sensor-reading field is also present. Possible values are: "overcurrent_failure", "overcurrent_warning", "normal_operating_range". |
| **sensor-reading** | | string optional | Current reading of the sensor. This field will be not be present if unable to read the sensor value properly. |

## Element definition: **dcm-info**

[top]

The shelf drawer control module information (dcm).

| Name | Range | Type | Description |
|---|---|---|---|
| **dcm-firmware-version** | | string optional | The firmware version of the dcm. |
| **dcm-number** | **[0..254]** | integer | The DCM number. |
| **dcm-part-number** | | string optional | The part number of the dcm. |
| **dcm-serial-number** | | string optional | The serial number of the dcm. |
| **dcm-type** | | string optional | The dcm type. |
| **dcm-vendor** | | string optional | The dcm vendor. |
| **is-dcm-error** | | boolean optional | Indicates whether this module has encountered an error. |
| **is-dcm-installed** | | boolean optional | Indicates the dcm for this element is installed. |

## Element definition: **dongle-info**

[top]

dongle information

| Name | Range | Type | Description |
|---|---|---|---|
| **disable-reason** | | string optional | If phy-state is "disabled", then this will give explanation as to the reason. Possible values: "manual", "no_drive", "brst_los", "los", "brst_rdd", "rdd", "brst_idd", "idd", "brst_prp", "prp", "brst_pcd", "pcd", "brst_crc", "crc", "osc", "mir", "rsrv", "man_smp", "clk_flt", "unknown". |
| **dongle-firmware-revision** | | string optional | Dongle firmware revision. Will be missing if not supported or not available. |
| **dongle-type** | | string optional | Dongle type. Possible values: "ss1300b", "sas", "sps3g", Will be missing if not supported or not available. |

## Element definition: **drawer-address-map**

[top]

The shelf drawer devices address map.

| Name | Range | Type | Description |
|---|---|---|---|
| **address-map** | | string | A list of addresses assigned to this channel for the drawer on the shelf specified in the shelf-id output above. |
| **drawer-number** | **[0..254]** | integer | The DCM number. |

## Element definition: **enclosure-info**

[top]

Information on the enclosure type. This information will be presented for ESH and SAS shelves only.

| Name | Range | Type | Description |
|---|---|---|---|
| **enclosure-type** | | string | Enclosure type. Possible values: "sas_expander_module", "embedded_switching_hub". |
| **module-list** | | module-info[] | Information on the enclosure modules. |

## Element definition: **es-electronics-info**

[top]

Information on the installed enclosure services (ES) electronics.

| Name | Range | Type | Description |
|---|---|---|---|
| **es-electronics-element-no** | **[0..255]** | integer | Enclosure services electronics element number. |
| **es-electronics-is-error** | | boolean optional | indicates whether this enclosure services electronics has reported any errors. Will not be present if the element is not installed. |
| **es-electronics-is-not-installed** | | string optional | Indicates this enclosure services electronics is not installed. This will only be presented when the element is missing, no further data for this element will be presented. |
| **es-electronics-is-reporting-element** | | boolean optional | Indicated whether this is the element reporting. Even though there might be more than one element installed, only will be reporting at any time. Will not be present if the element is not installed. |
| **es-electronics-serial-no** | | string optional | Serial number for the enclosure services electronics. Will not be present if the element is not installed. |
| **es-part-number** | | string optional | Part number for the ES electronics. Field will be missing if the information is not available or if the element is not installed. |
| **es-revision** | | string optional | CPLD revision of the ES electronics, if applicable. This field will not be present if the information is not available, not implemented, or if the element is not installed. |
| **es-swap-count** | **[0..255]** | integer optional | Number of times, since last boot, that this ES electronics elements has been swapped. Will not be present if the element is not installed. |
| **esh-list** | | esh-info[] optional | Information on attached embedded switched hub, if any. |

## Element definition: **eurologic-specific-info**

[top]

Vendor specific enclosure system information for Eurologic shelf.

| Name | Range | Type | Description |
|---|---|---|---|
| **eurologic-application-version** | | string | Application version for Eurologic shelf. |
| **eurologic-backplane-byte** | | string | Backplane byte for Eurologic shelf. |
| **eurologic-backplane-function** | | string | Backplane function for Eurologic shelf. |
| **eurologic-backplane-id** | | string | Backplane identifier for Eurologic shelf. |
| **eurologic-cabinet-id** | | string | Cabinet id for the Eurologic shelf. |
| **eurologic-kernel-version** | | string | Kernel version for Eurologic shelf. |
| **eurologic-serial-no** | | string optional | Serial number for the Eurologic shelf. |

## Element definition: **power-supply-info**

[top]

Power supply information

| Name | Range | Type | Description |
|---|---|---|---|
| **is-auto-power-reset-enabled** | | boolean optional | Indicates whether the auto power reset of the supply is enabled. This field will not be present if the power supply is missing. |
| **is-power-reset-capable** | | boolean optional | Indicates whether the power supply can be reset via software control. This field will not be present if power supply is missing. |
| **power-supply-element-number** | **[0..255]** | integer | Element number the power supply. |
| **power-supply-firmware-revision** | | string optional | Power supply firmware revision. This field will not be present if firmware rev is unavailable or feature not implemented, or if the power supply is missing. |
| **power-supply-is-error** | | boolean optional | Indicates whether the power supply has reported any errors. This field will not be present if the power supply is missing. |
| **power-supply-is-not-installed** | | boolean optional | Indicates the power supply for this element is not installed. This will only be presented if the power supply is missing, in which case no further information for the element will be available. |
| **power-supply-part-no** | | string optional | Power supply part number. The field will not be present if part number is unavailable or not implemented or if the power supply is missing. |
| **power-supply-serial-no** | | string optional | Power supply serial number. This field will not be present if the power supply is missing. |
| **power-supply-swap-count** | **[0..255]** | integer optional | Number of power supply swap counts since boot. This field will not be present if the power supply is missing. |
| **power-supply-type** | | string optional | Power supply type. This field will not be present if power supply type is unavailable or feature is not implemented, or if the power supply is missing. |

## Element definition: **processor-complex-info**

[top]

Available information on the processor complex modules (PCMs) in the shelf.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-pcm-element-error** | | boolean optional | Indicates if there has been a failure in the PCM. Will not be present if a PCM element is not installed. |
| **is-pcm-element-not-installed** | | boolean optional | Indicates if PCM element has been installed. Will be present only if the element is not installed, in which case no further information will be provided. |
| **pcm-element-no** | **[1..2]** | integer | PCM element number |

## Element definition: **sas-specific-info**

[top]

Vendor specific enclosure system information for SAS shelf.

| Name | Range | Type | Description |
|---|---|---|---|
| **serial-no** | | string | Shelf backplane serial number. |

## Element definition: **ses-generic-info**

[top]

Generic SES (SCSI enclosure services) information.

| Name | Range | Type | Description |
|---|---|---|---|
| **ses-chassis-part-number** | | string optional | Chassis part number. The field will not be present if the part number is unavailable or not implemented. |
| **ses-config-access** | | string optional | The method shelf configuration was obtained. Possible values: "via_embedded_ses", "via_scsi_from_shelf", "via_loop_from_shelf", "remote_access_via_controller", "not_available". |
| **ses-config-access-controller-name** | | string optional | If the value of ses-config-access field is "remote_access_via_controller" then this field will return the name of storage controller the configuration was obtained from. This field will not be present if storage controller name is not available or if the value of ses-config-access field is not "remote_access_via_controller". |
| **ses-config-access-shelf-id** | | string optional | If ses-config-access is either "via_scsi_from_shelf" or "via_loop_from_shelf" then this would be the shelf id of the device the configuration was obtained from. |
| **ses-config-access-source-id** | | integer optional | If ses-config-access is either "via_scsi_from_shelf" or "via_loop_from_shelf" then this would be the SCSI or loop id of the device that the configuration was obtained from. |
| **ses-contact-state** | | string | Enclosure contact state. Possible values are: "active", "initializing", "transitioning", "inactive", "reconfiguring", "non_existent". |
| **ses-logical-id** | | string | Enclosure logical identifier. |
| **ses-midplane-part-number** | | string optional | Enclosure midplane part number. The field will not be present if the midplane is not present. |
| **ses-midplane-serial-number** | | string optional | Enclosure midplane serial number. The field will not be present if the midplane is not present. |
| **ses-product-id** | | string optional | Enclosure product identifier. Not available on all shelf types. |
| **ses-product-revision** | | string | Enclosure product revision. |
| **ses-vendor-id** | | string | Enclosure vendor identifier. |

## Element definition: **shelf-drawer-bay**

[top]

The list of bays in the drawer that has a device.

| Name | Range | Type | Description |
|---|---|---|---|
| **attached-drawer-bay-list** | | string | A list of bay numbers in this shelf drawer that have disk devices installed. All bays with disks installed will be listed. This is a comma separated list. |
| **drawer-number** | **[0..254]** | integer | The DCM number. |

## Element definition: **shelf-drawer-bay-error**

[top]

The list of bays in the drawer that has devices with error.

| Name | Range | Type | Description |
|---|---|---|---|
| **attached-drawer-bay-list-with-error** | | string | A list of bay numbers in this shelf that have disk devices with errors. All bays with error devices will be listed. This is a comma separated list. |
| **drawer-number** | **[0..254]** | integer | The DCM number. |

## Element definition: **temp-sensor-info**

[top]

information on the temperature sensors installed in the shelf.

| Name | Range | Type | Description |
|---|---|---|---|
| **temp-sensor-current-condition** | | string optional | Current temperature condition for this sensor. One of: "under_temperature_warning", "under_temperature_failure", "over_temperature_warning", "over_temperature_failure", "normal_temperature_range". |
| **temp-sensor-current-temperature** | **[0..255]** | integer optional | Current temperature reading in degrees Celsius. |
| **temp-sensor-element-no** | **[0..255]** | integer | Element number for the temperature sensor. |
| **temp-sensor-hi-critical** | **[0..255]** | integer optional | High critical temperature in degree Celsius. |
| **temp-sensor-hi-warning** | **[0..255]** | integer optional | High warning temperature in degree Celsius. |
| **temp-sensor-is-ambient** | | boolean optional | Indicates whether the temp-sensor-current-temp is the ambient temperature. |
| **temp-sensor-is-error** | | boolean optional | Indicates whether the sensor has indicated an error in temperature. |
| **temp-sensor-is-not-installed** | | boolean optional | Indicates the sensor for this element is not installed. This will only be presented if the sensor is missing, and no further data for this sensor will be presented. |
| **temp-sensor-low-critical** | **[0..255]** | integer optional | Low critical temperature in degree Celsius. |
| **temp-sensor-low-warning** | **[0..255]** | integer optional | Low warning temperature in degree Celsius. |

## Element definition: **voltage-sensor-info**

[top]

Presents the voltage sensor information, if implemented on the system.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-sensor-error** | | boolean optional | Indicates whether the sensor has encountered an error. |
| **is-sensor-not-installed** | | boolean optional | Indicates the voltage sensor elements is not installed. This will only be present if the element is missing, in such case no further data for this element will be presented. |
| **sensor-condition** | | string optional | A Text string describing whether the sensor-reading field is within normal operating range. This field is present only if sensor-reading field is also present. Possible values are: "overvoltage_failure", "overvoltage_warning", "undervoltage_warning", "undervoltage_failure", "normal_operating_range". |
| **sensor-reading** | | string optional | Voltage reading of the sensor. This field will be not be present if unable to read the sensor value properly. |
| **voltage-sensor-no** | **[1..20]** | integer | Voltage sensor number. |

## Element definition: **xyratex-specific-info**

[top]

Vendor specific enclosure system information for Xyratex shelf.

| Name | Range | Type | Description |
|---|---|---|---|
| **xyratex-option-setting** | | string | Option setting for the Xyratex shelf. |
| **xyratex-serial-no** | | string | serial number for Xyratex shelf. |

## Element definition: **esh-info**

[top]

Information on individual ESH modules in the shelf.

| Name | Range | Type | Description |
|---|---|---|---|
| **esh-element-no** | **[0..255]** | integer | ESH element number of installed ESH module |
| **esh-is-error** | | string | Indicates whether the ESH module has reported any errors. |

## Element definition: **module-info**

[top]

Shelf enclosure module info.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-module-error** | | boolean | Indicated whether this module has encountered an error. |
| **is-sas-expander-master-module** | | boolean optional | When the value of enclosure-type field of enclosure-type-info is sas-expander-module, then this field indicates whether this module is the SAS expander master module. This field will only be present for sas-expander-module values. |
| **module-connector-wwn** | | string optional | WWN of the module connector, example "500A0980017D373F". |
| **module-number** | **[0..1]** | integer | shelf module number. |

## Element definition: **sas-connector-info**

[top]

Detailed information on SAS cables and connectors connected to the shelf. Only information on the connectors with cables attached will be presented.

| Name | Range | Type | Description |
|---|---|---|---|
| **attached-serial-no** | | string optional | Serial number of the attached cable as assigned by the cable manufacturer. This field will not be present if the information is not available, or if a cable is not connected at this connector. Note that depending on the cable, the serial number at the two ends of the cable may or may not match. An example of this is SAS optical cables that do not have integrated QSFP's, which will show different attached serial numbers at the ends of cable. Cables with integrated QSFP's will have matching serial numbers at both ends. |
| **cable-end-identifier** | | string optional | Each cable has two ends. This field shows which end of the cable is connected to the shelf. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector. Possible values: "end_0", "end_1". |
| **cable-length** | | string optional | Cable length. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector. |
| **cable-local-conn-wwn** | | string optional | WWN of the local connector that the cable is attached to, example "500A0980017D373F". |
| **cable-manufacturer** | | string optional | Manufacturer of the cable. Will not be present if a cable is not connected at this connector. |
| **cable-part-no** | | string optional | Part number of the cable as assigned by the cable manufacturer. This field will not be present if the information is not available, or if a cable is not connected at this connector. |
| **cable-remote-conn-wwn** | | string optional | WWN of the remote connector that the cable is attached to, example "300A0980052ED2B2". |
| **cable-serial-no** | | string optional | This is actually not serial number, but rather cable identifier. For backwards compatibility this is reported as cable-serial-no. For the actual serial number see attached-serial-no. The connectors at both ends of the same cable will report the same value for this field. This field can be used to generate topology. This field will not be present if a cable is not connected to the connector or if the cable is not connected to a functioning device. |
| **cable-technology** | | string optional | Cable technology. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector. Possible values: "cupper", "optical". |
| **cable-type** | | string | Type of the cable being used. This field will not be present if the information is not available or accessible, or if a cable is not connected at this |

| | | | |
|---|---|---|---|
| | | optional | connector. Possible values: "qsfp". |
| **connector-designator** | | string optional | Connector desiagnator.<br>• "sqr" - The port is marked with a square on the shelf connector panel,<br>• "cir" - The port is marked with a circle on the shelf connector panel.<br>Will be missing if unknown or not available. |
| **connector-no** | **[0..4]** | integer | Connector number. |
| **is-cable-connected** | | boolean | Indicates whether a cable is connected at this connector location. No further information will be provided if a cable is not connected at this connector location. Note that a cable connection does not necessarily mean that the shelf is connected to a storage cointroller. This will also depend on the other end of the cable. |
| **is-connector-error** | | boolean optional | Indicates whether the connector element has encountered an error. |
| **shelf-module** | | string optional | Shelf module for this connector<br>• "a" - Presenting data for shelf module A.<br>• "b" - Presenting data for shelf module B. |
| **swap-count** | **[0..255]** | integer optional | Number of times, since last boot, a cable has been inserted into this connector |

# APIs in Category: **sis**


sis-disable
sis-disable-async
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sis-stop-async


These APIs can be used to manage deduplication and compression on flexible volumes. In the following API descriptions, these space saving technologies are collectively referred to as "sis".

A "sis volume" refers to a flexible volume on which deduplication and/or compression has been enabled. It can also refer to volumes where deduplication and/or compression are currently disabled (say, temporarily), but the volume has compressed and/or shared data. Currently, compression can be enabled on a volume, only when deduplication is also enabled on the volume.

A "sis operation" refers to a background operation that is running on a volume to deduplicate and/or compress data in the volume.

In future, the sis APIs may be extended to support other storage entities like aggregates. Hence, all sis APIs accept a "path" argument instead of a volume name.

## sis-disable

[top]

Disable sis on a volume. If the sis operation is active on the volume, it needs to be stopped by "sis-stop" API before disabling.

This API is not supported for FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | The full path of the sis volume, /vol/<vol_name>. Only one path can be specified at a time. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_EINVAL** | |
| **EAPIERROR** | |
| **EVOLUMENOTONLINE** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_OLV_FG_EFFICIENCY_OP_FAILED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# sis-disable-async

[top]

Disable sis on a FlexGroup or an Infinite Volume. If the sis operation is active on the volume, it needs to be stopped by "sis-stop-async" API before disabling.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string | Name of the volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values:<br>• "succeeded",<br>• "in_progress",<br>• "failed" |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_EINVAL** | |
| **EAPIERROR** | |
| **EVOLUMENOTONLINE** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_OLV_FG_EFFICIENCY_OP_FAILED** | |

# sis-enable

[top]

Enable sis on a volume.

On a non-SnapVault secondary volume, the sis operation will be started periodically according to a per-volume schedule. By default, this schedule is sun-sat@0. (Everyday at 0:00 hours) On a SnapVault secondary volume, the sis operation will be kicked off at the end of the SnapVault transfer. This API does not enable compression on the volume. See the "sis-set-config" API for options to enable compression and for modifying the default schedule set on the volume. A sis operation can also be manually started using the sis-start API.

This API is not supported for FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | The full path of the sis volume, /vol/<vol_name>. Only one path can be specified at a time. The volume must be online to enable sis on the volume. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EAPIERROR** | |
| **EONTAPI_EINVAL** | |
| **EINTERNALERROR** | |
| **EVOLUMENOTONLINE** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_OLV_FG_EFFICIENCY_OP_FAILE** | |

| Vfiler-enabled |
|---|
| **Yes** |

# sis-enable-async

[top]

Enable sis on a FlexGroup or an Infinite Volume.

This is similar to 'sis-enable' API except that it operates on a FlexGroup or Infinite Volume. Read about 'sis-enable' API for specific details.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string | Name of the volume. The volume must be online to enable sis. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values:<br>• "succeeded",<br>• "in_progress",<br>• "failed" |

| Errno | Description |
|---|---|
| EAPIMISSINGARGUMENT | |
| EAPIERROR | |
| EONTAPI_EINVAL | |
| EINTERNALERROR | |
| EVOLUMENOTONLINE | |
| EOBJECTNOTFOUND | |
| EVSERVERNOTFOUND | |
| EVSERVER_OP_NOT_ALLOWED | |
| EINVALIDINPUTERROR | |
| EVOLUME_TYPE_NOT_SUPPORTED | |
| E_OLV_FG_EFFICIENCY_OP_FAILED | |

# sis-get

[top]

Get status of a sis volume.

This API is not supported on Infinite Volumes that are managed by storage services.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | sis-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| path | | volume-path | Volume for which sis information is returned. Path is of the format /vol/<vol_name>. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | sis-status-info | The attributes to return with this call. |

| Errno | Description |
|---|---|
| EAPIMISSINGARGUMENT | |
| EONTAPI_EINVAL | |
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVSERVERNOTFOUND | |
| EVSERVER_OP_NOT_ALLOWED | |
| EINVALIDINPUTERROR | |

# sis-get-iter

[top]

Iterate over a list of sis volumes.

This API is not supported on Infinite Volumes that are managed by storage services.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | sis-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. |
| **query** | | sis-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes. All sis objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | sis-status-info[] optional | The list of attributes of sis objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more sis objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_EINVAL** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |

# sis-policy-create

[top]

Create a new sis policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **changelog-threshold-percent** | **[0..100]** | integer optional | Percentage at which the changelog will be processed for a threshold type of policy, tested once each hour. |
| **comment** | | string optional | A brief description of the policy. |
| **duration** | | string optional | The duration in hours for which the scheduled sis operation should run. After this time expires, the sis operation will be stopped even if the operation is incomplete. If '-' is specified as the duration, the sis operation will run till it completes. Otherwise, the duration has to be an integer greater than 0. By default, the operation runs till it completes. |
| | | | If the value is true, the sis policy is active in this cluster. If the value is |

| | | | |
|---|---|---|---|
| **enabled** | | boolean<br>optional | false this policy will not be activated by the schedulers and hence will be inactive. A policy can be assigned to managed objects although it is disabled. Default value: "true" |
| **policy-name** | | string | sis policy name. |
| **policy-type** | | string<br>optional | The policy type reflects the reason a volume using this policy will start processing a changelog. (Changelog processing is identifying and eliminating duplicate blocks which were written since the changelog was last processed.)<br>• "threshold" - Changelog processing occurs once the changelog reaches a certain percent full.<br>• "scheduled" - Changelog processing will be triggered by time.<br><br>Default value: "scheduled" |
| **qos-policy** | | string<br>optional | QoS policy for the sis operation. Possible values:<br>• "background" - sis operation will run in background with minimal or no impact on data serving client operations,<br>• "best-effort" - sis operations may have some impact on data serving client operations.<br><br>Default value: "best-effort" |
| **schedule** | | string<br>optional | Cron type job schedule name. When the associated policy is set on a volume, the sis operation will be triggered for the volume on this schedule. These schedules can be created using the job-schedule-cron-create API. Existing schedules can be queried using the job-schedule-cron-get-iter API. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |

# sis-policy-delete

[top]

Delete a sis policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | sis policy name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |

# sis-policy-get

[top]

Get attributes of a sis policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | sis-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy-name** | | string | sis policy name. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | sis-policy-info | The attributes of the sis-policy. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |

# sis-policy-get-iter

[top]

Iterate over a list of sis policy objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | sis-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. |
| **query** | | sis-policy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the sis policy. All sis policy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | sis-policy-info[] optional | The list of attributes of sis policy objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more sis policy objects to return. |
| | | | |

| | | | |
|---|---|---|---|
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |

# sis-policy-modify

[top]

Modify the attributes of a sis policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **changelog-threshold-percent** | **[0..100]** | integer optional | Percentage at which the changelog will be processed for a threshold type of policy, tested once each hour. |
| **comment** | | string optional | A brief description of the policy. If a value is not provided the current settings are retained. An empty string can be used to clear the current settings. |
| **duration** | | string optional | The duration in hours for which the scheduled sis operation should run. After this time expires, the sis operation will be stopped even if the operation is incomplete. If '-' is specified as the duration, the sis operation will run till it completes. If duration is not provided the current setting is not modified. |
| **enabled** | | boolean optional | If the value is true, the sis policy is active in this cluster. If the value is false this policy will not be activated by the schedulers and hence will be inactive. A policy can be assigned to managed objects although it is disabled. If the value is not specified, the current settings are retained. |
| **policy-name** | | string | sis policy name. Attributes: key, non-modifiable |
| **policy-type** | | string optional | The policy type reflects the reason a volume using this policy will start processing a changelog. (Changelog processing is identifying and eliminating duplicate blocks which were written since the changelog was last processed.)<br>• "threshold" - Changelog processing occurs when the changelog reaches a certain percent full.<br>• "scheduled" - Clog processing will be triggered by time. |
| **qos-policy** | | string optional | QoS policy for the sis operation. Possible values:<br>• "background" - sis operation will run in background with minimal or no impact on data serving client operations,<br>• "best-effort" - sis operations may have some impact on data serving client operations.<br><br>Default value: "best-effort" |
| **schedule** | | string optional | Cron type job schedule name. When the associated policy is set on a volume, the sis operation will be triggered for the volume on this schedule. If this field is not set, the existing value is not modified. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |

# sis-set-config

[top]

Setup or modify sis policy, schedule or options for a volume.

This API is not supported for FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application-io-size** | | string optional | Specifies the compression settings on volume with adaptive compression. Possible values: "8K", "16K", "32K", "auto". Adaptive compression allows different compression settings on the volume based on possible IO sizes the volume can have. The larger the volume's IO size, the better the compression savings will be. If application IO size is larger than 32K, one should pass 32K as compression caps its setting to max 32K value. If specified as "auto", data written will be compressed at 8K size and inactive data will be compressed at 32K size later automatically in background. |
| **compression-algorithm** | | string optional | Specifies the compression algorithm on volume. Possible values:<br>• 0 - none<br>• 1 - lzopro<br>• 2 - gzip<br>• 3 - lzrw1a |
| **compression-type** | | string optional | Specifies the compression type on the volume. Possible values: "adaptive", "secondary". Attributes: non-creatable, non-modifiable. |
| **enable-compression** | | boolean optional | Enable compression on the sis volume. If true, compression will be enabled on the sis volume. If false, compression will be disabled on the volume. If the value is not specified compression state will be unchanged.<br><br>Enabling compression on a secondary volume is strongly discouraged. If compression is enabled on a secondary volume, storage efficiency present on the source will not be preserved during replication. The destination system needs to run offline storage efficiency scanner (compression and dedupe) to achieve storage savings. Additional compression savings on the destination comes at a cost of extra computation resources. In environments where there is a lot of shared data present on the source, (e.g., virtualized environments employing file clones), data inflation during transfer may lead to failed backups due to lack of space on the secondary volume. |
| **enable-cross-volume-background-dedupe** | | boolean optional | Enable cross volume background deduplication on the sis volume. If true, cross volume background deduplication will be enabled on the sis volume. If false, cross volume background deduplication will be disabled on the volume. If the value is not specified, cross volume background deduplication state will be unchanged. |
| **enable-cross-** | | boolean | Enable cross volume inline deduplication on the sis volume. If true, cross volume inline deduplication will be enabled on the sis volume. |

| | | | |
|---|---|---|---|
| **volume-inline-dedupe** | | optional | If false, cross volume inline deduplication will be disabled on the volume. If the value is not specified, cross volume inline deduplication state will be unchanged. |
| **enable-data-compaction** | | boolean optional | Enable data compaction on the sis volume. If true, data-compaction will be enabled on the volume. If false, data-compaction will be disabled on the volume. If the value is not specified, data-compaction state will be unchanged. |
| **enable-idd** | | boolean optional | This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. This enables file level incompressible data detection and quick check incompressible data detection for large files. This is per volume option. Once this set to true, inline compression will do a 4k compression quick check for large files before proceeding with full CG compression. If quick check finds a 4k within a CG as incompressible, inline compression won't attempt to compress the CG. And the blocks are written in uncompressed form to disk. Also once this is enabled, if inline compression encounters a incompressible CG within small files, it will mark the file with do not compress flag. As long as this flag is set on a small file, inline compression won't attempt further compression on the file. Default value is 'false'. |
| **enable-inline-compression** | | boolean optional | Enable inline compression on the sis volume. To enable inline compression, compression must be enabled either in this API call or by a previous call to sis-set-config. If true, inline-compression will be enabled on the sis volume. If false, inline-compression will be disabled on the volume. If the value is not specified, inline-compression state will be unchanged. |
| **enable-inline-dedupe** | | boolean optional | Enable inline deduplication on the sis volume. If true, inline-deduplication will be enabled on the sis volume. If false, inline-deduplication will be disabled on the volume. If the value is not specified, inline-deduplication state will be unchanged. |
| **path** | | string | The full path of the sis volume, /vol/<vol_name>. |
| **policy-name** | | string optional | The sis policy name to be attached to the volume. The policy name will determine which M-Host sis policy will trigger the scheduled sis operations. In Data ONTAP Cluster-Mode, policy-name and schedule must not be specified together in the same API call. If policy-name is passed, any previous schedule set on the volume is automatically reset. |
| **quick-check-fsize** | **[0..2^64-1]** | integer optional | This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Quick check file size for Incompressible Data Detection. If Incompressible data detection is enabled and if the file size is >= quick-check-fsize, inline compression will do a 4k quick check before doing full CG compression. |
| | | string | The schedule string for the sis operation.<br><br>The format of the schedule:<br><br>day_list[@hour_list] or hour_list[@day_list] or - or auto or manual<br><br>The day_list specifies which days of the week the sis operation should run. It is a comma-separated list of the first three letters of the day: sun, mon, tue, wed, thu, fri, sat. The names are not case sensitive. Day ranges such as mon-fri can also be given. The default day_list is sun-sat.<br><br>The hour_list specifies which hours of the day the sis operation should run on each scheduled day. The hour_list is a comma-separated list of the integers from 0 to 23. Hour ranges such as 8-17 are allowed. Step values can be used in conjunction with ranges. For example, 0-23/2 means "every two hours". The default hour_list |

| | | | |
|---|---|---|---|
| **schedule** | | optional | is 0, i.e. midnight on the morning of each scheduled day.<br><br>If "-" is specified, no schedule is set. In Data ONTAP Cluster-Mode, policy-name and schedule must not be specified together in the same API call. If schedule is passed, any previous policy-name set on the volume is automatically reset.<br><br>The "auto" schedule string means the sis operation will be triggered by the amount of new data written to the volume. The criterion is subject to being changed later.<br><br>The "manual" schedule string prevents SIS from automatically triggering any operations and disables change-logging. This schedule string can only be used on SnapVault destination volumes. The use of this schedule is mainly desirable when inline compression is enabled on a SnapVault destination volume and background processing is not necessary. |
| **storage-efficiency-mode** | | string optional | Specifies the efficiency mode for the volume. default value will set 8K adaptive compression on the volume. efficient will set auto adaptive compresion on the volume. Possible values:<br><br>• 1 - default<br>• 2 - efficient |

| Errno |
|---|
| **EAPIMISSINGARGUMENT** |
| **EONTAPI_EINVAL** |
| **EAPIERROR** |
| **EVOLUMENOTONLINE** |
| **EOBJECTNOTFOUND** |
| **EVSERVERNOTFOUND** |
| **EVSERVER_OP_NOT_ALLOWED** |
| **EINVALIDINPUTERROR** |
| **EVOLUME_TYPE_NOT_SUPPORTED** |
| **E_OLV_FG_EFFICIENCY_OP_FAILED** |

| Vfiler-enabled |
|---|
| **Yes** |

# sis-set-config-async

[top]

Setup or modify sis policy, schedule or options for a volume.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application-** | | string | Specifies the compression settings on volume with adaptive compression. Possible values: "8K", "16K", "32K", "auto". Adaptive compression allows different compression settings on the volume based on possible IO sizes the volume can have. The larger the volume's IO size, the better the compression savings will be. If |

| | | | |
|---|---|---|---|
| **io-size** | | optional | application IO size is larger than 32K, one should pass 32K as compression caps its setting to max 32K value. If specified as "auto", data written will be compressed at 8K size and incative data will be compressed at 32K size later automatically in background. |
| **compression-algorithm** | | string optional | Specifies the compression algorithm on volume. Possible values:<br>• 0 - none<br>• 1 - lzopro<br>• 2 - gzip<br>• 3 - lzrw1a |
| **compression-type** | | string optional | Specifies the compression type on the volume. Possible values: "adaptive", "secondary". Attributes: non-creatable, non-modifiable. |
| **enable-compression** | | boolean optional | Enable compression on the sis volume. If true, compression will be enabled on the sis volume. If false, compression will be disabled on the volume. If the value is not specified compression state will be unchanged. |
| **enable-cross-volume-background-dedupe** | | boolean optional | Enable background deduplication on the sis volume. If true, cross volume background deduplication will be enabled on the sis volume. If false, cross volume background deduplication will be disabled on the volume. If the value is not specified, cross volume background deduplication state will be unchanged. |
| **enable-cross-volume-inline-dedupe** | | boolean optional | Enable inline deduplication on the sis volume. If true, cross volume inline deduplication will be enabled on the sis volume. If false, cross volume inline deduplication will be disabled on the volume. If the value is not specified, cross volume inline deduplication state will be unchanged. |
| **enable-data-compaction** | | boolean optional | Enable data compaction on the volume. If true, data-compaction will be enabled on the volume. If false, data-compaction will be disabled on the volume. If the value is not specified, data-compaction state will be unchanged. |
| **enable-idd** | | boolean optional | This parameter is no longer suppported and is ignored as of Data ONTAP 9.1.0. This enables file level incompressible data detection and quick check incompressible data detection for large files. This is per volume option. Once this set to true, inline compression will do a 4k compression quick check for large files before proceeding with full CG compression. If quick check finds a 4k within a CG as incompressible, inline compression won't attempt to compress the CG. And the blocks are written in uncompressed form to disk. Also once this is enabled, if inline compression encounters a incompressible CG within small files, it will mark the file with do not compress flag. As long as this flag is set on a small file, inline compression won't attempt further compression on the file. Default value is 'false'. |
| **enable-inline-compression** | | boolean optional | Enable inline compression on the sis volume. To enable inline compression, compression must be enabled either in this API call or by a previous call to sis-set-config. If true, inline-compression will be enabled on the sis volume. If false, inline-compression will be disabled on the volume. If the value is not specified, inline-compression state will be unchanged. |
| **enable-inline-dedupe** | | boolean optional | Enable inline deduplication on the sis volume. If true, inline-deduplication will be enabled on the sis volume. If false, inline-deduplication will be disabled on the volume. If the value is not specified, inline-deduplication state will be unchanged. |
| **policy-name** | | string optional | The sis policy name to be attached to the volume. The policy name will determine which M-Host sis policy will trigger the scheduled sis operations. The policy-name and schedule must not be specified together in the same API call. If policy-name is passed, any previous |

| | | | |
|---|---|---|---|
| | | | schedule set on the volume is automatically reset. |
| **quick-check-fsize** | **[0..2^64-1]** | integer optional | This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Quick check file size for Incompressible Data Detection. If Incompressible data detection is enabled and if the file size is >= quick-check-fsize, inline compression will do a 4k quick check before doing full CG compression. |
| **schedule** | | string optional | The schedule string for the sis operation.<br><br>The format of the schedule:<br><br>day_list[@hour_list] or hour_list[@day_list] or - or auto or manual<br><br>The day_list specifies which days of the week the sis operation should run. It is a comma-separated list of the first three letters of the day: sun, mon, tue, wed, thu, fri, sat. The names are not case sensitive. Day ranges such as mon-fri can also be given. The default day_list is sun-sat.<br><br>The hour_list specifies which hours of the day the sis operation should run on each scheduled day. The hour_list is a comma-separated list of the integers from 0 to 23. Hour ranges such as 8-17 are allowed. Step values can be used in conjunction with ranges. For example, 0-23/2 means "every two hours". The default hour_list is 0, i.e. midnight on the morning of each scheduled day.<br><br>If "-" is specified, no schedule is set. In Data ONTAP Cluster-Mode, policy-name and schedule must not be specified together in the same API call. If schedule is passed, any previous policy-name set on the volume is automatically reset.<br><br>The "auto" schedule string means the sis operation will be triggered by the amount of new data written to the volume. The criterion is subject to being changed later.<br><br>If "manual" is specified, sis operation will never be triggered automatically. Only the user can manually execute the sis operation. |
| **volume-name** | | string | Name of the volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values:<br><br>• "succeeded",<br>• "in_progress",<br>• "failed" |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_EINVAL** | |
| **EAPIERROR** | |
| **EVOLUMENOTONLINE** | |

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_OLV_FG_EFFICIENCY_OP_FAILED** | |

# sis-start

[top]

Start a sis operation on a volume. The volume must have sis enabled, before starting a sis operation. If the sis operation is already active on the volume, this API will fail.

This API is not supported for FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **build-metadata** | | boolean optional | If this argument is "true", scanner will scan the entire volume and generate fingerprint database without attempting the sharing. This argument is valid only if scan argument is set to "true". Look at the documentation for scan parameter for more details. Default value: "false" |
| **delete-checkpoint** | | boolean optional | If this is "true", the sis operation will delete existing checkpoint and start the sis operation from the beginning. Default value: "false" |
| **path** | | string | The full path of the sis volume, /vol/<vol_name>. The volume must be online in order to start the sis operation. |
| **qos-policy** | | string optional | QoS policy for the sis operation. Possible values are:<br>• "background" - sis operation will run in background with minimal or no impact on data serving client operations,<br>• "best-effort" - sis operations may have some impact on data serving client operations.<br><br>Default value: "best-effort" |
| **queue-operation** | | boolean optional | If this is "true", the requested sis operation will be queued if a sis operation is already running on the volume, and the running operation is in the fingerprint verification phase. Default value: "false" |
| **restart-checkpoint** | | boolean optional | If this is "true", the sis operation will restart from previous checkpoint without checking for validity. This option should be used along with "scan" option. Default value: "false" |
| **run-compaction-scan** | | boolean optional | If this argument is "true", the compaction scanner will be started on the volume. This argument is valid only if scan argument is set to "true". Default Value: "false" |
| **scan** | | boolean optional | If this is "true", the sis operation will scan the file system to process all the existing data.<br><br>The scan will include whatever is enabled on the volume. For example: If compression is not enabled on the volume, the scan will not include compression. This default behavior can be changed by using the run-dedupe-scan and run-compression-scan parameters.<br><br>If scan is false only data added since the last sis operation will be processed. Default value: "false" |
| **scan-all** | | boolean optional | If this argument is "true", scanner will scan entire volume without applying shared block optimization. This argument is valid only if scan argument is set to "true". Look at the documentation for scan parameter |

| | | | |
|---|---|---|---|
| | | | for more details. Default value: "false" |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_EINVAL** | |
| **EAPIERROR** | |
| **EVOLUMEBUSY** | |
| **EVOLUMENOTONLINE** | |
| **EDENSE_CONCURRENT_LIMIT** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EDENSE_DROPPED_AUTO** | |
| **E_OLV_FG_EFFICIENCY_OP_FAILED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# sis-start-async

[top]

Start a sis operation on FlexGroup or an Infinite Volume. The volume must have sis enabled, before starting a sis operation. If the sis operation is already active on the volume, this API will fail.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **build-metadata** | | boolean optional | If this argument is "true", scanner will scan the entire volume and generate fingerprint database without attempting the sharing. This argument is valid only if scan argument is set to "true". Look at the documentation for scan parameter for more details. Default Value: "false" |
| **delete-checkpoint** | | boolean optional | If this is "true", the sis operation will delete existing checkpoint and start the sis operation from the beginning. Default value: "false" |
| **qos-policy** | | string optional | QoS policy for the sis operation. Possible values:<br>• "background" - sis operation will run in background with minimal or no impact on data serving client operations,<br>• "best-effort" - sis operations may have some impact on data serving client operations.<br><br>Default value: "best-effort" |
| **queue-operation** | | boolean optional | If this is "true", the requested sis operation will be queued if a sis operation is already running on the Infinite Volume, and the running operation is in the fingerprint verification phase. Default value: "false" |
| **restart-checkpoint** | | boolean optional | If this is "true", the sis operation will restart from previous checkpoint without checking for validity. This option should be used along with "scan" option. Default value: "false" |

| | | | |
|---|---|---|---|
| **run-compaction-scan** | | boolean optional | If this argument is "true", the compaction scanner will be started on the volume. This argument is valid only if scan argument is set to "true". Default Value: "false" |
| **scan** | | boolean optional | If this is "true", the sis operation will scan the file system to process all the existing data.<br><br>The scan will include whatever is enabled on the volume. For example: If compression is not enabled on the volume, the scan will not include compression. This default behavior can be changed by using the run-dedupe-scan and run-compression-scan parameters.<br><br>If scan is false only data added since the last sis operation will be processed. Default value: "false" |
| **scan-all** | | boolean optional | If this argument is "true", scanner will scan entire volume without applying shared block optimization. This argument is valid only if scan argument is set to "true". Look at the documentation for scan parameter for more details. Default Value: "false" |
| **volume-name** | | string | The name of the volume. The volume must be online in order to start the sis operation. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values:<br><br>• "succeeded",<br>• "in_progress",<br>• "failed" |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_EINVAL** | |
| **EAPIERROR** | |
| **EVOLUMEBUSY** | |
| **EVOLUMENOTONLINE** | |
| **EDENSE_CONCURRENT_LIMIT** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_OLV_FG_EFFICIENCY_OP_FAILED** | |

# sis-status

[top]

Get Status of a sis volume This API is not optimal for use in Data ONTAP Cluster-Mode systems, and is

deprecated. Use sis-get and sis-get-iter APIs for Data ONTAP Cluster Mode systems. This API is still supported for Data ONTAP 7-Mode systems.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string optional | The full path of the sis volume, /vol/<vol_name>. Only one path can be specified at a time. The volume must be online if not then an error will be returned. If path variable is not used then the status for all online sis volumes in the filer will be returned. |
| **verbose** | | boolean optional | If set to true the output is detailed. Default value: "false" |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **sis-object** | | dense-status[] | sis status objects returned. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EAPIERROR** | |
| **EONTAPI_EINVAL** | |
| **EVOLUMENOTONLINE** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# sis-stop

[top]

Abort currently active sis operation on the volume. The sis operation will remain paused and the operation can be resumed by "sis-start", SnapVault transfer, or the scheduler.

This API is not supported for FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **all-operations** | | boolean optional | If this is "true", both active and queued sis operation will be stopped. Default value: "false" |
| **path** | | string | The full path of the sis volume, /vol/<vol_name>. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_EINVAL** | |
| **EAPIERROR** | |
| **EVOLUMENOTONLINE** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |

| | |
|---|---|
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_OLV_FG_EFFICIENCY_OP_FAILED** | |

| Vfiler-enabled |
|---|
| Yes |

## sis-stop-async

[top]

Abort currently active sis operation on the FlexGroup or Infinite Volume. The sis operation will remain paused and the operation can be resumed by "sis-start-async" or the scheduler.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **all-operations** | | boolean optional | If this is "true", both active and queued sis operation will be stopped. Default value: "false" |
| **volume-name** | | string | The name of the volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values:<br>• "succeeded",<br>• "in_progress",<br>• "failed" |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_EINVAL** | |
| **EAPIERROR** | |
| **EVOLUMENOTONLINE** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_OLV_FG_EFFICIENCY_OP_FAILED** | |

## Element definition: **dense-status**

[top]

| Name | Range | Type | Description |
|---|---|---|---|
| **application-io-size** | | string optional | Specifies the application IO size used by compression. Possible values: "8K", "16K", "32K", "auto". Attributes: non-creatable, non-modifiable. |
| **auto-state** | | string | Possible values:<br>• "Not auto" - Auto is not enabled,<br>• "Auto" - Auto policy is enabled,<br>• "Deprioritized" - Volume is deprioritized |
| **blocks-skipped-sharing** | **[0..2^32-1]** | integer optional | Number of blocks not considered for sharing because contiguous duplicate blocks were less than the value set for minimum-blocks-shared. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **changelog-used-percent** | **[0..2^32-1]** | integer optional | Percentage of changelog used. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **checkpoint-op-type** | | string optional | Checkpoint Operation Type. Possible values:<br>• "-",<br>• "Scan",<br>• "Start",<br>• "Check",<br>• "Undo",<br>• "Downgrade"<br><br>Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes. |
| **checkpoint-progress** | | string optional | Checkpoint Stage Progress with information as to which stage of sis is checkpointed and how much data is processed for that stage. For example: 25 MB Scanned, 20 MB Searched, 40 MB (20%) Done, 30 MB Verified. Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes. |
| **checkpoint-stage** | | string optional | Checkpoint Stage information. Possible values:<br>• "-",<br>• "Gathering",<br>• "Sorting",<br>• "Saving_pass1",<br>• "Saving_pass2",<br>• "Checking",<br>• "Checking_pass1",<br>• "Checking_pass2",<br>• "Compress_preproc",<br>• "Compressing",<br>• "Saving_sharing",<br>• "Saving_end",<br>• "Unknown_stage"<br><br>Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes. |
| | | | Checkpoint Sub Stage information. Possible values:<br>• "-",<br>• "Sort_pass1",<br>• "Sort_p1merge", |

| | | | |
|---|---|---|---|
| **checkpoint-sub-stage** | | string optional | "Sort_pass2",<br>• "Bucket_sort_init",<br>• "Bucket_sort",<br>• "Bucket_sort_done"<br><br>Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes. |
| **checkpoint-time** | **[0..2^63-1]** | integer optional | Checkpoint creation timestamp. The value is in seconds since January 1, 1970. Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes. |
| **compression-algorithm** | | string optional | Specifies the algorithm used for compression. Possible values:<br><br>• 0 - none<br>• 1 - lzopro<br>• 2 - gzip 3 - lzrw1a<br><br>Attributes: non-creatable, non-modifiable. |
| **compression-type** | | string optional | Specifies the compression type on the volume. Possible values: "adaptive", "secondary". Attributes: non-creatable, non-modifiable. |
| **has-cross-volume-sharing** | | boolean optional | Volume has cross volume sharing Attributes: non-creatable, non-modifiable |
| **has-extended-compressed-data** | | boolean optional | Specifies whether the volume has extended compressed data. Attributes: non-creatable, non-modifiable |
| **is-compression-enabled** | | boolean optional | compression state of the volume Attributes: non-creatable, non-modifiable |
| **is-content-available** | | boolean | This indicates if the value of other elements in this dense-status object are valid. Attributes: non-creatable, non-modifiable This parameter is not supported on Infinite Volumes.<br><br>A "true" value for this field indicates a normal case when everything went fine while fetching the status values for this volume. All values returned are valid. A "false" value for this field indicates something went wrong while fetching the status values for this volume. Not all values returned are valid. The volume returned may not be a sis volume. |
| **is-cross-volume-background-dedupe-enabled** | | boolean optional | Cross volume background deduplication state of the volume Attributes: non-creatable, non-modifiable |
| **is-cross-volume-inline-dedupe-enabled** | | boolean optional | Cross volume inline deduplication state of the volume Attributes: non-creatable, non-modifiable |
| **is-data-compaction-enabled** | | boolean optional | Data compaction state of the volume Attributes: non-creatable, non-modifiable |
| | | | This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Indicates incompressible data detection is enabled. Possible values: |

| | | | |
|---|---|---|---|
| **is-idd-enabled** | | boolean optional | "true",<br>• "false"<br><br>Once this set to 'true', inline compression will do a 4k compression quick check for large files before proceeding with full CG compression. If quick check finds a 4k within a CG as incompressible, inline compression won't attempt to compress the CG. Also indicates file level incompressible data detection is enabled for small files. Once this is enabled, when inline compression encounters a incompressible CG within a small file, it will mark the file with do not compress flag. As long as this flag is set on a small file, inline compression won't attempt to compress the file. This parameter is not supported on Infinite Volumes. |
| **is-inline-compression-enabled** | | boolean optional | inline compression state of the volume Attributes: non-creatable, non-modifiable |
| **is-inline-dedupe-enabled** | | boolean optional | Inline deduplication state of the volume Attributes: non-creatable, non-modifiable |
| **last-operation-begin-timestamp** | **[0..2^31-1]** | integer optional | Start timestamp of the last sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **last-operation-end-timestamp** | **[0..2^31-1]** | integer optional | End timestamp of the last sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **last-operation-error** | | string optional | A human readable error message of the last sis operation. Present when there was an error. Returned only if verbose option is set. and when there is a valid error. This parameter is not supported on Infinite Volumes. |
| **last-operation-size** | | string optional | The size of the last sis operation in human readable format. This output element is deprecated in Data ONTAP 8.1. Please use the last-operation-size-bytes output element instead. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **last-operation-size-bytes** | **[0..2^63-1]** | integer optional | The size in bytes of the last sis operation. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **last-operation-state** | | string optional | Completion status for the last operation. Possible values:<br><br>• "success",<br>• "failure"<br><br>Returned only if verbose option is set and when there is last completed operation. This parameter is not supported on Infinite Volumes. |
| **last-success-operation-begin-timestamp** | **[0..2^31-1]** | integer optional | Start timestamp of the last successful sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set and when there is last successfully completed operation. This parameter is not supported on Infinite Volumes. |
| **last-success-operation-end-timestamp** | **[0..2^31-1]** | integer optional | End timestamp of the last successful sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set and when there is last successfully completed operation. This parameter is not supported on Infinite Volumes. |
| **logical-data** | | sis-logical-data | This contains logical size attributes of a volume. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |

| | | | |
|---|---|---|---|
| | | optional | |
| **minimum-blocks-shared** | **[0..2^32-1]** | integer optional | The minimum number of contiguous blocks in a file that will be considered for block sharing. If the number of contiguous duplicate blocks is less than this number, then they won't be considered for sharing. Returned only if verbose option is set. |
| **path** | | string | Volume for which sis information is returned. |
| **policy** | | string optional | sis policy name. Returned only if verbose option is set. |
| **progress** | | string | The progress of the current sis operation with information as to which stage is currently in progress and how much data is processed for that stage. For example: 25 MB Scanned, 20 MB Searched, 40 MB (20%) Done, 30 MB Verified. This parameter is not supported on Infinite Volumes. |
| **queued-job-type** | | string optional | Type of sis operation that is queued for the volume. Possible values:<br>• "-" - No sis operation is queued for the volume,<br>• "Scan",<br>• "Start",<br>• "Check",<br>• "Downgrade"<br><br>Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **quick-check-fsize** | **[0..2^64-1]** | integer optional | This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Quick check file size for Incompressible Data Detection. If Incompressible data detection is enabled and if the file size is >= quick-check-fsize, inline compression will do a 4k quick check before doing full CG compression. This parameter is not supported on Infinite Volumes. |
| **schedule** | | string optional | The schedule for sis operation on the volume. See sis-set-config for the format of the schedule. Returned only if verbose option is set. |
| **stale-fingerprint-percentage** | **[0..2^32-1]** | integer optional | Percentage of fingerprints that are stale in the fingerprint database. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **state** | | string | Possible values:<br>• "Enabled",<br>• "Disabled",<br>• "Mixed" -For FlexGroups, if sis is not Enabled or Disabled consistently across all constituents. |
| **status** | | string | Possible values:<br>• "Idle" - No sis operations are happening on this volume,<br>• "Initializing" - sis operation is being initialized,<br>• "Active" - sis operation is active on the volume,<br>• "Undoing" - sis is being undone on the volume,<br>• "Pending" - sis operations are scheduled for the volume,<br>• "Downgrading" - The sis operation necessary to downgrade the volume is active,<br>• "Disabled" - sis operation is disabled on the volume.<br><br>This parameter is not supported on Infinite Volumes. |
| **type** | | string optional | Possible values:<br>• "Regular",<br>• "SnapVault"<br><br>Any sis volume with Snapvault qtree in it would be marked as |

| | | | |
|---|---|---|---|
| | | | Snapvault and all others would be returned as type Regular. Returned only if verbose option is set. |
| **vserver** | | vserver-name optional | Vserver Name |

# Element definition: **sis-policy-info**

[top]

sis-policy-info typedef When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **changelog-threshold-percent** | **[0..100]** | integer optional | Percentage at which the changelog will be processed for a threshold type of policy, tested once each hour. Attributes: optional-for-create, modifiable |
| **comment** | | string optional | A brief description of the policy. Attributes: optional-for-create, modifiable |
| **duration** | | string optional | The duration in hours for which the scheduled sis operation should run. After this time expires, the sis operation will be stopped even if the operation is incomplete. If there is no duration set on the volume, the operation will run till it completes. Attributes: optional-for-create, modifiable |
| **enabled** | | boolean optional | If the value is true, the sis policy is active and sis operations will be triggered on the volume on the specified schedule. If the value is false, the sis policy will be inactive and sis operations will not be triggered on the volume on the specified schedule. Attributes: optional-for-create, modifiable |
| **policy-name** | | string optional | sis policy name. Attributes: key, required-for-create, non-modifiable |
| **policy-owner** | | string optional | Owner of the policy. Possible values:<br>• "cluster_admin" - Policy is owned by the cluster admin. This policy can be applied to volumes owned by any Vserver.<br>• "vserver_admin" - Policy is owned by the Vserver admin. This policy can only be applied to volumes owned by the same Vserver. |
| **policy-type** | | string optional | The policy type reflects the reason a volume using this policy will start processing a changelog. (Changelog processing is identifying and eliminating duplicate blocks which were written since the changelog was last processed.)<br>• "threshold" - Changelog processing occurs once the changelog reaches a certain percent full.<br>• "scheduled" - Clog processing will be triggered by time.<br>•<br>Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **qos-policy** | | string optional | QoS policy for the sis operation. Possible values:<br>• "background" - sis operation will run in background, with minimal or no impact on data aserving client operations,<br>• "best-effort" - sis operations may have some impact on data serving client operations.<br><br>Attributes: optional-for-create, modifiable |
| **schedule** | | string optional | Cron type job schedule name. When the associated policy is set on a volume, the sis operation will be triggered for the volume on this schedule. These schedules can be created using the job-schedule-cron-create API. Existing schedules can be queried using the job-schedule-cron-get-iter API. Attributes: required-for-create, modifiable |
| **vserver** | | vserver-name optional | Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **sis-status-info**

[top]

When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **application-io-size** | | string optional | Specifies the application IO size used by compression. Possible values: "8K", "16K", "32K", "auto". Attributes: non-creatable, non-modifiable. |
| **auto-state** | | string optional | Possible values:<br>• "Not auto" - Auto is not enabled,<br>• "Auto" - Auto policy is enabled,<br>• "Deprioritized" - Volume is deprioritized |
| **blocks-skipped-sharing** | **[0..2^32-1]** | integer optional | Number of blocks not considered for sharing because contiguous duplicate blocks were less than the value set for minimum-blocks-shared. This parameter is not supported on Infinite Volumes. |
| **changelog-size** | **[0..2^64-1]** | integer optional | Size of changelog in bytes. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **changelog-used-percent** | **[0..2^32-1]** | integer optional | Percentage of changelog used. This parameter is not supported on Infinite Volumes. |
| **checkpoint-op-type** | | sis-checkpoint-op-type optional | Checkpoint operation Type. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable Possible values:<br>• "Scan" - Scanning volume for fingerprints,<br>• "Start" - Starting a sis operation,<br>• "Check" - Checking for stale data in the fingerprint database, |

| | | | |
|---|---|---|---|
| | | | "Undo" - Undoing sis on the volume,<br>• "Downgrade" - Downgrading sis metafiles to a previous Data ONTAP release. |
| **checkpoint-progress** | | string optional | Checkpoint Stage Progress with information as to which stage of deduplication is checkpointed and how much data is processed for that stage. For ex: 25 MB Scanned, 20 MB Searched, 40 MB (20%) Done, 30 MB Verified. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable |
| **checkpoint-stage** | | sis-checkpoint-stage optional | Checkpoint stage information. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable Possible values:<br>• "Gathering" - Scanning the volume for fingerprints,<br>• "Sorting" - Sorting the gathered fingerprints,<br>• "Compress_preproc" - Preprocessing volume data for compression,<br>• "Compressing" - Compressing the volume data,<br>• "Saving_pass1" - Creating duplicate list from the newly gathered fingerprints,<br>• "Saving_pass2" - Creating duplicate list from the fingerprint database,<br>• "Saving_sharing" - Creating shared data structures in the volume,<br>• "Saving_end" - Completing sis operations,<br>• "Checking_pass0" - Organizing data in the fingerprint database for block sharing,<br>• "Checking_pass1" - Organizing data in the fingerprint database for block sharing,<br>• "Checking_pass2" - Organizing data in the fingerprint database for block sharing,<br>• "Unknown_stage" - Invalid stage |
| **checkpoint-sub-stage** | | sis-checkpoint-substage optional | Checkpoint sub-stage information. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable Possible values:<br>• "-" - No sub stage check point present,<br>• "Sort_pass1" - Sorting the fingerprints for deduplication,<br>• "Sort_p1merge" - Merging the fingerprints for deduplication,<br>• "Sort_pass2" - Merging the fingerprints for deduplication,<br>• "Bucket_sort_init" - Sorting the fingerprints for deduplication,<br>• "Bucket_sort" - Sorting the fingerprints for deduplication,<br>• "Bucket_sort_done" - Sorting the fingerprints for deduplication completed |
| **checkpoint-time** | **[0..2^63-1]** | integer optional | Checkpoint creation timestamp. The value is in seconds since January 1, 1970. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable |
| **compression-algorithm** | | string optional | Specifies the algorithm used for compression. Possible values:<br>• 0 - none<br>• 1 - lzopro<br>• 2 - gzip<br>• 3 - lzrw1a<br>Attributes: non-creatable, non-modifiable. |
| **compression-** | **[0..2^64-** | integer | Size of compression log in bytes. Returned only if verbose option |

| | | | |
|---|---|---|---|
| **changelog-size** | **1]** | optional | is set. This parameter is not supported on Infinite Volumes. |
| **compression-type** | | string optional | Specifies the compression type on the volume. Possible values: "adaptive", "secondary". Attributes: non-creatable, non-modifiable. |
| **file-compression-application-io-size** | | string optional | Specifies the last application IO size used by compression. Possible values: "8K", "16K", "32K", "-". Attributes: non-creatable, non-modifiable. |
| **has-auto-adaptive-compression-savings** | | boolean optional | Volume has auto adaptive compression savings Attributes: non-creatable, non-modifiable |
| **has-extended-compressed-data** | | boolean optional | Specifies whether the volume has extended compressed data. Attributes: non-creatable, non-modifiable |
| **is-auto-adaptive-compression-existing-volume** | | boolean optional | Auto adaptive compression state of already existing volume Attributes: non-creatable, non-modifiable |
| **is-compression-enabled** | | boolean optional | Compression state of the volume Attributes: non-creatable, modifiable |
| **is-constituent** | | boolean optional | True implies that the volume is a constituent of an Infinite Volume. |
| **is-content-available** | | boolean optional | When returned as part of the output, this indicates if the value of other elements in this sis-info object are valid. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable<br><br>A "true" value for this field indicates a normal case when everything went fine while fetching the status values for this volume. All values returned are valid. A "false" value for this field indicates something went wrong while fetching the status values for this volume. Not all values returned are valid. The volume returned may not be a sis volume. Default: true |
| **is-cross-volume-background-dedupe-enabled** | | boolean optional | Cross volume background deduplication state of the volume Attributes: non-creatable, non-modifiable |
| **is-cross-volume-inline-dedupe-enabled** | | boolean optional | Cross volume Inline deduplication state of the volume Attributes: non-creatable, non-modifiable |
| **is-data-compaction-enabled** | | boolean optional | Data compaction state of the volume Attributes: non-creatable, non-modifiable |
| | | | This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Indicates incompressible data detection is enabled. Possible values:<br><br>• "true",<br>• "false" |

| | | | |
|---|---|---|---|
| **is-idd-enabled** | | boolean optional | Once this set to 'true', inline compression will do a 4k compression quick check for large files before proceeding with full CG compression. If quick check finds a 4k within a CG as incompressible, inline compression won't attempt to compress the CG. Also indicates file level incompressible data detection is enabled for small files. Once this is enabled, when inline compression encounters a incompressible CG within a small file, it will mark the file with do not compress flag. As long as this flag is set on a small file, inline compression won't attempt to compress the file. This parameter is not supported on Infinite Volumes. |
| **is-inline-compression-enabled** | | boolean optional | Inline compression state of the volume Attributes: non-creatable, modifiable |
| **is-inline-dedupe-enabled** | | boolean optional | Inline deduplication state of the volume Attributes: non-creatable, non-modifiable |
| **is-using-auto-adaptive-compression** | | boolean optional | Auto adaptive compression state of volume Attributes: non-creatable, non-modifiable |
| **last-op-begin-timestamp** | **[0..2^63-1]** | integer optional | Start timestamp of the last sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is requested. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable |
| **last-op-end-timestamp** | **[0..2^63-1]** | integer optional | End timestamp of the last sis operation. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable |
| **last-op-error** | | string optional | A human readable error message of the last sis operation. Present when there was an error. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable |
| **last-op-size** | | size optional | The amount of data processed in bytes for the last sis operation. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable |
| **last-op-state** | | string optional | Completion status for the last operation. Possible values:<br>• "success",<br>• "failure"<br><br>Returned only if verbose option is set and when there is last completed operation. This parameter is not supported on Infinite Volumes. |
| **last-success-op-begin-timestamp** | **[0..2^31-1]** | integer optional | Start timestamp of the last successful sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set and when there is last successfully completed operation. This parameter is not supported on Infinite Volumes. |
| **last-success-op-end-timestamp** | **[0..2^31-1]** | integer optional | End timestamp of the last successful sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set and when there is last successfully completed operation. This parameter is not supported on Infinite Volumes. |
| **logical-data-limit** | **[0..2^63-1]** | integer optional | Dedupe logical data limit in bytes. This parameter is not supported on Infinite Volumes. |
| **logical-data-size** | **[0..2^63-1]** | integer optional | The size of logical data in the volume in bytes. This is calculated as [size-saved + size-used + + compressed-data bytes]. This parameter is not supported on Infinite Volumes. |
| **minimum-** | | | The minimum number of contiguous blocks in a file that will be |

| | | | |
|---|---|---|---|
| **blocks-shared** | **[0..2^32-1]** | integer optional | considered for block sharing. If the number of contiguous duplicate blocks is less than this number, then they won't be considered for sharing. |
| **path** | | volume-path optional | Volume for which sis information is returned. Path is of the format /vol/<vol_name>. Attributes: key, non-creatable, non-modifiable |
| **policy** | | string optional | sis policy name. Attributes: non-creatable, modifiable |
| **progress** | | string optional | The progress of the current sis operation with information as to which stage of sis process is currently in progress and how much data is processed for that stage. For ex: 25 MB Scanned, 20 MB Searched, 40 MB (20%) Done, 30 MB Verified. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable |
| **queued-job-type** | | string optional | Type of sis operation that is queued for the volume. Possible values:<br>• "-" - No sis operation is queued for the volume,<br>• "Scan",<br>• "Start",<br>• "Check",<br>• "Downgrade"<br><br>This parameter is not supported on Infinite Volumes. |
| **quick-check-fsize** | **[0..2^64-1]** | integer optional | This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Quick check file size for Incompressible Data Detection. If Incompressible data detection is enabled and if the file size is >= quick-check-fsize, inline compression will do a 4k quick check before doing full CG compression. This parameter is not supported on Infinite Volumes. |
| **schedule** | | string optional | The schedule for sis operation on the volume. See sis-set-config for the format of the schedule. Attributes: non-creatable, modifiable |
| **stale-fingerprint-percentage** | **[0..2^32-1]** | integer optional | Percentage of fingerprints that are stale in the fingerprint database. This parameter is not supported on Infinite Volumes. |
| **state** | | sis-state optional | State of sis configured on the volume. Attributes: non-creatable, non-modifiable Possible values:<br>• "Disabled",<br>• "Enabled" |
| **status** | | sis-op-status optional | Status of any sis operation running on the volume. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable Possible values:<br>• "Idle" - No sis operations are happening on this volume,<br>• "Initializing" - sis operation is being initialized,<br>• "Active" - sis operation is active on the volume,<br>• "Undoing" - sis is being undone on the volume,<br>• "Pending" - sis operations are scheduled for the volume,<br>• "Downgrading" - The sis operation necessary to downgrade the volume is active,<br>• "Disabled" - sis operation is disabled on the volume. |
| **storage-efficiency-mode** | | string optional | Storage efficiency mode of the volume Possible values: "default", "efficienct", "-". Attributes: non-creatable, non-modifiable. |
| | | | Any sis volume with Snapvault qtree in it would be marked as |

| | | | |
|---|---|---|---|
| **type** | | sis-type optional | Snapvault and all others would be returned as type Regular. Attributes: non-creatable, non-modifiable Possible values:<br>• "Regular" ,<br>• "Snapvault" |
| **vault-transfer-log-size** | **[0..2^64-1]** | integer optional | Size of vault transfer log in bytes. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **vserver** | | vserver-name optional | A string identifying the Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **volume-path**

[top]

Volume path name

[none]

# Element definition: **sis-checkpoint-op-type**

[top]

sis checkpoint type Possible values:

- "Scan" - Scanning volume for fingerprints,
- "Start" - Starting a sis operation,
- "Check" - Checking for stale data in the fingerprint database,
- "Undo" - Undoing sis on the volume,
- "Downgrade" - Downgrading sis metafiles to a previous Data ONTAP release.

[none]

# Element definition: **sis-checkpoint-stage**

[top]

sis checkpoint stage Possible values:

- "Gathering" - Scanning the volume for fingerprints,
- "Sorting" - Sorting the gathered fingerprints,
- "Compress_preproc" - Preprocessing volume data for compression,
- "Compressing" - Compressing the volume data,
- "Saving_pass1" - Creating duplicate list from the newly gathered fingerprints,
- "Saving_pass2" - Creating duplicate list from the fingerprint database,
- "Saving_sharing" - Creating shared data structures in the volume,
- "Saving_end" - Completing sis operations,
- "Checking_pass0" - Organizing data in the fingerprint database for block sharing,
- "Checking_pass1" - Organizing data in the fingerprint database for block sharing,
- "Checking_pass2" - Organizing data in the fingerprint database for block sharing,
- "Unknown_stage" - Invalid stage

[none]

## Element definition: **sis-checkpoint-substage** [top]

sis checkpoint sub-stage Possible values:

- "Sort_pass2" - Sorting the fingerprints for deduplication

[none]

## Element definition: **sis-logical-data** [top]

This contains logical size attributes of a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **logical-data-limit** | **[0..2^63-1]** | integer | Dedupe logical data limit in bytes. This parameter is not supported on Infinite Volumes. |
| **logical-data-size** | **[0..2^63-1]** | integer | The size of logical data in the volume in bytes. This is calculated as [size-saved + size-used + compressed-data bytes]. This parameter is not supported on Infinite Volumes. |

## Element definition: **sis-op-status** [top]

Efficiency status Possible values:

- "idle" - No storage efficiency operations are happening on this volume,
- "initializing" - The storage efficiency operation is being initialized,
- "active" - The storage efficiency operation is active on the volume,
- "undoing" - The storage efficiency is being undone on the volume,
- "pending" - The storage efficiency operation is scheduled for the volume,
- "downgrading" - Storage efficiency actions necessary to downgrade the volume are being carried out,
- "disabled" - Storage efficiency disabled on the volume

[none]

## Element definition: **sis-state** [top]

Disabled|Enabled|Mixed Possible values:

- "disabled" ,
- "enabled" ,

- "mixed" - For FlexGroups, if SIS is not enabled or disabled consistently across all constituents,
- "custom" - Only supported on FSx for ONTAP and Cloud Volumes ONTAP, denotes user-defined efficiency features are enabled

[none]

## Element definition: **sis-type**

[top]

Regular|SnapVault Possible values:

- "regular" ,
- "snapvault"

[none]

## Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **snapdiff**


snapdiff-rpc-server-create
snapdiff-rpc-server-destroy
snapdiff-rpc-server-disable
snapdiff-rpc-server-enable
snapdiff-rpc-server-get
snapdiff-rpc-server-get-create-defaults
snapdiff-rpc-server-get-iter
snapdiff-rpc-server-modify


This set of functions is used to retrieve the set of changed files and directory entries between two snapshots for the same volume. The difference operation will scan the two snapshots and return a list of files and directory entries that have changed since the base snapshot. It will indicate files created, modified, or deleted. The basic sequence is:

1. snapdiff-iter-start
2. snapdiff-iter-status (repeated until session status is in active state)
3. snapdiff-iter-next (repeated until 100% of changes are retrieved or an error is returned. snapdiff-iter-end is the next function expected from the client when either of these conditions occur.)
4. snapdiff-iter-end

Snapdiff APIs require the volume to have Inode to Path(I2P) option turned on.

## snapdiff-rpc-server-create

[top]

Create a new SnapDiff RPC Server configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **return-record** | | boolean optional | If set to true, returns the SnapDiff RPC Server on successful creation. Default: false |
| **state** | | boolean | Specifies whether the SnapDiff RPC Server is enabled on a Vserver. Default: true. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | sd-info optional | The SnapDiff RPC Server created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

## snapdiff-rpc-server-destroy

[top]

Delete an SnapDiff RPC Server configuration.

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# snapdiff-rpc-server-disable

[top]

Stop the SnapDiff RPC Server

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapdiff-rpc-server-enable

[top]

Start the SnapDiff RPC Server

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapdiff-rpc-server-get

[top]

Get the SnapDiff RPC Server configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | sd-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | sd-info | The attributes of the SnapDiff RPC Server. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# snapdiff-rpc-server-get-create-defaults

[top]

Obtain the default values for SnapDiff RPC Server configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | sd-info optional | Optionally specify the value for attributes if available. The default values for some attributes may depend on the values specified for some other attribute. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **defaults** | | sd-info | The default attributes for the SnapDiff RPC Server. |

# snapdiff-rpc-server-get-iter

[top]

Iterate over the list of SnapDiff RPC Server configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | sd-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | sd-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the SnapDiff RPC Server object. All SnapDiff RPC Server objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | sd-info[] optional | The list of attributes of SnapDiff RPC Server objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more SnapDiff RPC Server objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapdiff-rpc-server-modify

[top]

Modify an SnapDiff RPC Server configuration. If no values are given, the configuration is not modified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **state** | | boolean optional | Specifies whether the SnapDiff RPC Server is enabled on a Vserver. Default: true. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# Element definition: **sd-info**

[top]

Information about SnapDiff RPC Server configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **state** | | boolean<br>optional | Specifies whether the SnapDiff RPC Server is enabled on a Vserver. Default: true. Attributes: required-for-create, modifiable |
| **vserver** | | string<br>optional | Specifies the name of the Vserver Attributes: key, non-creatable, non-modifiable |

# APIs in Category: **snaplock**


file-get-snaplock-retention-time
file-get-snaplock-retention-time-list-info-max
file-set-snaplock-retention-time
file-snaplock-retention-time-list-info
snaplock-archive-vserver-log
snaplock-create-vserver-log
snaplock-destroy-vserver-log
snaplock-download-check-version
snaplock-event-retention-abort
snaplock-event-retention-apply-start
snaplock-event-retention-get-iter
snaplock-event-retention-policy-create
snaplock-event-retention-policy-destroy
snaplock-event-retention-policy-get-iter
snaplock-event-retention-policy-modify
snaplock-file-privileged-delete
snaplock-get-clock-ntp-sync
snaplock-get-compliance-clock
snaplock-get-file-retention
snaplock-get-node-compliance-clock
snaplock-get-system-compliance-clock
snaplock-get-volume-compliance-clock
snaplock-get-vserver-active-log-files-iter
snaplock-get-vserver-log-iter
snaplock-legal-hold-abort
snaplock-legal-hold-begin-start
snaplock-legal-hold-dump-files-start
snaplock-legal-hold-dump-litigations-start
snaplock-legal-hold-end-start
snaplock-legal-hold-get-iter
snaplock-modify-clock-ntp-sync
snaplock-modify-vserver-log
snaplock-set-file-retention
snaplock-set-node-compliance-clock
snaplock-set-system-compliance-clock
snaplock-volume-set-privileged-delete
volume-get-snaplock-attrs
volume-set-snaplock-attrs


## file-get-snaplock-retention-time

[top]

Get the SnapLock retention attributes of a file.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Absolute path of the file to query. The value must be prefixed with |

| | | | |
|---|---|---|---|
| | | | "/vol/". |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **retention-time** | | integer | Retention time in seconds since 01/01/1970 00:00:00. A zero value indicates that the file is not in WORM state. Range: [0..2^64-1] |

| Errno | Description |
|---|---|
| **EONTAPI_ENXIO** | |
| **EONTAPI_EIO** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EVOLUMEOFFLINE** | |
| **EFILENOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEQUIESCED** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# file-get-snaplock-retention-time-list-info-max

[top]

Get the maximum number of entries that can be processed and returned in one call to the zapi file-snaplock-retention-time-list-info.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **max-list-entries** | | integer | The maximum number of pathnames that can be processed in one call to file-snaplock-retention-time-list-info. This limit is imposed to prevent taking up too much CPU/memory for a ZAPI call. If the number of input pathnames for file-snaplock-retention-time-list-info is more than this number, it returns the error EAPITOOMANYENTRIES. Range: [0..2^64-1] |

| Vfiler-enabled |
|---|
| **Yes** |

# file-set-snaplock-retention-time

[top]

Set the SnapLock retention attributes of a file. In some cases, even if the call to file-set-snaplock-retention-time fails (that is the file could not be committed to worm successfully), it is possible that the atime of the file would be modified. One can specify either only retention-time or only set-infinite-retention or only set-unspecified-retention for a given file path while calling this api. If neither the retention-time nor set-infinite-retention is specified, the file is committed to worm as read-only. If the expiry time of the file has been set explicitly, the expiry time is the atime of the file, otherwise the expiry time is calculated using the default retention of the volume as follows: Expiry time = current time + snaplock_default_period

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Absolute path of the file. The value must be prefixed with "/vol/<volume-name>". |
| **retention-time** | **[0..2^63-1]** | integer optional | Expiry time in seconds since 01-Jan-1970 00:00:00 at which time the file will be eligible for deletion. If the expiry time specified does not comply with the snaplock_minimum_period and snaplock_maximum_period of the volume, the expiry time will be increased or decreased to do so. |
| **set-infinite-retention** | | boolean optional | Indicates if the retention period on the file needs to be set or extended to the infinite retention period. This field is available in Data ONTAP 8.1 and later. Default is false. |
| **set-unspecified-retention** | | boolean optional | Indicates if the retention period on the file needs to be set to the 'unspecified' retention period. This field is available in Data ONTAP 9.8 and later. Default is false. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_ERANGE** | |
| **EONTAPI_ENXIO** | |
| **EONTAPI_EIO** | |
| **EVOLUMEOFFLINE** | |
| **EFILENOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEQUIESCED** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# file-snaplock-retention-time-list-info

[top]

Get the Snaplock retention attributes for a list of files.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **pathnames** | | snaplock-pathname-info[] | List of pathnames to query. The function returns the file-retention-information for each of these pathnames. If this ZAPI function is called without any input parameter, the error EAPIMISSINGARGUMENT is returned If number of input pathnames exceeds max-list-entries an error of EAPITOOMANYENTRIES is returned. The value of max-list-entries can be retrieved using the zapi call file-get-snaplock-retention-time-list-info-max. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **file-retention-details** | | file-retention-info[] | information about retention period for each file in the list |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |

| EAPITOOMANYENTRIES | |
|---|---|

| Vfiler-enabled |
|---|
| Yes |

# snaplock-archive-vserver-log

[top]

Archive the active worm log file. This will close the current log file for furthur updates and it will open a new log file to write future log updates A job will be spawned to operate on the snaplock and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **base-name** | | string optional | Base Name of Log File |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EOFFLINE** | |
| **E_AUDIT_LOG_NOT_CONFIGURED** | |

# snaplock-create-vserver-log

[top]

Create audit log configuration for a Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **default-retention-period** | | snaplock-minmax-period optional | Specifies the allowed minimum retention period for SnapLock log files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in <number> <suffix>' format. Valid values of the suffix are :<br>• 'seconds'<br>• 'minutes'<br>• 'hours'<br>• 'days'<br>• 'months' |

| | | | |
|---|---|---|---|
| | | | • 'years'<br><br>For example, a value if **6months** represents a retention period of 6 months. |
| **max-log-size** | | size<br>optional | Max log file size (in bytes). |
| **volume** | | volume-name | Log Volume Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | snaplock-vserver-log-config<br>optional | The snaplock created (keys or the entire object if requested) |
| **result-error-code** | **[0..2^32-1]** | integer<br>optional | Error code, if the operation caused an error. |
| **result-error-message** | | string<br>optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer<br>optional | The ID of the job that was spawned to create this snaplock. |
| **result-status** | | string<br>optional | The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EOFFLINE** | |
| **E_AUDIT_LOG_ALREADY_CONFIGURED** | |
| **E_AUDIT_LOG_VOL_NOT_SLC** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **SnapLock** |

# snaplock-destroy-vserver-log

[top]

Delete audit log configuration for a Vserver.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EOFFLINE** | |

| |
|---|
| **E_AUDIT_LOG_ALREADY_CONFIGURED** |
| **EVSERVER_LOCKED_FOR_BASELINE** |
| **EVSERVER_OPERATION_NOT_PERMITTED** |

| **License** |
|---|
| **SnapLock** |

# snaplock-download-check-version

[top]

Check version being downloaded for snaplock compliance.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **version** | | string | The version of the kernel being installed |

# snaplock-event-retention-abort

[top]

The snaplock-event-retention-abort API can be used to abort an ongoing Event Based Retention operation. This API only aborts operations that have started and not finished. The operation ID of the operation must be specified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **operation-id** | **[0..2^32-1]** | integer | Operation ID of SnapLock Event Based Retention operation to be aborted. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |

# snaplock-event-retention-apply-start

[top]

The snaplock-event-retention-apply-start API can be used to apply an Event Based Retention policy to files present under the specified path. Use the snaplock-event-retention-show API to display the status of the operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the form '/' relative to output volume root. The Event Based Retention policy will be applied to all files under the path. |
| **policy-name** | | string | Name of the SnapLock Event Based Retention policy. |
| **volume** | | string | Name of the SnapLock Volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | **[0..2^32-1]** | integer | Operation ID of the SnapLock Event Based Retention operation. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |

# snaplock-event-retention-get-iter

[top]

This API can be used to display the status of an Event Based Retention operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snaplock-event-retention-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snaplock-event-retention-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock object. All snaplock objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snaplock-event-retention-info[] optional | The list of attributes of snaplock objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snaplock objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EONTAPI_ENOENT** | |

| | |
|---|---|
| **EONTAPI_EINVAL** | |

# snaplock-event-retention-policy-create

[top]

Create SnapLock Event Based Retention policies.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the SnapLock Event Based Retention policy. |
| **retention-period** | | snaplock-minmax-period | Retention period of the SnapLock Event Based Retention policy. |
| **return-record** | | boolean optional | If set to true, returns the snaplock-event-retention-policy on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | snaplock-event-retention-policy-info optional | The snaplock-event-retention-policy created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EDUPLICATEENTRY** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# snaplock-event-retention-policy-destroy

[top]

Delete SnapLock Event Based Retention policies.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the SnapLock Event Based Retention policy. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# snaplock-event-retention-policy-get-iter

[top]

Get SnapLock Event Based Retention policies.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snaplock-event-retention-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snaplock-event-retention-policy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock-event-retention-policy object. All snaplock-event-retention-policy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snaplock-event-retention-policy-info[] optional | The list of attributes of snaplock-event-retention-policy objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snaplock-event-retention-policy objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snaplock-event-retention-policy-modify

[top]

Modify SnapLock Event Based Retention policies.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the SnapLock Event Based Retention policy. |
| **retention-period** | | snaplock-minmax-period optional | Retention period of the SnapLock Event Based Retention policy. |

| Errno | Description |
|---|---|
| | |

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# snaplock-file-privileged-delete

[top]

Executes a privileged delete on a SnapLock file A job will be spawned to operate on the snaplock and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **file** | | string | Full path of the file that needs to be deleted |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EONTAPI_ENXIO** | |
| **EONTAPI_EIO** | |
| **EONTAPI_EINVAL** | |
| **EINTERNALERROR** | |
| **EAPIERROR** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EOFFLINE** | |
| **EONTAPI_ENOMEM** | |
| **EOPNOTSUPPORTED** | |
| **EONTAPI_EPERM** | |
| **EONTAPI_EACCES** | |
| **EONTAPI_EWORMNOCLOCK** | |

# snaplock-get-clock-ntp-sync

[top]

Display the NTP sync option setting.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snaplock-clock-ntp-sync optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snaplock-clock-ntp-sync | The attributes of the snaplock. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snaplock-get-compliance-clock

[top]

Older API to get the system complaince Clock time. Now depricated. Use snaplock-get-system-compliance-clock and snaplock-get-volume-compliance-clock.

| Errno | Description |
|---|---|
| **EAPINOTIMPLEMENTED** | |

# snaplock-get-file-retention

[top]

Get retention time of a file protected by SnapLock.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snaplock-file-retention-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **file** | | string | Specifies the absolute path of the file. The value begins with /vol/. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snaplock-file-retention-info | The attributes of the snaplock. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# snaplock-get-node-compliance-clock

[top]

Get the SnapLock Node ComplianceClock date and time.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Name of the node on which the ComplianceClock needs to be fetched. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snaplock-node-compliance-clock** | | compliance-clock-info | Node ComplianceClock |

| Errno | Description |
|---|---|
| **ESNAPLOCKNOTLICENSED** | |
| **ECOMPLIANCECLOCKNOTSET** | |

# snaplock-get-system-compliance-clock

[top]

Get the SnapLock System Compliance Clock date and time.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **system-compliance-clock** | | compliance-clock-info | System Compliance Clock. |

| Errno | Description |
|---|---|
| **EONTAPI_EWORMVOLNOTWORM** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snaplock-get-volume-compliance-clock

[top]

Get the SnapLock Volume Compliance Clock date and time.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume whose ComplianceClock needs to be obtained. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **system-compliance-clock** | | compliance-clock-info | System Compliance Clock. |
| **volume-compliance-clock** | | compliance-clock-info | Volume Compliance Clock for input volume list. |

| Vfiler-enabled |
|---|
| |

| Yes |
|---|

# snaplock-get-vserver-active-log-files-iter

[top]

Display Status of Active SnapLock Log Files.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snaplock-vserver-log-file optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snaplock-vserver-log-file optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock object. All snaplock objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snaplock-vserver-log-file[] optional | The list of attributes of snaplock objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snaplock objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snaplock-get-vserver-log-iter

[top]

Display audit Log configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snaplock-vserver-log-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | snaplock-vserver- | A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock object. All |

| | | | |
|---|---|---|---|
| **query** | | log-config optional | snaplock objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snaplock-vserver-log-config[] optional | The list of attributes of snaplock objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snaplock objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snaplock-legal-hold-abort

[top]

This API is used to abort an ongoing legal-hold operation. This API only aborts legal-hold operations that have started and not finished. The operation ID of the legal-hold operation must be specified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **operation-id** | **[0..2^32-1]** | integer | Operation ID of snaplock legal-hold operation. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **EONTAPI_ENOENT** | |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# snaplock-legal-hold-begin-start

[top]

This API starts an operation to put files in user specified path under legal-hold. The progress of the operation can be monitored using snaplock-legal-hold-get-iter api.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **litigation-name** | | string | Name of the litigation. |
| **path** | | string | Path of the form '/' relative to volume root. Legal-hold operation will be performed on all files under this path. |
| **volume** | | string | Name of the SnapLock compliance volume, on which legal-hold |

| | | | |
|---|---|---|---|
| | | | operation is to be performed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | **[0..2^32-1]** | integer | Operation ID of the legal-hold operation. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVSERVERNOTFOUND** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |

# snaplock-legal-hold-dump-files-start

[top]

Dump the list of files under legal hold for a given volume and litigation to a user specified output path. The progress of the operation can be monitored using snaplock-legal-hold-get-iter api.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **litigation-name** | | string | Name of the litigation, for which the list of files is to be dumped. |
| **output-directory-path** | | string | Path of the form '/' relative to output volume root, where list of files is to be dumped. |
| **output-volume** | | string | Name of the output volume, containing the path where list of files is to be dumped. |
| **volume** | | string | Name of the SnapLock compliance volume, for which the list of files is to be dumped. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | **[0..2^32-1]** | integer | operation ID of Dump Files Operation |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVSERVERNOTFOUND** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |

# snaplock-legal-hold-dump-litigations-start

[top]

Dump the list of litigations to a user specified output path. The progress of the operation can be monitored using job-get api. A job will be spawned to operate on the snaplock and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **output-directory-path** | | string | Path of the form '/' relative to volume root, where list of litigations is to be dumped. |
| **output-volume** | | string | Name of the output volume, containing the path where list of litigations is to be dumped. |
| **volume** | | string optional | Name of the SnapLock compliance volume for which the list of litigations is to be dumped. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVSERVERNOTFOUND** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |

# snaplock-legal-hold-end-start

[top]

This API starts an operation to release legal-hold on files in user specified path. The progress of the operation can be monitored using snaplock-legal-hold-get-iter api.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **litigation-name** | | string | Name of the litigation. |
| **path** | | string | Path of the form '/' relative to volume root. Legal-hold operation will be performed on all files under this path. |
| **volume** | | string | Name of the SnapLock compliance volume, on which legal-hold operation is to be performed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | **[0..2^32-1]** | integer | Operation ID of the legal-hold operation. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EVOLUMENOTONLINE | |
| EVOLUMEDOESNOTEXIST | |
| EVSERVERNOTFOUND | |
| EONTAPI_ENOENT | |
| EONTAPI_EINVAL | |

# snaplock-legal-hold-get-iter

[top]

This API is used to retrieve the status of legal-hold operations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | snaplock-legal-hold-attributes-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | snaplock-legal-hold-attributes-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock object. All snaplock objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | snaplock-legal-hold-attributes-info[] optional | The list of attributes of snaplock objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more snaplock objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EVOLUMENOTONLINE | |
| EVOLUMEDOESNOTEXIST | |
| EVSERVERNOTFOUND | |
| EONTAPI_ENOENT | |

| | |
|---|---|
| **EONTAPI_EINVAL** | |

# snaplock-modify-clock-ntp-sync

[top]

Modify the NTP sync option.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-sync-enabled** | | boolean optional | Specifies whether the ComplianceClock can be synced to the system time when NTP has been configured |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |

# snaplock-modify-vserver-log

[top]

Modify audit log configuration for a Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **default-retention-period** | | snaplock-minmax-period optional | Specifies the allowed minimum retention period for SnapLock log files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in <number> <suffix>' format. Valid values of the suffix are :<br>• 'seconds'<br>• 'minutes'<br>• 'hours'<br>• 'days'<br>• 'months'<br>• 'years'<br>For example, a value if **6months** represents a retention period of 6 months. |
| **max-log-size** | | size optional | Max log file size (in bytes). |
| **volume** | | volume-name optional | Log Volume Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the modification operation caused an error. |
| **result-error-message** | | string optional | Error description, if the modification operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EONTAPI_ENOENT | |
| EONTAPI_EINVAL | |
| EONTAPI_EOFFLINE | |
| E_AUDIT_LOG_NOT_CONFIGURED | |
| E_AUDIT_LOG_VOL_NOT_SLC | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

| License |
|---|
| SnapLock |

# snaplock-set-file-retention

[top]

Set retention time of a file. User can specify either retention-time or set-infinite-retention or set-unspecified-retention. If none of the retention time parameters are specified, the file will get committed to WORM with default retention period.

| Input Name | Range | Type | Description |
|---|---|---|---|
| file | | string | Specifies the absolute path of the file. The value begins with /vol/. |
| retention-time | | integer optional | Specifies the retention time of the file in seconds since 1 January 1970 00:00:00. |
| set-infinite-retention | | boolean optional | Indicates if the retention time on the file needs to be extended to infinite retention time. |
| set-unspecified-retention | | boolean optional | Indicates that the retention time is unspecified. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EONTAPI_ENOENT | |
| EONTAPI_EINVAL | |
| EONTAPI_EOFFLINE | |
| E_AUDIT_LOG_NOT_CONFIGURED | |

# snaplock-set-node-compliance-clock

[top]

Set the ComplianceClock of the node equal to the current system clock.

| Input Name | Range | Type | Description |
|---|---|---|---|
| node | | node-name | Name of the node on which the ComplianceClock needs to be set. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **ESNAPLOCKNOTLICENSED** | |
| **EALREADYSTARTED** | |
| **ECOMPLIANCECLOCKNOTSET** | |
| **EONTAPI_EIO** | |

# snaplock-set-system-compliance-clock

[top]

Set the Compliance Clock of the system equal to the current system clock.

| Errno | Description |
|---|---|
| **ESNAPLOCKNOTLICENSED** | |
| **EALREADYSTARTED** | |
| **ECOMPLIANCECLOCKNOTSET** | |
| **EONTAPI_EIO** | |

# snaplock-volume-set-privileged-delete

[top]

The volume-set-privileged-delete API is used to set the SnapLock privileged-delete attibute on a Snaplock enterprise volume. The privileged-delete attibute can be set to one of the following values:

- enabled
- disabled
- permanently-disabled

If privileged-delete is 'enabled' on a SnapLock enterprise volume, the user is allowed to perform privileged-delete operation on that volume. If privileged-delete is set to 'disabled' on a SnapLock enterprise volume, the user is not allowed to perform privileged-delete operation on that volume. If privileged-delete is 'permanently-disabled' on a SnapLock enterprise volume, the user is not allowed to perform privileged-delete operation or further change the privileged-delete attribute on that volume. A job will be spawned to operate on the snaplock and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **state** | | string | Privileged-delete attribute on the SnapLock enterprise volume. The privileged-delete can be set to one of the following:<br>• enabled<br>• disabled<br>• permanently-disabled |
| **volume** | | string | Specifies the name of the SnapLock enterprise volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| | **[0..2^64-** | integer | |

| | | | |
|---|---|---|---|
| **result-jobid** | **1]** | optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EIO** | |
| **EONTAPI_EOFFLINE** | |
| **EINTERNALERROR** | |

| License |
|---|
| **SnapLock** |

# volume-get-snaplock-attrs

[top]

Returns snaplock attributes of a given snaplock volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | volume-name | Name of the snaplock volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snaplock-attrs** | | snaplock-attrs-info | Snaplock attributes of the volume. |

# volume-set-snaplock-attrs

[top]

Sets the given snaplock attributes of a snaplock volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **autocommit-period** | | snaplock-autocommit-period optional | Specifies the autocommit-period for the snaplock volume. All files which are not modified for a period greater than the autocommit-period of the volume are committed to WORM state. This option can be specified as a number followed by suffix in "" format. Valid values of the suffix are :<br>• "minutes"<br>• "hours"<br>• "days"<br>• "months"<br>• "years"<br>For example, a value if **2hours** represents a autocommit period of 2 hours. This option can also be specified as "none" indicating that autocommit is disabled on the snaplock volume Attributes: non-creatable, modifiable |
| | | | Specifies the default retention period that will be applied to files when committed to WORM state if files has no explicit retention |

| | | | |
|---|---|---|---|
| **default-retention-period** | | snaplock-default-period optional | retention time set. If this option is specified as "min", then minimum-retention-period will be used as the default retention period. If this option is specified as "max", then maximum-retention-period will be used as the default retention period. If this attribute is specified as "infinite", the infinite retention period as the default retention period. If this attribute is specified as "unspecified", then unspecified retention period will be set as default retention period. This option can also be specified as a number followed by suffix in "" format. Valid values of the suffix are :<br>• "seconds"<br>• "minutes"<br>• "hours"<br>• "days"<br>• "months"<br>• "years"<br>For example, a value if **6months** represents a retention period of 6 months. Attributes: non-creatable, modifiable |
| **is-volume-append-mode-enabled** | | boolean optional | Specifies if the volume append mode must be enabled or disabled. It can be modified only when the volume is not mounted and does not have any data or Snapshot copy. Volume append mode is not supported on SnapLock audit log volumes. When it is enabled, all files created with write permissions on the volume will be WORM appendable files by default. All WORM appendable files not modified for a period greater than the autocommit period of the volume are also committed to WORM read-only state. Attributes: non-creatable, modifiable |
| **maximum-retention-period** | | snaplock-minmax-period optional | Specifies the allowed maximum retention period for files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in "" format. Valid values of the suffix are :<br>• "seconds"<br>• "minutes"<br>• "hours"<br>• "days"<br>• "months"<br>• "years"<br>For example, a value if **6months** represents a retention period of 6 months. This option can also be specified as "infinite" indicating that files will have maximum retention period as infinite. This attribute is not applicable while extending retention period of an already committed WORM file. Attributes: non-creatable, modifiable |
| **minimum-retention-period** | | snaplock-minmax-period optional | Specifies the allowed minimum retention period for files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in "" format. Valid values of the suffix are :<br>• "seconds"<br>• "minutes"<br>• "hours"<br>• "days"<br>• "months"<br>• "years"<br>For example, a value if **6months** represents a retention period of 6 months. This option can also be specified as "infinite" indicating that files will have minimum retention period as infinite. This attribute is not applicable while extending retention period of an already |

| | | | |
|---|---|---|---|
| | | | committed WORM file. Attributes: non-creatable, modifiable |
| **volume** | | volume-name | Name of the snaplock volume. |

## Element definition: **compliance-clock-info**

[top]

Compliance Clock

| Name | Range | Type | Description |
|---|---|---|---|
| **formatted-snaplock-compliance-clock** | | string | If Compliance Clock is initialized then human readable time :: is displayed. A value of "Not Initalized" indicates that Compliance Clock has not been initialized. |
| **snaplock-compliance-clock** | | integer optional | If Compliance Clock is initialized then time in seconds in the standard UNIX format (since 01/01/1970 00:00:00) is displayed. Range:[0..2^64-1]. |

## Element definition: **file-retention-info**

[top]

retention information for each file

| Name | Range | Type | Description |
|---|---|---|---|
| **formatted-retention-time** | | string optional | expiry date of the worm file formatted in a human-readable format. This takes care of wrap-around dates and prints the expiry date of the file in the the format :: A value of "INFINITE" indicates that this file has infinite retention-time. A value of "unspecified" indicates that this file has unspecified retention-time. This field is not included in non-worm files (when snaplock-type is NONE). |
| **is-wraparound** | | boolean optional | True if the date represented in retention-time is a wrap-around date. This field is not included in case the file is not a worm file or if it has infinite retention. |
| **pathname** | | string | pathname of the file. This will always have the same format and values as the input pathname-info array. |
| **retention-time** | | integer optional | retention time in seconds in the standard UNIX format (since 01/01/1970 00:00:00). SnapLock wraps around the retention time to indicate dates after 01/19/2038. It remaps 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071 This field is not included in case the file is not a worm file or if the file has infinite retention. The flag is-wraparound indicates if this date is in the normal format or is wrapped around. The field formatted-retention-time represents the date as understood by SnapLock for retention of the file. Range: [0..2^64-1] |
| **snaplock-error** | | snaplock-error optional | This value is only present if there is an error for a specific pathname entry. Error numbers returned EFILENOTFOUND, EINVALIDINPUTERROR, EVOLUMEOFFLINE, EVOLUMEDOESNOTEXIST, EVOLUMEQUIESCED, EINTERNALERROR |
| **snaplock-type** | | string optional | type of snaplock license applicable for this file Possible values "SLC" - indicates it is a worm file with snaplock compliance restrictions applying to it. "SLE" - indicates it is a worm file with snaplock enterprise restrictions applying to it. "NONE" - Not a worm file |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **snaplock-attrs-info**

[top]

SnapLock Attributes

| Name | Range | Type | Description |
|---|---|---|---|
| **autocommit-period** | | snaplock-autocommit-period optional | Specifies the autocommit period for the SnapLock volume. All files which are not modified for a period greater than the autocommit period of the volume are committed to WORM state. Attributes: non-creatable, modifiable |
| **default-retention-period** | | snaplock-default-period optional | Specifies the default retention period that will be applied to files when committed to WORM state if files has no explicit retention retention time set. Attributes: non-creatable, modifiable |
| **is-audit-log-volume** | | boolean optional | Specifies if volume is a SnapLock audit volume. Attributes: non-creatable, non-modifiable |
| **is-volume-append-mode-enabled** | | boolean optional | Specifies if the volume append mode is enabled or disabled. Attributes: non-creatable, modifiable |
| **is-volume-expiry-time-indefinite** | | boolean optional | Indicates if the volume expiry time is indefinite or not. Attributes: non-creatable, non-modifiable |
| **is-volume-expiry-time-infinite** | | boolean optional | Indicates if the volume expiry time is infinite or not. Attributes: non-creatable, non-modifiable |
| **litigation-count** | | string optional | Specifies the number of litigations on Snaplock Volume. Attributes: non-creatable, non-modifiable |
| **maximum-retention-period** | | snaplock-minmax-period optional | Specifies the allowed maximum retention period for files to be committed to WORM state on the volume. Attributes: non-creatable, modifiable |
| **minimum-retention-period** | | snaplock-minmax-period | Specifies the allowed minimum retention period for files to be committed to WORM state on the volume. Attributes: non-creatable, modifiable |

| | | | |
|---|---|---|---|
| | | optional | |
| **privileged-delete-state** | | string optional | Specifies the prvileged delete state on Snaplock Volume. |
| **type** | | snaplocktype optional | SnapLock Type of the given volume. Attributes: non-creatable, non-modifiable Possible values:<br>• "non_snaplock" ,<br>• "compliance" ,<br>• "enterprise" |
| **unspecified-retention-file-count** | | string optional | Specifies the number of files with unspecified retention time. Attributes: non-creatable, non-modifiable |
| **volume-compliance-clock** | | compliance-clock-info optional | Specifies the volume ComplianceClock of the volume. Attributes: non-creatable, non-modifiable |
| **volume-expiry-time** | | string optional | Specifies the expiry time of the volume. Attributes: non-creatable, non-modifiable |
| **volume-expiry-time-secs** | | integer optional | Specifies the expiry time of the volume in seconds. if the expiry time is infinite or indefinite, then no value will be returned. Attributes: non-creatable, non-modifiable |

# Element definition: **snaplock-autocommit-period**

[top]

Snaplock Autocommit Period

[none]

# Element definition: **snaplock-clock-ntp-sync**

[top]

Information about ComplianceClock sync setting. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-sync-enabled** | | boolean optional | Specifies whether the ComplianceClock can be synced to the system time when NTP has been configured Attributes: non-creatable, modifiable |

# Element definition: **snaplock-default-period**

[top]

Snaplock default retention period

[none]

# Element definition: **snaplock-event-retention-info**

[top]

SnapLock Event Based Retention operation information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **num-files-failed** | **[0..2^32-1]** | integer optional | Number of files on which the application of Event Based Retention policy failed. Attributes: non-creatable, non-modifiable |
| **num-files-processed** | **[0..2^32-1]** | integer optional | Number of files on which the Event Based Retention policy has been applied successfully. Attributes: non-creatable, non-modifiable |
| **num-files-skipped** | **[0..2^32-1]** | integer optional | Number of files on which the application of Event Based Retention policy was skipped. Attributes: non-creatable, non-modifiable |
| **num-inodes-ignored** | **[0..2^32-1]** | integer optional | The total count of inodes which were ignored during application of Event Based Retention policy because they are not regular files. Attributes: non-creatable, non-modifiable |
| **operation-id** | **[0..2^32-1]** | integer optional | Operation ID of SnapLock Event Based Retention operation. Attributes: key, non-creatable, non-modifiable |
| **operation-status** | | wormopstatus optional | Status of the SnapLock Event Based Retention operation. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "in_progress" ,<br>• "failed" ,<br>• "aborting" ,<br>• "completed" |
| **path** | | string optional | Path of the form '/' relative to output volume root. The Event Based Retention policy will be applied to all files under the path. Attributes: non-creatable, non-modifiable |
| **policy-name** | | string optional | Name of the SnapLock Event Based Retention policy. Attributes: non-creatable, non-modifiable |
| **retention-period** | | snaplock-minmax-period optional | Retention period of the SnapLock Event Based Retention policy. Attributes: non-creatable, non-modifiable |
| **status-details** | | string optional | Status details of the SnapLock Event Based Retention operation. Attributes: non-creatable, non-modifiable |
| **volume** | | volume-name optional | Name of the SnapLock Volume. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Name of the Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **snaplock-event-retention-policy-info**

[top]

Information about SnapLock Event Based Retention policies. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | Name of the SnapLock Event Based Retention policy. Attributes: key, required-for-create, non-modifiable |
| **retention-period** | | snaplock-minmax-period optional | Retention period of the SnapLock Event Based Retention policy. Attributes: required-for-create, modifiable |
| **vserver** | | vserver-name optional | Name of the Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **snaplock-file-retention-info**

[top]

Information about retention time of a file protected by SnapLock. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **file** | | string optional | Specifies the absolute path of the file. The value begins with /vol/. Attributes: key, non-creatable, non-modifiable |
| **formatted-retention-time** | | string optional | Specifies the expiry date of the file in a human-readable format. This takes care of wraparound dates and prints the expiry date of the file in the format :: in GMT timezone. A value of 'infinite' indicates that this file has infinite retention time. A value of 'indefinite' indicates that this file has indefinite retention time. A value of 'unspecified' indicates that this file has unspecified retention time. Attributes: non-creatable, non-modifiable |
| **is-wraparound** | | boolean optional | Specifies the value true if the date represented in retention time is in wraparound format. The wraparound format indicates that dates after 19 January 2038 are mapped from 1 January 1970 - 31 December 2002 to 19 January 2038 - 19 January 2071. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **retention-time** | **[0..2^64-1]** | integer optional | Specifies the retention time of the file in seconds since 1 January 1970 00:00:00. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Specifies the name of the Vserver which has the file. Attributes: key, non-creatable, non-modifiable |

# Element definition: **snaplock-legal-hold-attributes-info**

[top]

SnapLock legal-hold attributes. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **litigation-name** | | string optional | Name of the litigation. Attributes: non-creatable, non-modifiable |
| **num-files-failed** | **[0..2^32-1]** | integer optional | The total count of files for which legal-hold operation failed. Attributes: non-creatable, non-modifiable |
| **num-files-processed** | **[0..2^32-1]** | integer optional | The total count of files for which legal-hold operation was performed. Attributes: non-creatable, non-modifiable |
| **num-files-skipped** | **[0..2^32-1]** | integer optional | The total count of files for which legal-hold operation was skipped. Attributes: non-creatable, non-modifiable |
| **num-inodes-ignored** | **[0..2^32-1]** | integer optional | The total count of inodes which were ignored by legal-hold operation because they are not regular files. Attributes: non-creatable, non-modifiable |
| **operation-id** | **[0..2^32-1]** | integer optional | Operation ID of the legal-hold operation. Attributes: key, non-creatable, non-modifiable |
| **operation-status** | | wormopstatus optional | Status of the legal-hold operation. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "in_progress" ,<br>• "failed" ,<br>• "aborting" ,<br>• "completed" |
| **operation-type** | | wormlegalop optional | Type of the legal-hold operation. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "begin" ,<br>• "end" ,<br>• "dump_files" |
| **path** | | string optional | Path of the form '/' relative to volume root. Attributes: non-creatable, non-modifiable |
| **status-details** | | string optional | Completion string of the legal-hold operation. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **volume** | | volume-name optional | Name of the SnapLock compliance volume, on which legal-hold operation is running. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Name of the vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **snaplock-minmax-period**

[top]

SnapLock Min and Max retention period

[none]

# Element definition: **snaplock-pathname-info**

[top]

pathname info for each file

| Name | Range | Type | Description |
|---|---|---|---|
| **snaplock-pathname** | | string | pathname of the file. Pathname must be of the format /vol// |

# Element definition: **snaplock-vserver-log-config**

[top]

Information about Audit log congfiguration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **default-retention-period** | | snaplock-minmax-period optional | Specifies the allowed minimum retention period for SnapLock log files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in <number><suffix>' format. Valid values of the suffix are :<br>• 'seconds'<br>• 'minutes'<br>• 'hours'<br>• 'days'<br>• 'months'<br>• 'years'<br><br>For example, a value if **6months** represents a retention period of 6 months. Attributes: optional-for-create, modifiable |
| **max-log-size** | | size optional | Max log file size (in bytes). Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **volume** | | volume-name optional | Log Volume Name Attributes: required-for-create, modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **snaplock-vserver-log-file**

[top]

Information about Audit log file. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **base-name** | | snaplock-log-base optional | Base Name of Log File Attributes: key, non-creatable, non-modifiable<br>Possible values:<br>• "privileged_delete" ,<br>• "system" ,<br>• "legal_hold" |
| **expiry-time** | | string optional | Log File Expiry Time Attributes: non-creatable, non-modifiable |
| **file-path** | | string optional | Log File Path Attributes: non-creatable, non-modifiable |
| **file-size** | | size optional | File Size Attributes: non-creatable, non-modifiable |
| **volume** | | volume-name optional | Log Volume Name Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

## Element definition: **compliance-clock-info** [top]

Compliance Clock

| Name | Range | Type | Description |
|---|---|---|---|
| **formatted-snaplock-compliance-clock** | | string | If Compliance Clock is initialized then human readable time :: is displayed. A value of "Not Initalized" indicates that Compliance Clock has not been initialized. |
| **snaplock-compliance-clock** | | integer optional | If Compliance Clock is initialized then time in seconds in the standard UNIX format (since 01/01/1970 00:00:00) is displayed. Range:[0..2^64-1]. |

## Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **snaplock-error** [top]

Information about a single quota error.

| Name | Range | Type | Description |
|---|---|---|---|
| **errno** | | integer | The error number Range: [0..2^64-1] |
| **reason** | | string | A human-readable concise reason for the error. |

## Element definition: **snaplock-log-base** [top]

privileged-delete | system | legal-hold Possible values:

- "privileged_delete" ,
- "system" ,
- "legal_hold"

[none]

## Element definition: **snaplock-minmax-period** [top]

SnapLock Min and Max retention period

[none]

## Element definition: **snaplocktype** [top]

non-snaplock|compliance|enterprise Possible values:

- "non_snaplock" - Non SnapLock,
- "compliance" - SnapLock Compliance,
- "enterprise" - SnapLock Enterprise

[none]

## Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

## Element definition: **wormlegalop** [top]

unknown|begin|end|dump-files Possible values:

- "unknown" ,
- "begin" ,
- "end" ,
- "dump_files"

[none]

## Element definition: **wormopstatus** [top]

Unknown|In-Progress|Failed|Aborting|Completed Possible values:

- "unknown" ,
- "in_progress" ,
- "failed" ,
- "aborting" ,
- "completed"

[none]

# APIs in Category: **snapmirror**


snapmirror-abort
snapmirror-abort-async
snapmirror-abort-iter
snapmirror-break
snapmirror-break-async
snapmirror-break-iter
snapmirror-capabilities-get
snapmirror-capabilities-get-iter
snapmirror-check
snapmirror-check-iter
snapmirror-config-replication-cluster-storage-configuration-get
snapmirror-config-replication-cluster-storage-configuration-modify
snapmirror-cr-status-aggregate-eligibility-get
snapmirror-cr-status-aggregate-eligibility-get-iter
snapmirror-cr-status-comm-get
snapmirror-cr-status-comm-get-iter
snapmirror-cr-status-get
snapmirror-create
snapmirror-delete-connection
snapmirror-delete-schedule
snapmirror-delete-sync-schedule
snapmirror-destroy
snapmirror-destroy-async
snapmirror-destroy-iter
snapmirror-get
snapmirror-get-destination
snapmirror-get-destination-iter
snapmirror-get-dp-personality
snapmirror-get-iter
snapmirror-get-status
snapmirror-get-total-records
snapmirror-get-volume-status


This set of APIs allows to manage SnapMirror relationships on Data ONTAP operating in 7-Mode or in Cluster-Mode. This includes the creation, initialization, update, resynchronization, modification of configuration parameters, and information query.

The user's role determines the APIs that can be issued. In general APIs that simply query status information about SnapMirror relationships only require that the user has read access. APIs that modify the state of the system require write access. This includes creation, destruction, modification or update of relationships.

A valid SnapMirror license is necessary to be able to use APIs that create, initialize, or destroy SnapMirror relationships. Most of the APIs require that you specify at least one of the endpoints of the SnapMirror relationship. On Data ONTAP operating in 7-Mode, the endpoint can be a volume or a qtree. On Data ONTAP operating in Cluster-Mode the endpoint can only be a volume.

An endpoint can be specified by providing its location in a path format. The format depends on the version of Data ONTAP and the mode it is operating in:

On Data ONTAP operating in 7-Mode the format is: <system>:/vol/<volume>[/<qtree>] where 'system' is the name of the storage system; 'volume' is the name of the volume, and 'qtree' the name of the qtree.

On Data ONTAP 8.1 operating in Cluster-Mode, the format is: [<cluster>:]//<vserver>/<volume> where 'cluster' is the name of the cluster, 'vserver' the name of the Vserver, 'volume' is the name of the volume.

On Data ONTAP 8.2 or later operating in Cluster-Mode, the format of the path is: [<vserver>:]<volume> where 'vserver' is the name of the Vserver, 'volume' is the name of the volume. Note that this requires the Vserver peering capability, which handles the mapping of a Vserver to the right cluster. The control plane for these relationship is specific to Data ONTAP 8.2 and later. The progress of long operations such as initialize, update, resync, or restore is monitored via the snapmirror-get API. The relationship-control-plane field is set to 'v2'. For backward compatibility with Data ONTAP 8.1 operating in Cluster-Mode, and to accommodate load-sharing relationships which are only supported in a Data ONTAP 8.1 compatible way, the relationships that match one of the following conditions are managed as on Data ONTAP 8.1 operating Cluster-Mode. The control plane of these relationships is compatible with Data ONTAP 8.1 operating Cluster-Mode.

- Load-sharing relationship.
- Cross-cluster relationship with the source endpoint on Data ONTAP 8.1 operating in Cluster-Mode.
- Relationship existed before the local cluster was upgraded from Data ONTAP 8.1 operating in Cluster-Mode and has not yet been converted to one with Data ONTAP 8.2 capabilities.

snapmirror-history-get
snapmirror-history-get-iter
snapmirror-initialize
snapmirror-initialize-iter
snapmirror-initialize-ls-set
snapmirror-list-connections
snapmirror-list-destinations
snapmirror-list-schedule
snapmirror-list-sync-schedule
snapmirror-list-unprotected
snapmirror-modify
snapmirror-modify-iter
snapmirror-off
snapmirror-on
snapmirror-promote
snapmirror-promote-iter
snapmirror-protect
snapmirror-quiesce
snapmirror-quiesce-iter
snapmirror-release
snapmirror-release-iter
snapmirror-restore
snapmirror-resume
snapmirror-resume-iter
snapmirror-resync
snapmirror-resync-iter
snapmirror-set-connection
snapmirror-set-schedule
snapmirror-set-sync-schedule
snapmirror-snapshot-owner-create
snapmirror-snapshot-owner-destroy
snapmirror-snapshot-owner-get
snapmirror-snapshot-owner-get-snapshots
snapmirror-throttle
snapmirror-update
snapmirror-update-iter
snapmirror-update-ls-set

The path format of Data ONTAP 8.1 operating in Cluster-Mode must be used. Long operations such as initialize, update, resync, restore spawn a job. The job API must be used to track the progress of the operation. The relationship-control-plane field is set to 'v1' for these relationships. On Data ONTAP operating in Cluster-Mode, it is also possible to specify the endpoint by providing the names of the cluster, Vserver, and volume of the endpoint separately.

In general it is mandatory to specify the destination endpoint.

Beginning with ONTAP 9.1, you can no longer create new load-sharing mirrors for data volumes. Existing load-sharing mirrors for data volumes are supported through the ONTAP 9.4 release. Load-sharing mirrors for Vserver root volume protection continue to be supported as a NetApp best practice.

# snapmirror-abort

[top]

The snapmirror-abort API stops ongoing transfers for a SnapMirror relationship. The relationship is identified by its destination endpoint. You must specify the destination endpoint when using snapmirror-abort. On Data ONTAP operating in Cluster-Mode, the snapmirror-abort API stops all of the active transfers to each associated volume on the receiving side in a set of load-sharing mirrors. Load-sharing mirrors are either up to date and serving data to clients, or they are lagging and not serving data to clients. If the snapmirror-abort API identifies an up-to-date load-sharing mirror, then SnapMirror transfers to associated up-to-date load-sharing mirrors in the set of load-sharing mirrors are also aborted. If the snapmirror-abort API identifies a lagging load-sharing mirror, then only the SnapMirror transfer associated with the lagging load-sharing mirror is aborted. After the snapmirror-abort API successfully completes its operation, the volume on the receiving side of the transfer might contain a restart checkpoint. The restart checkpoint can be used by a subsequent transfer to restart and continue the aborted SnapMirror transfer. Snapmirror-abort API must be used from the destination storage system on Data ONTAP operating in 7-Mode, from the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, from the destination Vserver or cluster on Data ONTAP 8.2 or later operating in Cluster-Mode.

This API is not supported if the destination end point is an Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **check-only** | | boolean optional | If this option is specified true, only snapmirror-check operations active on the relationship will be aborted. |
| **clear-checkpoint** | | boolean optional | If true, the restart checkpoint is cleared. The default is false, not cleared. This parameter is not supported for relationships with non_Data ONTAP endpoints. |
| **destination-cluster** | | string optional | Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination endpoint.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint.<br><br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume. This parameter is mandatory on Data ONTAP operating in 7-mode. This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. |
| | | | Specifies the destination volume of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: |

| | | | |
|---|---|---|---|
| **destination-volume** | | string optional | • The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br><br>• The name of the destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory if destination-location is not specified. |
| **source-cluster** | | string optional | Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. This parameter is not supported if the source is a non-Data ONTAP endpoint. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the following formats:<br><br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source endpoint.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source endpoint.<br><br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume. |
| **source-volume** | | string optional | Specifies the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br><br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-vserver** | | string optional | Specifies the source Vserver of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br><br>• The name of the source volume. |

| | | | |
|---|---|---|---|
| | | | • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | | string optional | Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. |

| Errno | Description |
|---|---|
| **ESNAPMIRRORERR** | |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EDEST_ISNOT_LS_VOLUME** | |
| **EANOTHER_OP_ACTIVE** | |
| **ENOTRANSFER_IN_PROGRESS** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapmirror-abort-async

[top]

The snapmirror-abort-async API stops ongoing transfer for a SnapMirror relationship on Infinite Volume. The relationship is identified by its destination endpoint. You must specify the destination endpoint when using the snapmirror-abort-async API. The destination endpoint could be a

- Infinte volume in case of a SnapMirror relationship between Infinite volumes.
- Vserver in case of a Vserver level SnapMirror relationship on Data ONTAP 8.3 or later.

Snapmirror-abort-async API must be used from the destination cluster on Data ONTAP Cluster-Mode. For Infinite volume SnapMirror relationships,

- after the snapmirror-abort-async API successfully aborted the transfer, the volume on the receiving side of the transfer might contain a restart checkpoint. The restart checkpoint can be used by a subsequent transfer to restart and continue the aborted SnapMirror transfer.
- this API is not supported if the destination end point is a flexible volume or an Infinite Volume constituent.

A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **check-only** | | boolean optional | If this option is specified true, only snapmirror-check operations active on the relationship will be aborted. |
| | | | If this option is specified true, the restart checkpoint is discarded and the destination volume is restored to the last Snapshot copy |

| | | | |
|---|---|---|---|
| **clear-checkpoint** | | boolean optional | that was successfully transferred. You can use the clear-checkpoint option to discard the restart checkpoint of a previous transfer attempt which forces the subsequent transfer to start with a fresh Snapshot copy on the destination volume. This parameter is not supported for relationships with non-Data ONTAP endpoints. |
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| | | | |

| | | | |
|---|---|---|---|
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **source-cluster** | | string optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br><br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |

| | | | |
|---|---|---|---|
| | | | • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE** | |
| **EVSERVERDR_QUEUEING_TO_PROCESS_FAILED** | |

# snapmirror-abort-iter

[top]

The snapmirror-abort-iter API aborts SnapMirror transfers for one or more SnapMirror relationships. This API is not supported on Infinite Volume constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **check-only** | | boolean optional | If this option is specified true, only snapmirror-check operations active on the relationship will be aborted. |
| **clear-checkpoint** | | boolean optional | If this option is specified true, the restart checkpoint is discarded and the destination volume is restored to the last Snapshot copy that was successfully transferred. You can use the clear-checkpoint option to discard the restart checkpoint of a previous transfer attempt which forces the subsequent transfer to start with a fresh Snapshot copy on the destination volume. This |

| | | | |
|---|---|---|---|
| | | | parameter is not supported for relationships with non-Data ONTAP endpoints. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-abort-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed. |
| **success-list** | | snapmirror-abort-iter-info[] optional | The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-break

[top]

Breaks a SnapMirror relationship between a source and destination volume data protection mirror. When Data ONTAP breaks the relationship, the destination volume is made a read-write volume and can diverge from the source volume, client redirection is turned off on the destination volume, the restart checkpoint is cleared, and the clients can see the latest Snapshot copy.

On Data ONTAP operating in 7-Mode, no check is done to determine whether the operation is legal or successful. You need to query the status afterward by using the snapmirror-get-status API.

Subsequent manual or scheduled SnapMirror updates to the broken relationship will fail until the SnapMirror relationship is re-established using the snapmirror-resync API.

On Data ONTAP operating in Cluster-Mode, this API applies only to data protection mirrors and not to load-sharing mirrors.

The snapmirror-break API must be issued on destination storage system on Data ONTAP operating in 7-Mode, and on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and on the destination cluster or Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

This API is not supported if the destination end point is an Infinite Volume.

This API is not supported if the destination is a non-Data ONTAP endpoint.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume. On Data ONTAP operating in 7-Mode, If the destination endpoint is a qtree, it must be quiesced using snapmirror-quiesce. This parameter is mandatory on Data ONTAP 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. |
| **destination-volume** | | string optional | Specifies the destination volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. |

| | | | |
|---|---|---|---|
| | | | This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the destination Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br>• The name of the destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory if destination-location is not specified. |
| **recover** | | boolean optional | When a SnapMirror break operation fails on a FlexGroup relationship, a subset of the consituents could have been made writable and subsequently user data could have been written to these constituents. To recover from this failure, the break command can be executed again specifying the recover parameter. All constituents will be restored to the latest Snapshot copy, and any writes to the read-write constituents will be lost. This parameter is applicable only for SnapMirror relationships with FlexGroup endpoints. This field only applies on Data ONTAP 9.1 or later. |
| **restore-destination-to-snapshot** | | string optional | Specifies the Snapshot copy to which the destination volume is restored after a successful break operation. If the parameter is not specified, the destination is restored to the latest Snapshot copy. This parameter is not supported for FlexGroup relationships. |
| **source-cluster** | | string optional | Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. |
| **source-location** | | string optional | Specifies source endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br><br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume. |
| **source-volume** | | string optional | Specifies the source volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-vserver** | | string optional | Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br>• The name of the source volume.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster- |

| | | | |
|---|---|---|---|
| | | | Mode if the relationship control plane is 'v1'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | | string optional | Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. |

| Errno | Description |
|---|---|
| **ESNAPMIRRORERR** | |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **EDEST_IS_LS_VOLUME** | |
| **EDEST_IS_EXISTING_SOURCE_VOLUME** | |
| **EANOTHER_OP_ACTIVE** | |
| **EDEST_VOL_LOCKED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EPUSHMSG_ABORTED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapmirror-break-async

[top]

The snapmirror-break-async API breaks a SnapMirror relationship between a source Infinite Volume and a destination Infinte volume or a source Vserver and destination Vserver. For Infinite volume SnapMirror relationship, when Data ONTAP breaks the relationship, the destination volume is made a read-write volume and can diverge from the source volume, client redirection is turned off on the destination volume, the restart checkpoint is cleared, and the clients can see the latest Snapshot copy. You must specify the destination endpoint when using snapmirror-break-async. The destination endpoint could be a

- Infinte volume in case of a SnapMirror relationship between Infinte volumes.
- Vserver in case of a Vserver level SnapMirror relationship on Data ONTAP 8.3.1 or later.

Subsequent manual or scheduled SnapMirror updates to the broken relationship will fail until the SnapMirror relationship is reestablished using the snapmirror-resync API. This API applies only to data protection mirrors for Infinite Volumes and data protection relationships for Vservers. You must use the snapmirror-break-async API from the destination cluster. For volume level relationship, this API is not supported

- on Infinite Volume constituents.
- if the destination end point is a flexible volume.
- if the destination end point is a FlexGroup or FlexGroup constituent.

A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| | | | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: |

| | | | |
|---|---|---|---|
| **destination-vserver** | | string optional | • The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **recover** | | boolean optional | Recover |
| **restore-destination-to-snapshot** | | string optional | Restore Destination to Snapshot Copy |
| **source-cluster** | | string optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in |

| | | | |
|---|---|---|---|
| | | | Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| **source-vserver** | | string<br>optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer<br>optional | Error code, if the operation caused an error. |
| **result-error-message** | | string<br>optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer<br>optional | Job Id, if this operation was performed via a job. |
| **result-operation-id** | | uuid<br>optional | Result Operation Id |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE** | |
| **EVSERVERDR_MIRROR_STATUS_DELETING** | |
| **EVSERVERDR_BREAK_INCOMPLETE** | |
| **EVSERVERDR_VSERVER_NOT_INITIALIZED** | |
| **EVSERVERDR_RELATIONSHIP_MODIFY_FAILED** | |
| **EVSERVERDR_SNAPNAME_GEN_FAILED** | |
| **EVSERVERDR_QUEUEING_TO_PROCESS_FAILED** | |

# snapmirror-break-iter

[top]

The snapmirror-break-iter API breaks one or more SnapMirror relationships.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with |

| | | | |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **recover** | | boolean optional | Recover |
| **restore-destination-to-snapshot** | | string optional | Restore Destination to Snapshot Copy |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-break-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed. |
| **success-list** | | snapmirror-break-iter-info[] optional | The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-capabilities-get

[top]

The snapmirror-capabilities-get API returns capabilities information for an endpoint type. It is supported only for the FlexVol endpoint type. It is not supported for FlexGroup, Infinite Volume, or non-Data ONTAP endpoint types. This API is available in Data ONTAP 9.3 and later.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-capabilities-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **endpoint-type** | | smendpointtype | Endpoint type. Only value of type flexvol is supported. The value of type object_store is for NetApp internal use only and is expected to be incompatible with a future release. Possible values:<br>• "flexvol" ,<br>• "object_store" |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapmirror-capabilities-info | The attributes of the snapmirror. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |

# snapmirror-capabilities-get-iter

[top]

The snapmirror-capabilities-get API returns capabilities information for one or more endpoint types. It is only supported for the FlexVol endpoint type. It is not supported for FlexGroup, Infinite Volume or non-Data ONTAP endpoint types. This API is available in Data ONTAP 9.3 and later.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-capabilities-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snapmirror-capabilities-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snapmirror-capabilities-info[] optional | The list of attributes of snapmirror objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snapmirror objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |

# snapmirror-check

[top]

The snapmirror-check API starts an operation to compare the contents of a snapshot between the source volume and destination volume. You must specify the destination endpoint when using snapmirror-check.

It is also possible to use the snapmirror-check command to compare only the contents of specific files or LUNs in specific Snapshot copies. A file-level check is run when the check-file-list, source-path, source-snapshot, and target-snapshot parameters are specified. Only the contents of the files specified in check-file-list are compared. You can also run a file-level check between volumes that are not in a SnapMirror relationship.

This API is not supported for relationships with AltaVault endpoints.

For FlexGroup relationships, there is no support in the checker to check the relationship at the FlexGroup level. The checker must be run on the constituent level relationships which are returned when the snapmirror-get-iter API specifying the expand parameter is used.

A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **check-file-list** | | snapmirror-file-path[] optional | Specifies the files or LUNs to be compared. The list can contain specifications for up to 8 files or LUNs. Specification for each file or LUN consists of a source-path and an optional destination-path. Source-path is required and is the path of the file from the root of the source Snapshot copy, e.g. /dira/file1 or /lun1. The source path does not include the Snapshot name nor the source volume name.<br><br>The path to each file to be compared in the target snapshot on the destination volume is the same as the path specified by source-path unless an optional destination-path is specified. Destination-path begins with the @ symbol followed by the path of the file from the root of the target Snapshot copy on the destination volume, e.g. @ /file1 or @ /dira/lun1. Source-paths and destination-paths are separate entities in the list of paths. A destination-path is associated with the source-path that precedes it. |

| | | | |
|---|---|---|---|
| | | | Examples: <snapmirror-file-path>/file1</snapmirror-file-path> will compare the file /file1 on the source with the file with the same path name on the destination <snapmirror-file-path>/file1</snapmirror-file-path> <snapmirror-file-path> @ /dst_file1</snapmirror-file-path> will compare file /file1 on the source with file /dst_file on the destination. If this parameter is specified, parameters source-path, source-snapshot and target-snapshot must also be specified. This parameter is only available on Data ONTAP 8.3 or later. |
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later |

| | | | |
|---|---|---|---|
| | | | operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string<br>optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **max-transfer-rate** | **[0..2^32-1]** | integer<br>optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with relationship control plane of 'v1' confined to a single cluster. This parameter is only available on Data ONTAP 8.3 or later. |
| **skip-se-check** | | boolean<br>optional | Specifies that the check of the storage efficiency data will be skipped on extended data protection relationships and file-level transfers. The default value for this parameter is 'false'. This parameter is only available on Data ONTAP 9.0 or later. |
| **source-cluster** | | string<br>optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | string<br>optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume |

| | | | |
|---|---|---|---|
| | | | are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br><br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **source-snapshot** | | string<br>optional | Specifies the source Snapshot copy to be used for a file-level check. If this parameter is specified, parameters check-file-list, source-path and target-snapshot must also be specified. This parameter is only available on Data ONTAP 8.3 or later. |
| **source-volume** | | string<br>optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| **source-vserver** | | string<br>optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |
| **target-snapshot** | | string<br>optional | Specifies the target Snapshot copy to be used, instead of the exported Snapshot copy on the destination volume. This parameter is required for a file-level check. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer<br>optional | Error code, if the operation caused an error. |
| **result-error-message** | | string<br>optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer<br>optional | Job Id, if this operation was performed via a job. |
| **result-operation-id** | | uuid<br>optional | Result Operation Id |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EDEST_VOLUME_NOT_INITIALIZED** | |
| **EOP_FROM_NONMGR_VSERVER** | |

# snapmirror-check-iter

[top]

The snapmirror-check-iter API checks one or more SnapMirror relationships. A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **check-file-list** | | snapmirror-file-path[] optional | Specifies the files or LUNs to be compared. The list can contain specifications for up to 8 files or LUNs. Specification for each file or LUN consists of a source-path and an optional destination-path. Source-path is required and is the path of the file from the root of the source Snapshot copy, e.g. /dira/file1 or /lun1. The source path does not include the Snapshot name nor the source volume name.<br><br>The path to each file to be compared in the target snapshot on the destination volume is the same as the path specified by source-path unless an optional destination-path is specified. Destination-path begins with the @ symbol followed by the path of the file from the root of the target Snapshot copy on the destination volume, e.g. @ /file1 or @ /dira/lun1. Source-paths and destination-paths are separate entities in the list of paths. A destination-path is associated with the source-path that precedes it.<br><br>Examples: <snapmirror-file-path>/file1</snapmirror-file-path> will compare the file /file1 on the source with the file with the same path name on the destination <snapmirror-file-path>/file1</snapmirror-file-path> <snapmirror-file-path> @ /dst_file1</snapmirror-file-path> will compare file /file1 on the source with file /dst_file on the destination. If this parameter is specified, parameters source-path, source-snapshot and target-snapshot must also be specified. This parameter is only available on Data ONTAP 8.3 or later. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not |

| | | | |
|---|---|---|---|
| | | | provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with relationship control plane of 'v1' confined to a single cluster. This parameter is only available on Data ONTAP 8.3 or later. |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on or scheduled to be worked on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **skip-se-check** | | boolean optional | Specifies that the check of the storage efficiency data will be skipped on extended data protection relationships and file-level transfers. The default value for this parameter is 'false'. This parameter is only available on Data ONTAP 9.0 or later. |
| **source-snapshot** | | string optional | Specifies the source Snapshot copy to be used for a file-level check. If this parameter is specified, parameters check-file-list, source-path and target-snapshot must also be specified. This parameter is only available on Data ONTAP 8.3 or later. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |
| **target-snapshot** | | string optional | Specifies the target Snapshot copy to be used, instead of the exported Snapshot copy on the destination volume. This parameter is required for a file-level check. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-check-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed or scheduled to be processed. |
| **success-list** | | snapmirror-check-iter-info[] optional | The snapmirror objects that were successfully processed or scheduled to be processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# snapmirror-config-replication-cluster-storage-configuration-get

[top]

The snapmirror-config-replication-cluster-storage-configuration-get API returns information regarding the configuration of the cluster-wide storage associated with cross-cluster replication of Async Vserver DR configuration data.

On Data ONTAP 8.3, Async Vserver DR cannot be enabled simultaneously with metrocluster. For this reason this command will return an error if metrocluster is currently enabled on the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-cr-storage-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapmirror-cr-storage-info | The attributes of the snapmirror. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# snapmirror-config-replication-cluster-storage-configuration-modify

[top]

The snapmirror-config-replication-cluster-storage-configuration-modify API modifies nformation regarding the configuration of the cluster-wide storage associated with cross-cluster replication of Async Vserver DR configuration data.

If input is not provided for a particular value, then the item is not modified in the storage configuration.

On Data ONTAP 8.3, Async Vserver DR cannot be enabled simultaneously with metrocluster. For this reason this command will return an error if metrocluster is currently enabled on the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disallowed-aggregates** | | aggr-name[] optional | Specifies the list of aggregates that are disallowed for use by the Async Vserver DR configuration replication. An admin may modify this value to exclude aggregates. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# snapmirror-cr-status-aggregate-eligibility-get

[top]

This API returns information regarding the eligibility of aggregates to host configuration replication volumes used for the replication of snapmirror configuration data.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | aggr-name | The aggregate being evaluated for config-replication volume hosting eligibility. |
| **desired-attributes** | | snapmirror-cr-status-aggregate-eligibility-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapmirror-cr-status-aggregate-eligibility-info | The attributes of the snapmirror-cr-status-aggregate-eligibility. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# snapmirror-cr-status-aggregate-eligibility-get-iter

[top]

This API returns information regarding the eligibility of aggregates to host configuration replication volumes used for the replication of snapmirror configuration data.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-cr-status-aggregate-eligibility-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snapmirror-cr-status-aggregate-eligibility-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror-cr-status-aggregate-eligibility object. All snapmirror-cr-status-aggregate-eligibility objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | snapmirror-cr-status- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | aggregate-eligibility-info[] optional | The list of attributes of snapmirror-cr-status-aggregate-eligibility objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snapmirror-cr-status-aggregate-eligibility objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-cr-status-comm-get

[top]

Obtain the results of the SnapMirror config replication status check.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-cr-status-comm-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **peer-cluster-uuid** | | string | The UUID of the peer cluster destination for SnapMirror configuration replication. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapmirror-cr-status-comm-info | The attributes of the snapmirror. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# snapmirror-cr-status-comm-get-iter

[top]

Obtain the results of the SnapMirror config replication status check.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-cr-status-comm-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snapmirror-cr-status-comm-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned. |

| | | | |
|---|---|---|---|
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snapmirror-cr-status-comm-info[] optional | The list of attributes of snapmirror objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snapmirror objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-cr-status-get

[top]

Obtain the results of the SnapMirror config replication status check.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-cr-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapmirror-cr-status-info | The attributes of the snapmirror. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# snapmirror-create

[top]

The snapmirror-create API creates a SnapMirror relationship between a source and destination volume or Vserver. The following types of relationships can be created:

- 'data_protection' - For Disaster Recovery (DR);
- 'load_sharing' - For load-sharing within the same Vserver;
- 'vault' - For Vault;
- 'transition_data_protection' - For 7-mode to Cluster-Mode transition;
- 'restore' - For restoring a data protection (DP) volume data;
- 'extended_data_protection' - For extended data protection;

With Data ONTAP 9.5 or later, when a new relationship is created with 'extended_data_protection' as the type and no policy is specified, the system policy 'MirrorAndVault' will be used. With Data ONTAP 9.3 or later, when a new relationship is created with 'data_protection' as type, an 'extended_data_protection' relationship will be created. This relationship will provide the same functional behavior as the 'data_protection' type in terms of Snapshot copy selection and retention. This is achieved by using a policy which has the rule to replicate all Snapshot copies. The SnapMirror create will fail if the policy specified does not have the rule to replicate all Snapshot copies. There is an exception to this overriding of the 'data_protection' type. If a relationship of type 'data_protection' in the opposite direction already exists, the new relationship will also be of type 'data_protection'. The 'data_protection' type will eventually be deprecated and applications should use the 'extended_data_protection' type when creating new relationships. On Data ONTAP 8.1 operating in Cluster-Mode, only 'data_protection' and 'load_sharing' type are supported. Relationships of type 'restore' are created temporary during a restore operation initiated using the snapmirror-restore API or the corresponding command. The source and destination endpoints must be specified when using the snapmirror-create API. This API will fail if the destination volume does not exist. With Data ONTAP 9.3 or later the following relationships can be created:

- SnapMirror relationships between a Data ONTAP volume and a SolidFire endpoint.
- When a SolidFire endpoint is specified as source or destination, a Data ONTAP volume must be used as the other side of the SnapMirror relationship.

With Data ONTAP 9.1 or later the following relationships can be created:

- SnapMirror relationships between two FlexGroups. FlexGroups only support extended data protection relationships. For FlexGroup relationships, the source and destination FlexGroups must be spread over the same number of aggregates as specified in the volume-create-async API aggr-list parameter with the same number of constituents per aggregate as specified in the volume-create-async API aggr-list-multiplier parameter.
- SnapMirror relationships between a Data ONTAP source volume and an AltaVault destination endpoint.
- When an AltaVault destination is specified, the source must be a Data ONTAP volume.
- An AltaVault source cannot be specified for create.

With Data ONTAP 8.3 or later, you can create a SnapMirror relationship between two Vservers. The destination Vserver will be a backup of the source Vserver's data and configuration. For this, before you use this API, you should have created a source and a destination Vserver. The source Vserver should be a default data Vserver. On Data ONTAP 8.2 operating in Cluster-Mode, the API does not validate the attributes and the existence of the source volume. It will succeed even if the source volume does not exist. The validation will be done at the first transfer time. On Data ONTAP 8.1 operating in Cluster-Mode, the API will fail if the source volume is not in online state and read-write (RW) type, or the destination volume is not in online state and a DP (Data Protection) type. Note: The source volume might contain data and Snapshot copies prior to creating the SnapMirror relationship. If the destination volume is not empty, it must have a Snapshot copy in common with the source volume, that is, it must have once been a copy of the source volume. On Data ONTAP 8.1 operating in Cluster-Mode, the API will fail if there is no common Snapshot copy. On Data ONTAP 8.2 operating in Cluster-Mode the API will succeed, but all subsequent transfers will fail if there is no common snapshot copy. Load-sharing mirrors have the following restrictions: - They only use FlexVol volumes. - They are confined to a single Vserver; they are not allowed to span Vservers. - The source or destination of a load-sharing relationship cannot be the source or destination of any other SnapMirror relationship. A set of load-sharing mirrors can have one or more destination volumes. You create separate SnapMirror relationships between the common source volume and each destination volume to create the set of load-sharing mirrors. If the destination volume is empty, it must be initialized using the snapmirror-initialize API. Destination volumes in a set of load-sharing mirrors must be initialized using the snapmirror-initialize-ls-set API. The snapmirror-create API must be issued on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and on the destination Vserver on Data ONTAP 8.2 operating in Cluster-Mode.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Specifies a list of the consistency group (CG) item mappings. This parameter is relevant to CG level relationships and will be |

| | | | |
|---|---|---|---|
| **cg-item-mappings** | | string[] optional | considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,... |
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |

| | | | |
|---|---|---|---|
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **identity-preserve** | | boolean optional | This optional parameter specifies whether or not the identity of the source Vserver is replicated to the destination Vserver and is applicable on Data ONTAP 8.3 or later. If this parameter is set to true, the source Vserver's configuration will additionally be replicated to the destination. If the parameter is set to false, then only the source Vserver's volumes and RBAC configuration are replicated to the destination. By default this parameter will be false. |
| **is-auto-expand-enabled** | | boolean optional | Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the paramter is not specified, auto expansion will be enabled on FlexGroup relationships. This parameter is only available on Data ONTAP 9.3 or later. |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| **policy** | | string optional | Specifies the name of the snapmirror policy for the relationship. For SnapMirror relationships of type 'vault' or 'extended data protection', the policy will also have rules to select snapshot copies that must be transferred. If no policy is specified, a default policy will be applied depending on the type of the SnapMirror relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. |
| **relationship-type** | | string optional | Specifies the type of the SnapMirror relationship. An extended data protection relationship with a policy of type vault is equivalent to a 'vault' relationship. Possible values:<br>• "data_protection" ,<br>• "load_sharing" ,<br>• "vault" ,<br>• "restore" ,<br>• "transition_data_protection" ,<br>• "extended_data_protection" |
| **return-record** | | boolean optional | If set to true, returns the snapmirror on successful creation. Default: false |
| | | | |

| | | | |
|---|---|---|---|
| **schedule** | | string<br>optional | Specifies the name of the cron schedule, which is used to update the SnapMirror relationship. |
| **source-cluster** | | string<br>optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | string<br>optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **source-volume** | | string<br>optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| | | | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: |

| | | | |
|---|---|---|---|
| **source-vserver** | | string optional | • The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |
| **tries** | | string optional | Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is ignored. |
| **vserver** | | string optional | If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option and should not be used for queries. The destination-vserver parameter should be used to select the Vserver in a cluster context. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | snapmirror-info optional | The snapmirror created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPILICENSE** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **ESOURCE_DEST_SAME** | |
| **ESOURCE_ISNOT_RW_VOLUME** | |
| **EDEST_ISNOT_LS_VOLUME** | |
| **ESOURCE_IS_DIFFERENT** | |
| **ERELATION_EXISTS** | |
| **ESOURCE_ISNOT_LOCAL_VOLUME** | |
| **ESOURCE_DEST_VSERVERS_DIFFERENT** | |
| **EDEST_IS_RW_VOLUME** | |
| **ESOURCE_IS_STRIPED_VOLUME** | |
| **EDEST_IS_STRIPED_VOLUME** | |
| **EDEST_VOLUME_HAS_CACHE** | |
| **ESOURCE_VOLUME_HAS_CACHE** | |
| **EDEST_IS_EXISTING_DEST_VOLUME** | |
| **EDEST_VOLUME_NOT_EMPTY** | |
| **EDEST_IS_LS_VOLUME** | |
| **EDEST_IS_VOLUME_CLONE** | |
| **ENOSNAPSHOT_COPY** | |
| **EVOLUMES_EMPTY** | |

| | |
|---|---|
| **EVOLUMES_WITH_DIFF_STRIPES** | |
| **ESCHEDULE_DOESNT_EXIST** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |
| **EVSERVERDR_VSR_INFO_GET_FAILED** | |
| **EVSERVERDR_SRC_VSERVER_LOCAL** | |
| **EVSERVERDR_INCORRECT_SUBTYPE_SRC** | |
| **EVSERVERDR_DST_DESTINATION_OF_DR_RELATION** | |
| **EVSERVERDR_DST_DESTINATION_OF_VSM_RELATION** | |
| **EVSERVERDR_VS_SM_NOT_ALLOWED_IN_VSERVER** | |
| **EVSERVERDR_NO_SM_IN_MCC** | |
| **EVSERVERDR_CAPABILITY_NOT_ENABLED** | |
| **EVSERVERDR_CAPABILITY_NOT_ENABLED_ON_SRC** | |
| **EVSERVERDR_GET_OPTIMUM_NODE_FAILED** | |
| **EVSERVERDR_ONLY_DP_TYPE_ALLOWED** | |
| **ENOT_SUPPORTED_BY_FLEXGROUP_OR_CONSTITUENTS** | |
| **ENOT_SUPPORTED_BY_FLEXGROUP_CONSTITUENTS** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| **License** |
|---|
| **SnapMirror** |

# snapmirror-delete-connection

[top]

Deletes a connection specified by connection. This API must be executed on the destination filer. Currently, the connections are in: /etc/snapmirror.conf.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection** | | string | Connection name to delete. The name is in ASCII and must begin with an alpha character. |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **replicate** |

# snapmirror-delete-schedule

[top]

Delete the schedule for a given destination. This API must be executed on the destination filer.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **destination-location** | | string | The destination location of a schedule to delete. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| replicate |

# snapmirror-delete-sync-schedule

[top]

Delete a synchronous schedule for a given destination. This API must be executed on the destination filer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-location** | | string | The destination location of a schedule to delete. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| replicate |

# snapmirror-destroy

[top]

The snapmirror-destroy API removes only the SnapMirror relationship of a source volume and a destination volume, the volumes are not destroyed and Snapshot copies on the volumes are not removed. In case of a Vserver SnapMirror relationship, this API removes only the relationship between a source and destination Vserver. The Vservers are not destroyed. The key parameter that identifies any SnapMirror relationship is the destination volume or the destination Vserver in the case of a Vserver SnapMirror relationship on Data ONTAP 8.3 or later. You must specify the destination endpoint when using snapmirror-destroy. On Data ONTAP 8.1 operating in Cluster-Mode, the snapmirror-destroy API fails if a SnapMirror transfer for the SnapMirror relationship is in progress. On Data ONTAP 8.2 operating in Cluster-Mode, the snapmirror-destroy API will attempt to abort any ongoing transfer. However, failure to abort the transfer will not cause the API to fail. A set of load-sharing mirrors might contain multiple destination volumes, each destination volume having a separate SnapMirror relationship with the common source volume. When used on one of the SnapMirror relationships from the set of load-sharing mirrors, the snapmirror-destroy API deletes the specified SnapMirror relationship from the set of load-sharing mirrors. The snapmirror-destroy API preserves the read-write or read-only attributes of the volumes of a SnapMirror relationship after the relationship is deleted. Therefore, a read-write volume that was the source of a SnapMirror relationship retains its read-write attributes, and a data protection volume or a load-sharing volume that was a destination of a SnapMirror relationship retains its read-only attributes. Note: When a SnapMirror relationship from a set of load-sharing mirrors is deleted, the destination volume becomes a data protection volume and retains the read-only attributes of a data protection volume. On Data ONTAP 8.2 operating in Cluster-Mode, this API can only be issued on the

destination Vserver. The SnapMirror relationship information is deleted from destination Vserver, but no cleanup or deletion is performed on the source Vserver. The snapmirror-release API must be issued on the source Vserver to delete the relationship information on the source Vserver. On Data ONTAP 8.1 operating in Cluster-Mode, this API can be issued on the source or on the destination cluster. When issued on the destination cluster, the SnapMirror relationship information on the source and destination clusters is deleted. When issued on the source cluster, only the SnapMirror relationship information on the source cluster is deleted. Note: If the SnapMirror relationship identified by the destination endpoint does not exist, this API will return success. This API is not supported if the destination end point is a Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in |

| | | | |
|---|---|---|---|
| | | | Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string<br>optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **source-cluster** | | string<br>optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | string<br>optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br><br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| | | | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: |

| | | | |
|---|---|---|---|
| **source-volume** | | string optional | • The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | | uuid optional | Result Operation Id |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPILICENSE** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **ESOURCE_IS_DIFFERENT** | |
| **ETRANSFER_IN_PROGRESS** | |
| **EANOTHER_OP_ACTIVE** | |
| **EDEST_VOL_LOCKED** | |

| License |
|---|
| **SnapMirror** |

# snapmirror-destroy-async

[top]

The snapmirror-destroy-async API removes the SnapMirror relationship between a source and destination Infinite Volume or a source and destination Vserver. The volumes or Vservers themselves are not destroyed and Snapshot copies on the volumes are not removed. You must specify the destination endpoint when using snapmirror-destroy-async. The destination endpoint could be a

- Infinte volume in case of a SnapMirror relationship between Infinite volumes.
- Vserver in case of a Vserver level SnapMirror relationship on Data ONTAP 8.3 or later.

For Infinite volume SnapMirror relationships,

- snapmirror-destroy-async API fails if a SnapMirror transfer for the relationship is in progress.
- snapmirror-destroy-async API preserves the read-write or read-only attributes of the volumes of a SnapMirror relationship after the relationship is deleted. Therefore, a read-write volume that was the source of a SnapMirror relationship retains its read-write attributes, and a data protection

volume that was the destination of a SnapMirror relationship retains its read-only attributes.
- snapmirror-destroy-async API should be used from the destination cluster. When used in this fashion, the destination-side information will be cleaned up. The destination will also attempt to cleanup source-side information. If the source cluster is not available, the destination-side information will still be cleaned up.
- this API is not supported if the destination end point is a flexible volume or an Infinite Volume constituent.

For Vserver SnapMirror relationships,

- snapmirror-destroy-async API can be issued even if a transfer is in progress for the relationship.
- snapmirror-destroy-async API preserves the subtype attribute of the Vserver. Therefore, a default Vserver that was the source of a SnapMirror relationship continues to be of subtype default, and a dp-destination Vserver that was a destination of a SnapMirror relationship continues to be of subtype dp-destination.
- snapmirror-destroy-async API should be used from the destination cluster. This will cleanup the destination-side information for the relationship.

A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the |

| | | | |
|---|---|---|---|
| | | | destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **source-cluster** | | string optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. |

| | | | |
|---|---|---|---|
| | | | This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |
| **EVSERVERDR_QUEUEING_TO_PROCESS_FAILED** | |

| License |
|---|
| **SnapMirror** |

# snapmirror-destroy-iter

[top]

Removes one or several SnapMirror relationships. This API is not supported on Infinite Volume constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-destroy-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed. |
| **success-list** | | snapmirror-destroy-iter-info[] optional | The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

| License |
|---|
| SnapMirror |

# snapmirror-get

[top]

The snapmirror-get API returns information for a SnapMirror relationship.

On Data ONTAP 8.1 operating in Cluster-Mode this API can be issued on the source cluster or destination cluster of the relatonship. On Data ONTAP 8.2 operating in Cluster-Mode, this API must be issued on the destination Vserver or the destination cluster of the relationship. The destination endpoint must be specified when using the snapmirror-get API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. |

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|---|---|---|---|
| | | | This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **source-cluster** | | string optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or |

| | | | |
|---|---|---|---|
| | | | later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br><br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **source-volume** | | string<br>optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| **source-vserver** | | string<br>optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapmirror-info | The attributes of the snapmirror. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# snapmirror-get-destination

[top]

The snapmirror-get-destination API returns information about a SnapMirror relationship whose source endpoint is on the cluster or Vserver it is issued on. The destination endpoint must be specified when using this API. The source endpoint can also be specified.

The cluster or Vserver may have several entries for the specified endpoints, but with different relationship IDs. In this case the API returns information about the first entry. To get information about all the SnapMirror relationships matching the specified endpoints, the snapmirror-get-destination-iter API must be used.

Note that the information for a SnapMirror relationship will not be available on its source Vserver or source cluster until at least one transfer is initiated.

The information returned can be stale. Stale information corresponds to a SnapMirror relationship that has been deleted on its destination cluster or Vserver.

This API is only supported on Data ONTAP 8.2 and above operating in Cluster-Mode.

This API must be issued on the source Vserver or the source cluster of the relationship.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-destination-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The destination endpoint can be specified using the location format above, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume. |
| **destination-volume** | | string optional | Specifies the name of destination volume for the SnapMirror relationshp. The name of the destination Vserver must also be specified if using this parameter. |
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the relationship. The name of the destination volume must also be specified if using this parameter. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The source endpoint can be specified using the location format above, or by specifying the parameters for the name of the source Vserver and the name of the source volume. |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. The name of the source Vserver must also be specified if using this parameter. |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. The name of the source volume must also be specified if using this parameter. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapmirror-destination-info | The attributes of the snapmirror. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# snapmirror-get-destination-iter

[top]

The snapmirror-get-destination-iter API returns information about, one or more SnapMirror relationships whose source endpoints are in the Vserver or the cluster the API is issued on.

The information returned can be stale. Stale information corresponds to a SnapMirror relationship that has been deleted on its destination cluster or Vserver. Stale information may result to several entries being returned with the same source and destination endpoints, but with different relationship IDs.

Note that the information for a SnapMirror relationship will not be available on its source Vserver or source cluster until at least one transfer is initiated.

This API is only supported on Data ONTAP 8.2 and above operating in Cluster-Mode. It can be issued on a Vserver or a Cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-destination-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **expand** | | boolean optional | Show Constituents of the Group |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snapmirror-destination-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snapmirror-destination-info[] optional | The list of attributes of snapmirror objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snapmirror objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-get-dp-personality

[top]

The snapmirror-get-dp-personality API returns the Data Protection Personality (DP Personality) of the cluster.

This API is supported on Data ONTAP 9.1 or later.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-get-dp-personality optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapmirror-get-dp- | The attributes of the snapmirror. |

| | | | |
|---|---|---|---|
| | | personality | |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# snapmirror-get-iter

[top]

The snapmirror-get-iter API returns information for one or several SnapMirror relationships.

On Data ONTAP 8.1 operating in Cluster-Mode, this API can be issued on a cluster. It returns all SnapMirror relationships that have a source or destination endpoint in that cluster, and that match the parameters specified. On Data ONTAP 8.2 operating in Cluster-Mode, this API can be issued on a Vserver or a cluster. It returns all the SnapMirror relationships, which have a destination endpoint in that Vserver or cluster, and that match the parameters specified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | snapmirror-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| expand | | boolean optional | Show Constituents of the Group |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | snapmirror-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | snapmirror-info[] optional | The list of attributes of snapmirror objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more snapmirror objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# snapmirror-get-status

[top]

Return the SnapMirror status. This API can be issued on either the source or destination filer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **location** | | string optional | The source location or destination location of the SnapMirror pair. Possible types are volume or qtree only. If this input is provided, only the SnapMirror relationships with a matching source or destination will be reported. The argument is invalid if the named location doesn't exist. In this case, snapmirror-status-info output will not be present. The argument can also be invalid if it is a flexclone name. (Be aware that the snapmirror-list-destinations API can return flexclone names.) Then snapmirror-get-status API will return a snapmirror-status output value with a "state" of "unknown". If the argument is not specified, all source, destination SnapMirror pairs are returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-available** | | boolean | True if SnapMirror is available. |
| **snapmirror-status** | | snapmirror-status-info[] optional | An array of SnapMirror pair status. If there are no transfers or schedules, then snapmirror-status is not returned. Any and all pairs whose source or destination location matches the input location will be in the output. |

| Vfiler-enabled |
|---|
| **Yes** |

# snapmirror-get-total-records

[top]

Obtain the total number of SnapMirror relationships. This is a point in time estimate and may be different on subsequent calls.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^64-1]** | integer | The total number of snapmirror objects. |

# snapmirror-get-volume-status

[top]

Returns SnapMirror status values for a given volume. Including whether: the volume is a source of a SnapMirror relationship; the volume is a destination of a SnapMirror relationship; a transfer is in progress; the relationship is broken off. On Data ONTAP 8.1 operating in Cluster-Mode, this API is provided for backward compatibility only. It will fail if the volume is the source or destination of a load-sharing SnapMirror relationship. It is recommended to use the snapmirror-get-iter API to get the same information. On Data ONTAP 8.1 operating in Cluster-Mode, this API must be issued on the cluster the volume belongs to. This API is not supported On Data ONTAP 8.2 or later operating in Cluster-Mode. You must use the snapmirror-get-iter and snapmirror-get-destination-iter APIs. If issued on Data ONTAP 8.2 or later operating in Cluster-Mode, this API will return EOPNOTSUPPORTED error.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume to be queried. On Data ONTAP operating in Cluster-Mode, specifies the location of the volume the following formats: [<cluster>:][//<vserver>/]<volume> |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-destination** | | boolean optional | true if it was determined that the volume is a destination of a SnapMirror relationship. false otherwise |
| **is-source** | | boolean optional | true if it was determined that the volume is a source of a SnapMirror relationship. false otherwise |
| **is-transfer-broken** | | boolean optional | true if it was determined that the volume is a destination of a SnapMirror relationship that was broken off. The volume allows reads and writes. false otherwise |
| **is-transfer-in-progress** | | boolean optional | true if it was determined that the volume is a source or a destination of a SnapMirror relationship that has a transfer going on. false otherwise |

| Errno | Description |
|---|---|
| **EVOLUMEOFFLINE** | |
| **EVOL_RESTRICTED** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENOTLOCAL** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUME_RELSTATUS_UNKNOWN** | |
| **EOPNOTSUPPORTED** | |
| **EVOL_RESTRICTED** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **replicate** |

# snapmirror-history-get

[top]

The snapmirror-history-get API returns information for a SnapMirror operation of the last 24 hours. This API must be issued on the destination Vserver or the destination cluster of the relationship. The operation-id must be specified when using the snapmirror-history-get API. This API can be used only with Data ONTAP 8.3 (or later). The snapmirror-history-get API does not return information about operations which happened while operating prior to Data ONTAP 8.3. The snapmirror-history-get API does not return information for relationships using a control plane compatible with Data ONTAP 8.1. This API does not return information for operations on FlexGroup relationships which happened prior to installing Data ONTAP 9.5. This API does not return information about operations on FlexGroup constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| | | | Specifies the destination endpoint of the SnapMirror relationship in the following format:<br>• <[vserver:]volume><br>• <vserver:> |

| | | | |
|---|---|---|---|
| **destination-location** | | string optional | This format depends on Vserver peering setup between the source and destination Vservers. The destination endpoint can be specified using the location format, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume or the destination Vserver for Vserver SnapMirror relationships. |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship.If using this parameter, the following parameter should also be specified:<br>• The name of the destination Vserver. |
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the SnapMirror relationship. If using this parameter, the following parameter should also be specified for volume SnapMirror relationships:<br>• The name of destination volume. |
| **operation-id** | | string | A unique identifier assigned to a SnapMirror operation. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapmirror-history-info | The attributes of the snapmirror. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EOPNOTSUPPORTED** | |

# snapmirror-history-get-iter

[top]

The snapmirror-history-get-iter API returns information for one or several SnapMirror operations of the last 24 hours. This API must be issued on the destination Vserver or the destination cluster of the relationship. This API can be used only with Data ONTAP 8.3 (or later). It returns all the SnapMirror operations, which have a destination endpoint in that Vserver or cluster, and that match the parameters specified. The snapmirror-history-get API does not return information about operations which happened while operating prior to Data ONTAP 8.3. The snapmirror-history-get API does not return information for relationships using a control plane compatible with Data ONTAP 8.1. This API does not return information for operations on FlexGroup relationships which happened prior to installing Data ONTAP 9.5. This API does not return information about operations on FlexGroup constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snapmirror-history-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned. |
| | | | |

| | | | |
|---|---|---|---|
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snapmirror-history-info[] optional | The list of attributes of snapmirror objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snapmirror objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |

# snapmirror-initialize

[top]

Performs the initial update of a SnapMirror relationship. You must specify the destination endpoint when using snapmirror-initialize. This API must be used from the destination storage system on Data ONTAP operating in 7-Mode, from the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and from the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

On Data ONTAP operating in 7-Mode, If the destination endpoint is a volume, the volume must be in the restricted state. If the destination endpoint is a qtree, the qtree must not already exist.

On Data ONTAP operating in Cluster-Mode, this API is usually used after the snapmirror-create API, but it can be used alone, that is, without the snapmirror-create API, for data protection relationships only, to create and initially update a SnapMirror relationship.

On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode (The relationship-control-plane field is set to 'v1'), a job will be spawned to operate on the SnapMirror relationship, and the job id will be returned. The progress of the job can be tracked using the job APIs.

On Data ONTAP 8.2 or later operating in Cluster-Mode, for extended_data_protection relationships, a 32-bit volume cannot be the source or destination of the relationship.

On Data ONTAP 8.2 or later operating in Cluster-Mode, you can track the progress of the operation using the snapmirror-get API, except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.

On Data ONTAP 8.3 or later result-operation-id is returned. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. This operation-id appears in the current-operation-id field returned by the snapmirror-get API as long as the operation is active.

With Data ONTAP 8.3 or later, this API can be used to initialize a relationship between two volumes or two Vservers. 1. When volume names are specified, this API initializes a volume level relationship. 2. When Vserver names without volume names are specified, this API will initialize a relationship between two Vservers. This API can only be used for relationships between two Vservers after a successful snapmirror-create API. During initialize a baseline transfer of the Vserver is performed.

With Data ONTAP 9.1, this API can be used to initialize a relationship between a Data ONTAP volume

and an AltaVault destination. 1. When an AltaVault destination is specified, the source must be a Data ONTAP volume. 2. An AltaVault source cannot be specified for initialize.

With Data ONTAP 9.3, this API can be used to initialize a relationship between a Data ONTAP volume and a SolidFire endpoint.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint.<br><br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume. On Data ONTAP operating in 7-Mode, if the destination endpoint is a volume, the volume must be in the restricted state. If the destination endpoint is a qtree, the qtree must not already exist.<br><br>This parameter is mandatory on Data ONTAP operating in 7-mode. This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. |
| **destination-snapshot** | | string optional | Creates the specified snapshot (in addition to the regular SnapMirror snapshot) on the destination after the qtree SnapMirror transfer is over. |
| **destination-volume** | | string optional | Specifies the destination volume of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |

| | | | |
|---|---|---|---|
| **destination-vserver** | | string optional | Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br>• The name of the destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory if destination-location is not specified. |
| **is-adaptive** | | boolean optional | Specifies if the SnapMirror relationship is adaptive. If the SnapMirror relationship is adaptive, updates on the relationship might, and often will be triggered based on source volume changes. This parameter is supported only for FlexVol SnapMirror relationships between Data ONTAP endpoints. This parameter is only available on Data ONTAP 9.4 or later. |
| **is-auto-expand-enabled** | | boolean optional | Specifies if the FlexGroup SnapMirror relationship and its destination FlexGroup should be auto-expanded if the source FlexGroup is expanded. This parameter is supported only for FlexGroup SnapMirror relationships. If the initialize is creating a new SnapMirror relationship, the default value is true. If it is not creating a new relationship, if a value is specified, it must match the current value for the existing relationship. If the parameter is not specified, the existing value will be retained. This parameter is only supported on Data ONTAP 9.3. or later. |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. On Data ONTAP operating in Cluster-Mode, the max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| **source-cluster** | | string optional | Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source endpoint.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source endpoint. |

| | | | |
|---|---|---|---|
| | | | This format may change in the future. On Data ONTAP operating in Cluster-Mode when specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume or the source Vserver. On Data ONTAP operating in 7-Mode, If the source-location is not specified, then the source in /etc/snapmirror.conf for the destination path is used. |
| **source-snapshot** | | string optional | Designates the source snapshot to use for a qtree update on Data ONTAP operating in 7-mode, and the snapshot on the source volume to use for the baseline transfer on Data ONTAP 8.2 or later operating in Cluster-Mode. The default is to create a new snapshot on the source for the transfer.<br><br>This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'.<br><br>Vserver level SnapMirror relationships do not support this parameter. |
| **source-volume** | | string optional | Specifies the source volume of the SnapMirror relationship. The If using this parameter, the following parameters must also be specified:<br><br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-vserver** | | string optional | Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br><br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **transfer-priority** | | string optional | Specifies the priority at which the transfer runs. Possible values are: "normal", and "low". The default value is the value specified in the snapmirror policy which is associated with the relationship.<br><br>This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. This parameter is only returned by Data ONTAP 8.1 operating in Cluster-Mode. |
| **result-operation-id** | | string optional | Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded", "in_progress", "failed". This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **ESNAPMIRROROFF** | |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EAPILICENSE** | |
| **EAPIMISSINGARGUMENT** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **EDEST_ISNOT_LS_VOLUME** | |
| **ESOURCE_ISNOT_RW_VOLUME** | |
| **ESOURCE_IS_EXISTING_DEST_VOLUME** | |
| **EDEST_IS_EXISTING_DEST_VOLUME** | |
| **EOP_FROM_NONMGR_VSERVER** | |
| **EDEST_IS_RW_VOLUME** | |
| **ESOURCE_ISNOT_LOCAL_VOLUME** | |
| **ESOURCE_DEST_VSERVERS_DIFFERENT** | |
| **ESOURCE_IS_STRIPED_VOLUME** | |
| **EDEST_VOLUME_NOT_EMPTY** | |
| **ESOURCE_DEST_SAME** | |
| **ENOSNAPSHOT_COPY** | |
| **EVOLUMES_WITH_DIFF_STRIPES** | |
| **ETRIES_COUNT_IS_ZERO** | |
| **ERELATION_IS_QUIESCED** | |
| **EANOTHER_OP_ACTIVE** | |
| **EDEST_IS_STRIPED_VOLUME** | |
| **EDEST_VOL_LOCKED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EDEST_NOT_DP_VSERVER** | |
| **EUNSUPPORTED_CONFIG** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |
| **EVSERVERDR_INCORRECT_SUBTYPE_DST** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **EVSERVERDR_INCORRECT_SUBTYPE_SRC** | |
| **EVSERVERDR_SRC_SRC_OF_DR_RELATION** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE** | |
| **EVSERVERDR_MIRROR_STATUS_DELETING** | |
| **EVSERVERDR_RELATIONSHIP_MODIFY_FAILED** | |
| **EVSERVERDR_QUEUEING_TO_PROCESS_FAILED** | |
| **EVSERVERDR_SNAPNAME_GEN_FAILED** | |
| **EVSERVERDR_POLICY_LOOKUP_FAILED** | |
| **EVSERVERDR_ROOT_VOL_HAS_DATA** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **replicate** |

# snapmirror-initialize-iter

[top]

The snapmirror-initialize-iter API initializes the destination volume of one or more SnapMirror relationships. On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode (The relationship-control-plane field is set to 'v1'), A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **is-auto-expand-enabled** | | boolean optional | Is Auto Expand Enabled |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on or scheduled to be worked on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **source-** | | string | Designates the source Snapshot copy to use for a qtree update on Data ONTAP operating in 7-mode, and the Snapshot copy on the source volume to use for the baseline transfer on Data ONTAP 8.2 or later operating in Cluster-Mode. The default is to create a new Snapshot copy on the source for the transfer. |

| | | | |
|---|---|---|---|
| **snapshot** | | optional | This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'.<br><br>Vserver level SnapMirror relationships do not support this parameter. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |
| **transfer-priority** | | sm-transfer-priority-enum optional | Specifies the priority at which the transfer runs. The default value is the value specified in the snapmirror policy which is associated with the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Possible values:<br>• "low" ,<br>• "normal" |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-initialize-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | [0..2^32-1] | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | [0..2^32-1] | integer optional | The number of snapmirror objects that matched the query and were successfully processed or scheduled to be processed. |
| **success-list** | | snapmirror-initialize-iter-info[] optional | The snapmirror objects that were successfully processed or scheduled to be processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| License |
|---|
| **SnapMirror** |

# snapmirror-initialize-ls-set

[top]

The snapmirror-initialize-ls-set API performs the initial manual update of a set of load-sharing mirrors. This API is usually used after the snapmirror-create API is used to create a SnapMirror relationship for each of the destination volumes in the set of load-sharing mirrors. You must specify the source endpoint when using snapmirror-initialize-ls-set. Data and Snapshot copies are transferred from the source volume to all up-to-date destination volumes in the set of load-sharing mirrors. Use the snapmirror-initialize API to add and initialize a new destination volume to an existing set of load-sharing mirrors. A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **source-cluster** | | string optional | Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship. When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume. |
| **source-volume** | | string optional | Specifies the source volume of the SnapMirror relationship. The source cluster and source Vserver must also be specified if using this parameter. This parameter may be optional if executed outside cluster context. |
| **source-vserver** | | string optional | Specifies the source Vserver of the SnapMirror relationship. The source cluster and source volume must also be specified if using this parameter. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIMISSINGARGUMENT** | |
| **EAPIPRIVILEGE** | |
| **ESOURCE_IS_EXISTING_DEST_VOLUME** | |
| **ETRIES_COUNT_IS_ZERO** | |
| **ERELATION_IS_QUIESCED** | |
| **EANOTHER_OP_ACTIVE** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# snapmirror-list-connections

[top]

Returns connection information for a given connection or all connections. The API must be executed on the destination filer. Currently, the connections are in: /etc/snapmirror.conf.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection** | | string optional | Connection name of the connection information to obtain. If the connections is not specified, then the connection information for all the connections is returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapmirror-connections** | | snapmirror-connection-info[] | An array of SnapMirror connection information. |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| replicate |

# snapmirror-list-destinations

[top]

Returns a list of destination locations and information about SnapMirror relationships for given source locations, which can be a volume name or qtree path. This API must be issued on the source filer. This API is not supported for relationships with non-Data ONTAP endpoints.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **source-location** | | string optional | Source location of the SnapMirror pair. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. If the source-location is not specified, then all source, destination SnapMirror pairs are returned. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **destinations** | | destination-info[] | A list of currently-known destinations on a source filer. |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| replicate |

# snapmirror-list-schedule

[top]

Returns the schedule for a given destination or all destinations. The API must be executed on the destination filer. Currently, the schedules is in /etc/snapmirror.conf.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **destination-location** | | string optional | The destination location of a schedule to obtain. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. The <filer> must match the destination filer. If the destination-location is not specified, then all the destination schedules are returned. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **snapmirror-schedules** | | snapmirror-schedule-info[] | An array of SnapMirror schedule. |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| replicate |

## snapmirror-list-sync-schedule

[top]

Returns a synchronous schedule for a given destination or all destinations. The API must be executed on the destination filer. Currently, the schedules is in /etc/snapmirror.conf.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **destination-location** | | string optional | The destination location of a schedule to obtain. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. The <filer> must match the destination filer. If the destination-location is not specified, then all the destination schedules are returned. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **snapmirror-sync-schedules** | | snapmirror-sync-schedule-info[] | An array of SnapMirror schedule. |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| replicate |

## snapmirror-list-unprotected

[top]

The snapmirror-list-unprotected API returns a list of unprotected volumes for the specified source Vserver.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **desired-attributes** | | snapmirror-list-unprotected optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **source-vserver** | | string | Specifies the source Vserver for which to list unprotected volumes. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **attributes** | | snapmirror-list- | The attributes of the snapmirror. |

| | | | |
|---|---|---|---|
| | | unprotected | |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# snapmirror-modify

[top]

The snapmirror-modify API changes one or more parameters of a SnapMirror relationship. The key parameter that identifies any SnapMirror relationship is the destination volume or the destination Vserver in the case of a Vserver SnapMirror relationship on Data ONTAP 8.3 or later.

You must specify the destination endpoint when using the snapmirror-modify API. For load-sharing mirrors, a change to a parameter affects all of the SnapMirror relationships in the set of load-sharing mirrors. Destination volumes in a set of load-sharing mirrors do not have individual parameter settings. Changes made by the snapmirror-modify API do not take effect until the next manual or scheduled update of the SnapMirror relationship. Changes do not affect updates that have started and have not finished yet. On Data ONTAP 8.1 operating in Cluster-Mode this API must be issued on the destination Cluster. On Data ONTAP 8.2 operating in Cluster-Mode, this API must be issued on the destination Vserver if operating in a Vserver context and on the destination cluster if operating in a cluster context. This API is not supported on Infinite Volume constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume |

| | | | |
|---|---|---|---|
| | | | are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **destination-volume** | | string<br>optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string<br>optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **is-auto-expand-enabled** | | boolean<br>optional | Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the parameter is not specified, auto expansion will be enabled on FlexGroup relationships. This parameter is only available on Data ONTAP 9.3 or later. |
| **max-transfer-rate** | **[0..2^32-1]** | integer<br>optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| **policy** | | sm-policy<br>optional | Specifies the name of the SnapMirror policy that applies to this relationship. |
| **schedule** | | string<br>optional | Specifies the name of the cron schedule, used to update the SnapMirror relationship. |
| | | | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: |

| | | | |
|---|---|---|---|
| **source-cluster** | | string optional | • Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |

| | | | |
|---|---|---|---|
| **tries** | | string optional | Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is ignored. |
| **vserver** | | vserver-name optional | If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | | uuid optional | Result Operation Id |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **ESOURCE_DEST_SAME** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EOP_FROM_NONMGR_VSERVER** | |
| **ESCHEDULE_DOESNT_EXIST** | |
| **EANOTHER_OP_ACTIVE** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |

# snapmirror-modify-iter

[top]

The snapmirror-modify-iter API allows to change one or more parameters of one or more SnapMirror relationships. This API is not supported on Infinite Volume constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **is-auto-expand-enabled** | | boolean optional | Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the parameter is not specified, auto expansion |

| | | | |
|---|---|---|---|
| | | | will be enabled on FlexGroup relationships. This parameter is only available on Data ONTAP 9.3 or later. |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| **policy** | | sm-policy optional | Specifies the name of the SnapMirror policy that applies to this relationship. |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **schedule** | | string optional | Specifies the name of the cron schedule, used to update the SnapMirror relationship. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |
| **tries** | | string optional | Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is ignored. |
| **vserver** | | vserver-name optional | If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | snapmirror-modify- | Information about snapmirror objects that were not operated on |

| | | | |
|---|---|---|---|
| **failure-list** | | iter-info[] optional | due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed. |
| **success-list** | | snapmirror-modify-iter-info[] optional | The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-off

[top]

Disables SnapMirror data transfers and turns off the SnapMirror scheduler. Check the SnapMirror status with the snapmirror-get-status API for results.

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **replicate** |

# snapmirror-on

[top]

Enables SnapMirror data transfers and turns on the SnapMirror scheduler. Check the SnapMirror status with the snapmirror-get-status API for results.

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **replicate** |

# snapmirror-promote

[top]

The snapmirror-promote API performs a failover to the destination volume of a load-sharing SnapMirror relationship. This API changes the destination volume from a load-sharing volume to a read-write volume and makes the destination volume assume the identity of the source volume. The API then destroys the original source volume. The destination volume must be a load-sharing volume. However, you can still perform 'snapmirror-promote' on a destination load-sharing volume that has been left in read-write state by a previously failed promote operation. You must specify the destination endpoint when using snapmirror-promote. Note: The source volume and destination volume must be on the same Vserver for the promote to work. Client accesses are redirected from the original source volume to the promoted destination volume. The view clients see on the promoted destination volume is the latest transferred Snapshot copy, which might lag behind the view clients had of the original source volume before the promote. The SnapMirror relationship is usually deleted as part of the promotion process. This is not true for a set of load-sharing mirrors that contain more than one destination volume. In this case, the promoted destination volume becomes the new source volume to the set of load-sharing mirrors. It is possible that the original source volume is the source of multiple SnapMirror relationships. For such a configuration, the promoted destination volume becomes the new source volume of the other SnapMirror relationships. The snapmirror-promote API fails if a SnapMirror transfer is in progress for any SnapMirror relationship involving the original source volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |

| | | | |
|---|---|---|---|
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **source-cluster** | | string optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br><br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The |

| | | | |
|---|---|---|---|
| | | | name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **ESOURCE_ISNOT_RW_VOLUME** | |
| **ESOURCE_DEST_SAME** | |
| **ETRANSFER_IN_PROGRESS** | |
| **EANOTHER_OP_ACTIVE** | |
| **EDEST_VOL_LOCKED** | |
| **ESRC_VOL_LOCKED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# snapmirror-promote-iter

[top]

The snapmirror-promote-iter API performs failover for one or more SnapMirror relationships.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| | | | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API |

| | | | |
|---|---|---|---|
| **max-failure-count** | **[1..2^32-1]** | integer optional | will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-promote-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed. |
| **success-list** | | snapmirror-promote-iter-info[] optional | The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-protect

[top]

The snapmirror-protect API protects the specified Vserver or a list of volumes. The snapmirror-protect API must be used from the destination cluster. It is supported for FlexVol, FlexGroup and Vserver endpoints. It is not supported for FlexGroup constituents, Infinite Volumes, Infinite Volume constituents, AltaVault, or SolidFire endpoints. When source volumes are specified they must be read-write (RW) volumes. This API is available in Data ONTAP 9.3 and later.

On Data ONTAP 9.4 and later, this API supports protecting FlexGroup endpoints.On Data ONTAP 9.7 and later, this API supports protecting Vserver endpoints. A job will be spawned to operate on the

snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **auto-initialize** | | boolean optional | Specifies whether or not an initialize should be started after each SnapMirror relationship is created. The default value for this parameter is true. |
| **destination-volume-prefix** | | string optional | Specifies the destination volume name prefix. |
| **destination-volume-suffix** | | string optional | Specifies the destination volume name suffix. |
| **destination-vserver** | | xc-vs-name optional | Specifies the destination Vserver to be used for protection. |
| **destination-vserver-ipspace** | | string optional | Specifies the IPspace the Vserver will be assigned to. If left unspecified, the Vserver will be assigned to the default IPspace. This parameter is supported while protecting a Vserver and is available in Data ONTAP 9.7 or later. |
| **identity-preserve** | | boolean optional | Specifies whether Vserver protect is IDD or IDP. |
| **path-list** | | snapmirror-path[] | Specifies the list of source endpoints to be protected. |
| **policy** | | sm-policy | Specifies the name of the SnapMirror policy for the SnapMirror relationships. |
| **schedule** | | string optional | Specifies the name of the cron schedule for the SnapMirror relationships. |
| **source-cluster** | | cluster-name optional | Specifies the source cluster name. This parameter is valid only when only a single Vserver is specified in the path-list parameter. This parameter is supported on Data ONTAP 9.7 or later. |
| **support-tiering** | | boolean optional | This parameter specifies whether or not FabricPools are selected when provisioning a FlexVol volume or FlexGroup volume during the protection workflows. This parameter is supported for FlexGroup volumes on Data ONTAP 9.5 or later. This parameter is supported for FlexVol volumes on Data ONTAP 9.7 or later. |
| **tiering-policy** | | tieringpolicy-enum optional | Destination Volume Tiering Policy. This parameter is supported for FlexGroup volumes on Data ONTAP 9.5 or later. This parameter is supported for FlexVol volumes on Data ONTAP 9.7 or later. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| | |

| EAPIMISSINGARGUMENT | |
|---|---|

# snapmirror-quiesce

[top]

Disables future transfers to a SnapMirror destination. If there is no transfer in progress, the SnapMirror relationship becomes 'Quiesced'. If there is a transfer in progress, the SnapMirror relationship becomes 'Quiescing' until the transfer completes. If the current transfer aborts, it will be treated like a future transfer and will not restart. When a SnapMirror relationship is quiesced, it remains in that state across reboots and fail-overs. The relationship must exist on the destination and you must specify the destination endpoint when using snapmirror-quiesce. The destination end point could be a:

- Volume in case of a volume level SnapMirror relationship
- Vserver in case of a Vserver level SnapMirror relationship on Data ONTAP 8.3 or later.
- An AltaVault endpoint on Data ONTAP 9.1 or later.
- A SolidFire endpoint on Data ONTAP 9.3 or later.

On Data ONTAP 8.1 operating in Cluster-Mode, if applied to a load-sharing (LS) SnapMirror relationship, all the relationships in the set will be quiesced. This API must be issued from the destination storage system on Data ONTAP operating in 7-Mode, on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination endpoint.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint.<br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume or the destination Vserver. This parameter is mandatory on Data ONTAP 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. |
| | | | Specifies the destination volume of the SnapMirror relationship. This |

| | | | |
|---|---|---|---|
| **destination-volume** | | string optional | parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br><br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory for relationship with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br><br>• The name of the destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory if destination-location is not specified. |
| **source-cluster** | | string optional | Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the following formats:<br><br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source endpoint.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source endpoint.<br><br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume or the source Vserver. |
| **source-volume** | | string optional | Specifies the source volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br><br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-** | | string | Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br><br>• The name of the source volume. |

| | | | |
|---|---|---|---|
| **vserver** | | optional | • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | | string optional | Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **ESOURCE_DEST_SAME** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EOP_FROM_NONMGR_VSERVER** | |
| **EANOTHER_OP_ACTIVE** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **replicate** |

# snapmirror-quiesce-iter

[top]

Disables future transfers for one or more SnapMirror relationships.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not |

| | | | |
|---|---|---|---|
| | | | provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-quiesce-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed. |
| **success-list** | | snapmirror-quiesce-iter-info[] optional | The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-release

[top]

The snapmirror-release API removes a SnapMirror relationship on the source endpoint. It unlocks and cleanups the snapshots pertaining to the relationship. It does not destroy any volume. You must specify the destination endpoint when using snapmirror-release. The destination end-point could be a: (a) Volume for a volume level relationship (b) Vserver for a Vserver SnapMirror relationship on Data ONTAP 8.3 or later. Unless relationship-info-only is specified, this operation will fail if it is unable to reach the source volume and clean up snapshots. On Data ONTAP 8.3 or later, if operated on a Vserver SnapMirror relationship, relationships will be removed for all the volumes belonging to the Vserver. On Data ONTAP 8.2 or later operating in Cluster-Mode, this API must be executed on the source Vserver or source cluster following the deletion of the relationship on the destination Vserver or destination cluster. It is possible to issue snapmirror-release on the source Vserver without deleting the relationship on the destination Vserver. However, the relationship will continue to exist because the destination is the authority. The relationship will reappear on the source on the next transfer. On Data ONTAP operating in

7-Mode, this API must be issued on the source storage system. On Data ONTAP 8.2 or later operating in Cluster-Mode, this API must be issued on the source Vserver if operating in Vserver context and on the source cluster if operating in a cluster context. This API is not supported on Data ONTAP 8.1 operating in Cluster-Mode, or Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. This API is not supported for relationships with non-Data ONTAP endpoints.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br><br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or destination Vserver and destination volume or the destination Vserver. This parameter is mandatory on Data ONTAP operating in 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. |
| **destination-volume** | | string optional | Specifies the destination volume of the SnapMirror relationship. If using this parameter, the destination Vserver must also be specified. This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the destination Vserver of the SnapMirror relationship. If using this parameter, the destination volume must also be specified. This parameter is mandatory if destination-location is not specified. |
| **relationship-id** | | string optional | Specifies the relationship unique identifier of the SnapMirror relationship. |
| **relationship-info-only** | | boolean optional | If relationship-info-only is set to true then only relationship information is removed. By default it is false. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. |

| | | | |
|---|---|---|---|
| | | | This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source Vserver, and source volume or the source Vserver. |
| **source-volume** | | string optional | Specifies the source volume of the SnapMirror relationship. If using this parameter, the source Vserver must also be specified: |
| **source-vserver** | | string optional | Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the source volume must also be specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | | string optional | Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. |

| Errno | Description |
|---|---|
| **ESNAPMIRRORERR** | |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPILICENSE** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |
| **EVSERVERDR_SRC_IS_NOT_LOCAL** | |
| **EVSERVERDR_DST_VSERVER_LOCAL** | |
| **E_JOB_EXISTS** | |
| **EREL_SRC_INFO_NOT_FOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapmirror-release-iter

[top]

releases one or a group of SnapMirror relationships.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **query** | | snapmirror-destination-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **relationship-info-only** | | boolean optional | If relationship-info-only is set to true then only relationship information is removed. By default it is false. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-release-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed. |
| **success-list** | | snapmirror-release-iter-info[] optional | The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| License |
|---|
| **SnapMirror** |

# snapmirror-restore

[top]

The snapmirror-restore API restores either the entire contents of a selected Snapshot copy or selected files or LUNs of a selected Snapshot copy from the source volume to the active file system (AFS) of the destination volume.

The snapmirror-restore API creates a temporary SnapMirror restore relationship. For this reason the destination volume cannot be the destination volume of another SnapMirror relationship. The temporary restore relationship is deleted after the operation completes successfully.

When restoring the entire contents of a Snapshot copy the following applies.

- If the destination volume is an empty data protection volume, the snapmirror-restore API performs a baseline restore. The baseline restore transfers the contents of the selected Snapshot copy from the source volume to the destination volume.
- If the destination volume is read-write an incremental restore is performed. A read-write destination volume must have at least one Snapshot copy which also appears on the source volume.

  A read-write destination volume is converted to a data-protection volume for the duration of the operation. When the destination volume is converted to a data-protection volume the latest Snapshot copy on destination volume is made the exported Snapshot copy. Note, that any data written to the destination volume since the last Snapshot copy is lost during this operation. To save the contents of the AFS on the destination volume, stop all client access and create a new Snapshot copy before starting this operation.

  During an incremental restore a common Snapshot copy is selected. The Snapshot copy chosen as the common Snapshot copy must be on the source and destination volumes. The contents of the common Snapshot copy on the destination volume are copied to the AFS of the destination volume. Then the contents of the Snapshot copy to be restored are transferred from the source volume to the destination volume.

The destination volume is converted to a read-write volume after the contents of the Snapshot copy have been transferred to the AFS of the destination volume.

If the destination volume is not an empty data protection volume or a read-write volume with at least one Snapshot copy which also appears on the source volume, the command fails.

Unless 'source-snapshot' is specified the most recent Snapshot copy on the source volume is restored.

When restoring a list of files or LUNs of a Snapshot copy the following applies.

The destination volume must be a read-write volume and the state of the volume is not changed by the restore operation.

Use the 'file-list' parameter to indicate the files or LUNs to be restored. Access to the files or LUNs being restored on the destination volume is restricted during the operation.

If the file or LUN to which data is to be restored does not exist in the destination volume's AFS it will be created. When creating a file or LUN in the destination AFS, all directories in the path of the file or LUN being restored must exist and for a LUN the parent directory must also be the root of the destination volume or the root of a Qtree in the destination volume.

The 'source-snapshot' parameter is required when restoring a list of files or LUNs. Files or LUNs to be restored must exist in the source Snapshot copy.

If the file or LUN being restored exists in the destination volume's AFS but is not the same file or LUN as in the source Snapshot copy, the contents of the file or LUN in the destination volume AFS will be overwritten but the file or LUN will retain its inode and for a LUN its identity as well. If the file or LUN being restored exists in the destination volume AFS it must be the same type as the file or LUN in the source Snapshot copy. Overwriting a file with a LUN or LUN with a file is not supported.

The 'create-check-snapshot' parameter is supported only when restoring files or LUNs and should be used only if the contents of the files or LUNs restored are to be verified using the 'snapmirror-check' API.

This API may be used to restart a failed snapmirror-restore operation.

This API may be used to terminate an aborted or failed snapmirror-restore operation by specifying the 'clean-up-failure' parameter set to 'true'. Terminating an aborted or failed snapmirror-restore operation deletes any residual temporary restore relationship.

Terminating an operation restoring the entire contents of a Snapshot copy converts the destination volume back to being read-write if the destination volume was read-write prior to the initial snapmirror-restore operation while removing any data transferred or copied during the snapmirror-restore

operation.

On Data ONTAP 9.1, only the SnapMirror source can be an AltaVault endpoint and the destination must be a Data ONTAP volume.

On Data ONTAP 9.4 and later, this API supports FlexGroup endpoints.

Terminating an operation restoring files or LUNs of a Snapshot copy deletes any files whose contents were partially restored but does not delete partially restored LUNs. Access restriction to the partially restored LUNs is not removed. Such a LUN may be deleted using the 'lun-destroy' API with the 'destroy-fenced-lun' parameter. A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cg-item-mappings** | | cg-item-mapping[] optional | Consistency Group Item Mappings |
| **clean-up-failure** | | boolean optional | Use this parameter with the value of 'true' to recover from an aborted or failed restore operation. If the destination volume was read-write prior to the failed or aborted restore operation, it is converted back to read-write if necessary while removing all data transferred or copied during the restore operation. Any residual temporary restore relationship is also removed from the destination Vserver. An attempt is made to remove any residual temporary restore relationship from the source Vserver. The default value for this parameter is 'false'. |
| **create-check-snapshot** | | boolean optional | If this parameter is specified with the value of 'true' a Snapshot copy is created on the destination volume. The purpose of this Snapshot copy is for verifying the contents of files or LUNs restored using the 'snapmirror-check' API. The name of the Snapshot copy created is of the form 'snapmirrorCHK.<destination volume Vserver UUID>.<destination volume msid>.<time_stamp>'. Once the Snapshot copy is no longer needed for verifying data it is the responsibility of the user to delete the Snapshot copy. This parameter is only available on Data ONTAP 8.3 or later. |
| **destination-cluster** | | cluster-name optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| | | | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering |

| | | | |
|---|---|---|---|
| **destination-location** | | snapmirror-path optional | setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **destination-volume** | | volume-name-nolink optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | xc-vs-name optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **disable-storage-efficiency** | | boolean optional | The default behavior of restore is to preserve storage efficiency when possible. Use this parameter with a value of 'true' to turn off storage efficiency for data transferred over the wire and written to the destination volume. The default value for this parameter is false. |
| **max-transfer-rate** | | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| | | | Specifies the files or LUNs of the Snapshot copy to be restored and the location to which the files or LUNs are restored in the active file system (AFS) on the destination volume. May contain |

| | | | |
|---|---|---|---|
| **restore-file-list** | | snapmirror-file-path[] optional | specifications for up to 8 files or LUNs. Specification for each file or LUN consists of a source-path and an optional destination-path. Source-path is required and is the path of the file from the root of the source Snapshot copy, e.g. /dira/file1 or /lun1. The source path does not include the Snapshot name nor the source volume name. The path to which data is restored in the destination volume's AFS is the same as the path specified by source-path unless an optional destination-path is specified. Destination-path begins with the @ symbol followed by the path of the file from the root of the destination volume, e.g. @ /file1 or @ /dira/lun1. File restore is not supported if the source-path or destination-path contains commas in its directory or file name. Source-paths and destination-paths are separate entities in the list of paths. A destination-path is associated with the source-path that precedes it. Example: <snapmirror-file-path>/file1</snapmirror-file-path> will restore /file1 to the same path on the destination volume's AFS while <snapmirror-file-path>/file1</snapmirror-file-path> <snapmirror-file-path> @ /dst_file1</snapmirror-file-path> will restore the data to /dst_file1 on the destination volume's AFS. This parameter is only available on Data ONTAP 8.3 or later. |
| **source-cluster** | | cluster-name optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | snapmirror-path optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required |

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| | | | on Data ONTAP 8.1 operating in Cluster-Mode. |
| **source-snapshot** | | string optional | Specifies the Snapshot from the source to be restored. |
| **source-volume** | | volume-name-nolink optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| **source-vserver** | | xc-vs-name optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |
| **transfer-priority** | | sm-transfer-priority-enum optional | Specifies the priority at which the transfer runs. Possible values are: 'normal', and 'low'. The default value for this parameter is 'normal'. |
| **tries** | | string optional | Specifies the total number of attempts to transfer data. Valid input is a positive integer or 'unlimited'. The default is '8'. |
| **use-network-compression** | | boolean optional | Specifies whether network compression is used for transfer of data. The default value is 'false'. This parameter is only available on Data ONTAP 8.3 or later. This parameter is not supported for relationships with non-Data ONTAP endpoints. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIMISSINGARGUMENT** | |
| | |

| | |
|---|---|
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **EDEST_IS_CACHE_VOLUME** | |
| **EDEST_IS_VOLUME_CLONE** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EDEST_IS_LS_VOLUME** | |
| **EDEST_VOL_LOCKED** | |

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| **License** |
| **SnapMirror** |

# snapmirror-resume

[top]

Enables future transfers for a SnapMirror relationship that has been quiesced. If there is a scheduled transfer, it will be triggered on the next schedule. If there is a restart checkpoint, it will be re-used if possible. On Data ONTAP Cluster-Mode, If applied on a load-sharing SnapMirror relationship, transfers will resume for all the relationships of the set. With Data ONTAP 8.3 or later, if executed on a Vserver SnapMirror relationship, transfers will resume for all the volumes belonging to the Vserver. When a quiesced SnapMirror relationship is resumed, it remains in that state across reboots and fail-overs. The relationship must exist on the destination and you must specify the destination end point when using snapmirror-resume. The destination end-point could be a: (a) Volume for a volume level relationship (b) Vserver for a Vserver SnapMirror relationship on Data ONTAP 8.3 or later. (c) Non-Data ONTAP destination on Data ONTAP 9.1 or later. This API must be issued on the destination storage system on Data ONTAP operating in 7-Mode, on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and on the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination endpoint.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint.<br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use |

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|---|---|---|---|
| | | | either the destination location, or the destination cluster, destination Vserver, and destination volume or the destination Vserver. This parameter is mandatory on Data ONTAP operating in 7-mode. This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. |
| **destination-volume** | | string optional | Specifies the destination volume of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br>• The name of the destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory if destination-location is not specified. |
| **source-cluster** | | string optional | Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source endpoint.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source endpoint.<br><br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume or the source Vserver. |
| **source-volume** | | string optional | Specifies the source volume of the SnapMirror relationship. The If using this parameter, the following parameters must also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in |

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|---|---|---|---|
| | | | Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-vserver** | | string optional | Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br>• The name of the source volume.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | | string optional | Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **ESOURCE_DEST_SAME** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EOP_FROM_NONMGR_VSERVER** | |
| **ERELATION_NOT_QUIESCED** | |
| **EANOTHER_OP_ACTIVE** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **replicate** |

# snapmirror-resume-iter

[top]

Enables future transfers for one or more SnapMirror relationships.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| | | | When allowing failures ('continue-on-failure' is set to true), then |

| | | | |
|---|---|---|---|
| **max-failure-count** | **[1..2^32-1]** | integer optional | this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-resume-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed. |
| **success-list** | | snapmirror-resume-iter-info[] optional | The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-resync

[top]

Re-establishes a mirroring relationship between

- A source volume and a destination volume.
- A source Vserver and a destination Vserver in case of a Vserver Snapmiror relationship on Data ONTAP 8.3 or later.

On Data ONTAP operating in Cluster-Mode this API is usually used on existing SnapMirror relationships, but it can be used, for data protection relationships only, to create a SnapMirror relationship in addition to performing the resync operation.

Typically, the snapmirror-resync API is executed in the following cases:

- The destination mirror is broken (that is, the destination volume is a read-write volume and no longer a data protection mirror). After the snapmirror-resync API completes, the destination volume is made a data protection mirror and the mirror can be manually updated or scheduled for updates.
- A snapmirror-update API failed because the required common Snapshot copy was deleted on the source volume.

Typically, for a Vserver SnapMirror relationship, a resync is executed when the Vserver SnapMirror relationship is broken-off and the destination Vserver is of subtype default. It establishes the Vserver level relationship by

- Creating new volumes at the destination. (volumes are present at the source Vserver but not present at the destination Vserver)
- Creating volume level SnapMirror relationships.
- Initializing the newly created volume relationships.
- Performing a resync for volumes which have common snapshots.

The destination Vserver after resync, is of sub-type dp-destination. After the operation completes, the destination volume is made a data protection mirror and the mirror can be manually updated or scheduled for updates. **Attention:** The snapmirror-resync API can cause data loss on the destination volume because the API can remove the exported Snapshot copy on the destination volume.

The default behavior of the snapmirror-resync API is defined as follows:

- Finds the most recent common Snapshot copy between the source and destination volumes, removes Snapshot copies on the destination volume that are newer than the common Snapshot copy and mounts the destination volume as a DP volume with the common Snapshot copy as the exported Snapshot copy.
- For data protection and extended data protection relationships with policy type other than vault, takes a Snapshot copy of the source volume to capture the current image and transfers Snapshot copies that are newer than the common Snapshot copy from the source volume to the destination volume. For extended data protection relationships, transfers Snapshot copies newer than the common Snapshot copy according to the relationship policy, i.e., Snapshot copies will match rules associated with the policy as defined by the snapmirror-policy API. For relationships associated with the policy type of async-mirror or mirror-vault, the snapmirror-resync API first takes a Snapshot copy of the source volume and includes it in the Snapshot copies selected for transfer.

On Data ONTAP 8.2 or later operating in Cluster-Mode, the snapmirror-resync API supports an optional parameter 'preserve'. The parameter 'preserve' is only supported for extended data protection relationships with policy type mirror-vault or vault. When used, the parameter 'preserve' changes the behavior of the snapmirror-resync API. The changed behavior can be described as follows:

- Finds the most recent common Snapshot copy between the source and destination volumes, preserves all Snapshot copies on the destination volume that are newer than the common Snapshot copy, and mounts the destination volume as a DP volume with the common Snapshot copy as the exported Snapshot copy.
- Performs a local rollback transfer to make a copy of the common Snapshot copy on the destination volume and establish it as the latest Snapshot copy on the destination volume. The command then transfers all Snapshot copies that are newer than the common Snapshot copy, from the source volume to the destination volume. The command only transfers Snapshot copies that match the relationship's policy, i.e., Snapshot copies will match rules associated with the policy as defined by the snapmirror-policy APIs.

The snapmirror-resync API fails if the destination volume does not have a Snapshot copy in common with the source volume.

On Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode, a job is spawned to operate for the SnapMirror relationship and the job id is returned. The progress of the operation can be tracked using the job APIs.

On Data ONTAP 8.2 or later operating in Cluster-Mode, you can track the progress of the operation using the snapmirror-get API except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.

On Data ONTAP 8.3 or later result-operation-id is returned. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. This operation-id appears in the current-operation-id field returned by the snapmirror-get API as long as the operation is active.

On Data ONTAP operating in 7-Mode, the update is asynchronously handled, and there is no guarantee that it succeeds. This requires that a schedule in /etc/snapmirror.conf is set for the destination.

The API must be issued on the destination storage system on Data ONTAP operating in 7-Mode, on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and on the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

With Data ONTAP 9.1, this API can be used to resync a Data ONTAP source volume and an AltaVault destination. 1. When an AltaVault destination is specified, the source must be a Data ONTAP volume. 2. An AltaVault source cannot be specifed for resync.

With Data ONTAP 9.3, this API can be used to resync a Data ONTAP volume and a SolidFire endpoint. 1. When a SolidFire endpoint is specified, the other side of the SnapMirror relationship must be a Data ONTAP volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-data ONTAP endpoint. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br><br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume or the destination Vserver. This parameter is mandatory on Data ONTAP operating in 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. |
| **destination-** | | string | Creates the specified snapshot (in addition to the regular SnapMirror snapshot) on the destination after the qtree SnapMirror transfer is |

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|---|---|---|---|
| **snapshot** | | optional | over. |
| **destination-volume** | | string optional | Specifies the destination volume of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br>This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br>• The name of the destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br>This parameter is mandatory if destination-location is not specified. |
| **is-adaptive** | | boolean optional | Specifies if the SnapMirror relationship is adaptive. If the SnapMirror relationship is adaptive, updates on the relationship might, and often will be triggered based on source volume changes. This parameter is supported only for FlexVol SnapMirror relationships between Data ONTAP endpoints. This parameter is only available on Data ONTAP 9.4 or later. |
| **is-auto-expand-enabled** | | boolean optional | Specifies if the FlexGroup SnapMirror relationship and its destination FlexGroup should be auto-expanded if the source FlexGroup is expanded. This parameter is supported only for FlexGroup SnapMirror relationships. If the resync is creating a new SnapMirror relationship, the default value is true. If it is not creating a new relationship, if a value is specified, it must match the current value for the existing relationship. If the parameter is not specified, the existing value will be retained. This parameter is only supported on Data ONTAP 9.3. or later. |
| **max-transfer-rate** | | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. On Data ONTAP operating in Cluster-Mode, the max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| **preserve** | | boolean optional | This parameter is only available for extended data protection relationships with policy type as vault or mirror-vault. The default value is false which means all snapshots on the destination that are newer than the latest common snapshot will be deleted. If preserve is specified, newer snapshots are retained. If preserve is specified for any other relationships the API will fail.<br>This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode and for extended data protection relationships with policy type as vault or mirror-vault. |

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|---|---|---|---|
| | | | This parameter is not supported for relationships with non-Data ONTAP endpoints. |
| **quick-resync** | | boolean optional | If true, the resync time is reduced because the resync does not incur storage efficiency overhead before the transfer of new data. Specifying this parameter is recommended if the source of the resync does not have volume efficiency enabled or if reducing resync time is more important than preserving all possible storage efficiency. When this parameter is specified, resync does not preserve the storage efficiency of the new data with existing data over the wire and on the destination. The default is false.<br><br>This parameter is not supported for data protection and load-sharing relationships.<br><br>This parameter only applies on Data ONTAP 8.3 or later.<br><br>This parameter is not supported for relationships with non-Data ONTAP endpoints. |
| **source-cluster** | | string optional | Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the following formats:<br><br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br><br>This format may change in the future. On Data ONTAP Cluster-Mode when specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume or the source Vserver. On Data ONTAP operating in 7-Mode, If the source-location is not specified, then the source in /etc/snapmirror.conf for the destination path is used. |
| **source-snapshot** | | string optional | Designates the source snapshot to use for a qtree update on Data ONTAP operating in 7-Mode, and the snapshot on the source volume to use for the transfer on Data ONTAP 8.2 or later operating in Cluster-Mode.<br><br>For data protection mirror relationships and extended data protection relationships with policy type async-mirror, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It will use the specified Snapshot copy as if it were the most recent one; that is, all copies between the most recent common one and the specified one are transferred, but no copies newer than the specified one are transferred.<br><br>For extended data protection relationships with policy type vault or mirror-vault, Data ONTAP Cluster-Mode does not create a new |

| | | | |
|---|---|---|---|
| | | | Snapshot copy. It transfers the specified Snapshot copy instead of the ones that match its policy's rules.<br><br>This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. |
| **source-volume** | | string<br>optional | Specifies the source volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br><br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-vserver** | | string<br>optional | Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br><br>• The name of the source volume.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **transfer-priority** | | string<br>optional | Specifies the priority at which the transfer runs. Possible values are: "normal", and "low". The default value is the value specified in the snapmirror policy which is associated with the relationship.<br><br>This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer<br>optional | Error code, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. |
| **result-error-message** | | string<br>optional | Error description, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. |
| **result-jobid** | **[0..2^64-1]** | integer<br>optional | Job Id, if this operation was performed via a job. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. This parameter should be used to monitor the transfer progress. But, on Data ONTAP 8.2 operating in Cluster-Mode, it should be ignored if the relationship-control-plane is not 'v1'. The snapmirror-get API should be used to monitor the progress of the transfer. |
| **result-operation-id** | | string<br>optional | Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIMISSINGARGUMENT** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **EDEST_IS_CACHE_VOLUME** | |
| **EDEST_IS_VOLUME_CLONE** | |

| | |
|---|---|
| **ESOURCE_IS_DIFFERENT** | |
| **EDEST_IS_LS_VOLUME** | |
| **ETRIES_COUNT_IS_ZERO** | |
| **ERELATION_IS_QUIESCED** | |
| **EANOTHER_OP_ACTIVE** | |
| **ESOURCE_IS_STRIPED_VOLUME** | |
| **EDEST_IS_STRIPED_VOLUME** | |
| **EDEST_VOL_LOCKED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVSERVER_NOT_PEERED** | |
| **EUNSUPPORTED_CONFIG** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **EVSERVERDR_INCORRECT_SUBTYPE_SRC** | |
| **EVSERVERDR_ANOTHER_SRC_IN_RELATION** | |
| **EVSERVERDR_SRC_SRC_OF_DR_RELATION** | |
| **EVSERVERDR_REVERSE_TRANSFER_OPERATION** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE** | |
| **EVSERVERDR_MIRROR_STATUS_DELETING** | |
| **EVSERVERDR_ADDITIONAL_VOLUMES_ON_DST** | |
| **EVSERVERDR_VOLUME_NAME_MISMATCH** | |
| **EVSERVERDR_VSERVER_MODIFY_FAILED** | |
| **EVSERVERDR_SNAPNAME_GEN_FAILED** | |
| **EVSERVERDR_POLICY_LOOKUP_FAILED** | |
| **EVSERVERDR_QUEUEING_TO_PROCESS_FAILED** | |
| **EVSERVERDR_RELATIONSHIP_MODIFY_FAILED** | |
| **EVSERVERDR_LS_SRC_IN_DST** | |
| **EVSERVERDR_VSM_LOOKUP_FAILED** | |
| **EVSERVERDR_BREAK_INCOMPLETE** | |
| **EVSERVERDR_ROOT_VOL_HAS_DATA** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **replicate** |

# snapmirror-resync-iter

[top]

The snapmirror-resync-iter API establishes or reestablishes one or more SnapMirror relationships between a source and a destination endpoint. This API is not supported on Infinite Volume constituents. On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode (The relationship-control-plane field is set to 'v1'), A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **is-auto-expand-enabled** | | boolean optional | Is Auto Expand Enabled |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred between clusters. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| **preserve** | | boolean optional | This parameter is only available for extended data protection relationships with policy type as vault or mirror-vault. The default value is false which means all Snapshot copies on the destination that are newer than the latest common Snapshot copy will be deleted. If preserve is specified, newer Snapshot copies are retained. If preserve is specified for any other relationships the API will fail.<br><br>This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode and for extended data protection relationships with policy type as vault or mirror-vault. |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **quick-resync** | | boolean optional | If true, the resync time is reduced because the resync does not incur storage efficiency overhead before the transfer of new data. Specifying this parameter is recommended if the source of the resync does not have volume efficiency enabled or if reducing resync time is more important than preserving all possible storage efficiency. When this parameter is specified, resync does not preserve the storage efficiency of the new data with existing data over the wire and on the destination. The default is false. This parameter is not supported for data protection and load-sharing relationships. This parameter only applies on Data ONTAP 8.3 or later. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be |

| | | | |
|---|---|---|---|
| | | | returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on or scheduled to be worked on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **source-snapshot** | | string optional | Designates the source Snapshot copies to use for a qtree update on Data ONTAP operating in 7-Mode, and the Snapshot copy on the source volume to use for the transfer on Data ONTAP 8.2 or later operating in Cluster-Mode.<br><br>For data protection mirror relationships and extended data protection relationships with policy type async-mirror, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It will use the specified Snapshot copy as if it were the most recent one; that is, all copies between the most recent common one and the specified one are transferred, but no copies newer than the specified one are transferred.<br><br>For extended data protection relationships with policy type vault or mirror-vault, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It transfers the specified Snapshot copy instead of the ones that match its policy's rules.<br><br>This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |
| **transfer-priority** | | sm-transfer-priority-enum optional | Specifies the priority at which the transfer runs. The default value is the value specified in the snapmirror policy which is associated with the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Possible values:<br><br>• "low" ,<br>• "normal" |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-resync-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed or scheduled to be processed. |
| **success-list** | | snapmirror-resync-iter-info[] optional | The snapmirror objects that were successfully processed or scheduled to be processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| License |
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| SnapMirror |

## snapmirror-set-connection

[top]

Sets up a connection. snapmirror-set-connection will add a new connection or modify an existing one. This API must be executed on the destination filer. Currently, the connections are in: /etc/snapmirror.conf.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **address-pair1** | | address-pair | The connection's first source and destination address pair. In multi mode, the first address pair provides a connection path; while in failover mode, the first address pair provides the prefer connection path. |
| **address-pair2** | | address-pair optional | The connection's second source and destination address pair. In multi mode the second address pair provides another connection path, while in failover mode, the second address pair provides a connection path in case the first path fails. |
| **connection** | | string | Name of the connection to add or modify. The name is in ASCII and must begin with an alpha character. |
| **mode** | | string optional | Possible mode values are "multi" or "failover". If not specified, the default is "multi". |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| replicate |

## snapmirror-set-schedule

[top]

Sets the schedule for a given destination. The API must be executed on the destination filer. Currently, the schedule is in /etc/snapmirror.conf.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **connection-mode** | | string optional | This option specifies the mode to be used for establishing connection between source and destination. Possible values are "inet", "inet6" and "default". If this option is set to "inet6", connections between source and destination will be established using IPv6 addresses only. If there are no IPv6 addresses configured, then the connection will fail. If the option is set to "inet", connections between source and destination will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail.<br><br>If not specified, the previous value is retained. If nothing was mentioned previously, it is set as default, where connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet". |

| | | | |
|---|---|---|---|
| | | | This argument is not effective when an IP address is specified instead of source hostname. If the IP address format and connection mode do not match, the operation will fail with proper error message. |
| **days-of-month** | | string | Minutes in the hour for which the schedule is set. The form is crontab-like, with possible values of:<br>• - := match nothing;<br>• 1 := match day 1;<br>• 1,3 := match day 1 and 3;<br>• 2-5 := match day 2,3,4,5;<br>• 1-30/7 := match day 1,8,15,22,29;<br>• * := matches all possible legal values; |
| **days-of-week** | | string | Days in the week for which the schedule is set. 0 represents Sunday, and 6 represents Saturday. The form is crontab-like, with possible values of:<br>• - := match nothing;<br>• 1 := match day 1 (Mon);<br>• 1,3 := match day 1 and 3 (Mon and Wed);<br>• 2-5 := match day 2,3,4,5 (Tue,Wed,Thu,Fri);<br>• * := matches all possible legal values; |
| **destination-location** | | string | The destination location of a schedule to set. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. |
| **hours** | | string | Hours in the day for which the schedule is set. The form is crontab-like, with possible values of:<br>• - := match nothing;<br>• 1 := match hour 1;<br>• 1,3 := match hour 1 and 3;<br>• 2-5 := match hour 2,3,4,5;<br>• 1-24/3 := match hour 1,4,7,10,13,16,19,22;<br>• * := matches all possible legal values; |
| **is-compressed** | | boolean optional | If true SnapMirror will compress/decompress the data that is transferred between the source and destination storage system. If false, transferred data will not be compressed. Upon initial configuration, default is false. On subsequent requests, the current configured setting is retained if not provided. This argument can only be used when a connection definition is used for the relationship entry. Using this argument without a connection definition will throw an error message. |
| **max-transfer-rate** | | integer optional | Maximum transfer rate in kilobytes per second. If specified as 0, transfer happens as fast as the storage system can. If not specified, the previous value is retained. If nothing was mentioned previously, it is set to the default value. |
| **minutes** | | string | Minutes in the hour for which the schedule is set. The form is crontab-like, with possible values of:<br>• - := match nothing;<br>• 1 := match minute 1;<br>• 1,3 := match minute 1 and 3;<br>• 2-5 := match minute 2,3,4,5;<br>• 1-12/3 := match minute 1,4,7,10;<br>• 0-55/5 := match minute 0,5,10,15,20,25,30,35,40,45,50,55;<br>• * := matches all possible legal values; |
| | | | restart mode when transfer is interrupted. Possible values are "always", "never" and "default". If value is set to "always", then an interrupted transfer will always restart, if it has a restart check point and the |

| | | | |
|---|---|---|---|
| **restart** | | string optional | conditions are the same as before the transfer was interrupted. If value is set to "never", then an interrupted transfer will never restart, even if it has a restart checkpoint. If not specified, the previous value is retained. If nothing was mentioned previously, then it is set to default, where SnapMirror behaves like the "always" case, unless it has passed the next scheduled transfer time, in which case it will begin that scheduled transfer instead of restarting. |
| **source-location** | | string | The source location of a schedule to set. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. |
| **tcp-window-size** | | integer optional | TCP window size in bytes. If specified as 0, size is set to an internally determined default value. If not specified, the previous value is retained. |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **replicate** |

# snapmirror-set-sync-schedule

[top]

Establishes a synchronous or semi-synchronous schedule. Currently, the schedules are in: /etc/snapmirror.conf. Semi-synchronous mode is determined by specifying semi-sync.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection-mode** | | string optional | This option specifies the mode to be used for establishing connection between source and destination. If this option is set to "inet6", connections between source and destination will be established using IPv6 addresses only. If there are no IPv6 addresses configured, then the connection will fail. If the option is set to "inet", connections between source and destination will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail.<br><br>If not specified, the previous value is retained. If nothing was mentioned previously, it is set as default, where connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet".<br><br>This argument is not effective when an IP address is specified instead of source hostname. If the IP address format and connection-mode do not match, the operation will fail with proper error message. |
| **destination-location** | | string | The destination location of a schedule to set. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. |
| **is-compressed** | | boolean optional | If true SnapMirror will compress/decompress the data that is transferred between the source and destination storage system. If false, transferred data will not be compressed. Upon initial configuration, default is false. On subsequent requests, the current configured setting is retained if not provided. This argument can only be used when a connection definition is used for the relationship entry. Using this argument without a connection definition will throw an error message. |

| | | | |
|---|---|---|---|
| **ops-throttle** | | string optional | The number of outstanding operations allowed before blocking on the source. The format is a number followed by the one of the following units: "ops", "s", or "ms". If the specified value is less than 10s, the mirror is configured to run in a fully synchronous mode. If the specified value is greater than or equal to 10s, the mirror is configured to run in semi-synchronous mode. If not specified, the previous value is retained. This is a deprecated parameter. Use the sync-mode parameter instead to specify the sync mode. |
| **source-location** | | string | The source location of a schedule to set. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. |
| **sync-mode** | | string optional | This specifies whether the mirror should be configured in sync or in semi-sync mode. Possible values are: "full_sync" and "semi_sync". If the user wants to configure the mirror to run in fully synchronous mode, the user must specify "full_sync" as the value for this parameter. If the user wants to configure the mirror to run in semi-synchronous mode, the user must specify "semi_sync" as the value of this parameter. If not specified, the mirror will be configured to run in full synchronous mode. This parameter overrides the deprecated ops-throttle parameter. |
| **tcp-window-size** | | integer optional | TCP window size in bytes. If specified as 0, size is set to an internally determined default value. If not specified, the previous value is retained. |
| **visibility-frequency** | | integer | Controls how often the source snapspot will be visible on the destination mirror. This input is used to control the value of visibility_interval in the snapmirror.conf file. The units are in seconds. A typical value to use for this input is 180. |

| **License** |
|---|
| **replicate** |

# snapmirror-snapshot-owner-create

[top]

Add an owner to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | snapshot-id | Snapshot Copy Name |
| **snapshot-owner-name** | | snapshot-owner-name optional | Specifies the name of the owner to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration. An owner can contain letters, numbers, and the underscore character (_), and can be at most 32 characters long. If no owner is specified, the system will assign an internal default owner to preserve the Snapshot copy. |
| **volume** | | volume-name | Volume Name |
| **vserver** | | vserver-name | Vserver Name |

| Errno | Description |
|---|---|
| **EINVALIDNPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |

# snapmirror-snapshot-owner-destroy

[top]

Delete an owner used to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | snapshot-id | Snapshot Copy Name |
| **snapshot-owner-name** | | snapshot-owner-name optional | The specified owner is removed from the Snapshot copy. If no owner name is provided, the system will look for and remove the internal default name for the owner. A specified owner of '*' removes all owners from the Snapshot copy. |
| **volume** | | volume-name | Volume Name |
| **vserver** | | vserver-name | Vserver Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |

# snapmirror-snapshot-owner-get

[top]

List all owners used to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | snapshot-id | Name of the snapshot. |
| **volume** | | volume-name | Name of the volume to which this snapshot belongs. |
| **vserver** | | vserver-name | Name of the vserver to which this volume belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-owner-names** | | snapshot-owner-name[] | Returns the owner(s) used to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |

# snapmirror-snapshot-owner-get-snapshots

[top]

List all Snapshot copies that are preserved for a SnapMirror mirror-to-vault cascade configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | volume-name | Name of the volume to which this snapshot belongs. |
| **vserver** | | vserver-name | Name of the vserver to which this volume belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshots** | | snapshot-id[] | Returns the Snapshot copies that are preserved using owners for a SnapMirror mirror-to-vault cascade configuration. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |

# snapmirror-throttle

[top]

Changes the max transfer rate of an active transfer. The API can be issued to either the source or the destination filer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-location** | | string | The destination location of the active transfer. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. |
| **max-transfer-rate** | | integer | Maximum transfer rate in kilobytes per second. A value '0' disables the throttle, ie. the filer will transfer as fast as it can. Range: 0..2^32-1 |

| Errno | Description |
|---|---|
| **ESNAPMIRRORERR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **replicate** |

# snapmirror-update

[top]

Updates the destination endpoint of the SnapMirror relationship. The update is asynchronously handled, and there is no guarantee that it will succeed.

On Data ONTAP operating in 7-Mode the snapmirror-get-status API can be used to check the status of the update. The API must be issued on the destination storage system.

On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode and for relationships using a control plane compatible with Data 8.1 operating Cluster-Mode (relationship-control-plane set 'v1'), a job will be spawned to operate on the SnapMirror relationship, and the job id will be returned. The progress of the job can be tracked using the job APIs.

On Data ONTAP 8.2 or later operating in Cluster-Mode, you can track the progress of the operation using the snapmirror-get API, except for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode.

On Data ONTAP 8.3 or later result-operation-id is returned. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. This operation-id appears in the current-operation-id field returned by the snapmirror-get API as long as the operation is active.

With Data ONTAP 8.3 or later, this API can be used to update a relationship between two volumes or two Vservers. 1. When volume names are specified, this API updates a volume level relationship. 2. When Vserver names without volume names are specified, this API will update a relationship between two Vservers.

With Data ONTAP 9.1, this API can be used to update a relationship between a Data ONTAP source volume and an AltaVault destination endpoint. 1. When an AltaVault destination is specified, the source must be a Data ONTAP volume. 2. An AltaVault source cannot be specifed for update.

With Data ONTAP 9.3, this API can be used to update a relationship between a Data ONTAP volume and a SolidFire endpoint. 1. When a SolidFire endpoint is specified, the other side of the SnapMirror relationship must be a Data ONTAP volume.

You must specify the destination endpoint when using snapmirror-update.

The API makes the destination endpoint or non-Data ONTAP destination an up-to-date mirror of the source endpoint.

This API must be used from the destination storage system on Data ONTAP 7-Mode, or from the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and from the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

On Data ONTAP operating in 7-Mode, if the destination endpoint is a volume, the volume must be in the restricted state. If the destination endpoint is a qtree, the qtree must not already exist.

On Data ONTAP Cluster-Mode if the destination volume or non-Data ONTAP endpoint is empty, the snapmirror-update API will fail. The snapmirror-initialize API must be called to perform the baseline transfer before the snapmirror-update can be called.

For data protection relationships, the snapmirror-update API makes the destination volume an up-to-date mirror of the source volume with the following steps:

- If the source volume is read-write, takes a Snapshot copy on the source volume to capture the current image of the source volume.
- Finds the most recent Snapshot copy on the destination volume and validates that the corresponding Snapshot copy is on the source.
- Incrementally transfers Snapshot copies that are newer than the corresponding Snapshot copy to the destination volume.

For extended data protection relationships with policy type vault, the snapmirror-update API does not take a Snapshot copy on the source volume. For extended data protection relationships with policy type as mirror-vault, the snapmirror-update API takes a Snapshot copy on the source volume. But both of them transfer only selected Snapshot copies that are newer than the common Snapshot copy to the destination volume. Snapshot copies are selected by matching their 'snapmirror-label' with the 'snapmirror-label' of one of the rules from the corresponding SnapMirror policy associated with the SnapMirror relationship. All matching Snapshot copies are incrementally transferred to the destination volume.

For extended data protection relationships with policy type as vault or mirror-vault, the snapmirror-update API also manages expiration of Snapshot copies on the destination volume. It does so by deleting Snapshot copies that have exceeded the value of 'keep' for the matching rule from the corresponding SnapMirror policy associated with the SnapMirror relationship. Snapshot copies that match the same 'snapmirror-label' will be deleted in oldest-first order.

For data protection relationships, the parameter 'source-snapshot' is optional and allows for the transfer of Snapshot copies newer than the common Snapshot copy up to the specified 'source-snapshot'.

For extended data protection relationships, the parameter 'source-snapshot' is optional and allows transfer of a Snapshot copy that is older than the common Snapshot copy and/or may not be selected for transfer based on policy-based selection of an update transfer.

After the snapmirror-update API successfully completes, the last Snapshot copy transferred is made the new exported Snapshot copy on the destination volume. If an update to an extended data protection relationship specifies a Snapshot copy using the 'source-snapshot' parameter that is older than the common snapshot, after the snapmirror-update API successfully completes, the exported Snapshot copy on the destination volume will remain unchanged.

If the snapmirror-update does not finish successfully, due to a network failure or because a snapmirror-abort API was issued for example, a restart checkpoint might be recorded on the destination volume. If a restart checkpoint is recorded, the next update restarts and continues the transfer from the restart checkpoint. For extended data protection relationships, the next update will restart and continue the old transfer regardless of whether it is a matching Snapshot copy or not.

On Data ONTAP 8.1 operating in Cluster-Mode, you can use the snapmirror-update API to update a specific load-sharing mirror that lags behind up-to-date destination volumes in the set of load-sharing mirrors. An update to the lagging load-sharing mirror should bring it up to date with the other up-to-date destination volumes in the set of load-sharing mirrors. Note: You might have to run the snapmirror-update API more than once if the command does not finish before the next scheduled update of the set of load-sharing mirrors.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination endpoint.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint.<br>This format may change in the future. On Data ONTAP Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume or the destination Vserver. On Data ONTAP 7-Mode, if the destination endpoint is a volume, the volume must be in the restricted state. If the destination endpoint is a qtree, the qtree must not already exist. This parameter is |

| | | | |
|---|---|---|---|
| | | | mandatory on Data ONTAP 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. |
| **destination-snapshot** | | string optional | Creates the specified snapshot (in addition to the regular SnapMirror snapshot) on the destination after the qtree SnapMirror transfer is over. |
| **destination-volume** | | string optional | Specifies the destination volume of the SnapMirror relationship. This paramter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br>• The name of the destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory if destination-location is not specified. |
| **enable-storage-efficiency** | | boolean optional | Enables storage efficiency on an extended data protection relationship with policy type vault which is not currently storage efficient. Storage efficient in this context refers to both over-the-wire efficiency and how the data is written to the destination volume.<br><br>The transfer fails if it cannot be done storage efficiently. If the transfer succeeds, storage efficiency will be enabled on this extended data protection relationship and all future transfers will continue to be storage efficient for as long as possible, but will not fail should those transfers not be storage efficient.<br><br>The default value for this parameter is false. Note that a false value for this parameter only means that storage efficiency will not attempt to be switched on. If storage efficiency is currently enabled, providing this value as false will not disable storage efficiency.<br><br>This paramter is not supported for relationships with non-Data ONTAP endpoints. |
| **max-transfer-rate** | | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. On Data ONTAP operating in Cluster-Mode, the max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| **source-cluster** | | string optional | Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. |

| | | | |
|---|---|---|---|
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source.<br><br>This format may change in the future. On Data ONTAP Cluster-Mode when specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume or the source Vserver. On Data ONTAP 7-Mode, If the source-location is not specified, then the source in /etc/snapmirror.conf for the destination path is used. |
| **source-snapshot** | | string optional | Specifies the Snapshot copy on the source to use as the basis for the update. It is used for updates to Data ONTAP 7-mode qtree relationships and Data ONTAP Cluster-Mode relationships.<br><br>For a qtree relationship, Data ONTAP 7-mode does not create a new Snapshot copy and transfers the specified Snapshot copy instead.<br><br>For data protection relationships and extended data protection relationships with policy type async-mirror, Data ONTAP Cluster-Mode does not create a new Snapshot copy. Depending on the specific policy attached, it will either transfer only the specified Snapshot copy, or it will use the specified Snapshot copy as if it were the most recent one; that is, all copies between the most recent common one and the specified one are transferred, but no copies newer than the specified one are transferred.<br><br>For extended data protection relationships with policy type vault or mirror-vault, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It just transfers the specified Snapshot copy instead of the ones that match its policy's rules.<br><br>Vserver level SnapMirror relationships do not support this parameter. |
| **source-volume** | | string optional | Specifies the source volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| | | | Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: |

| | | | |
|---|---|---|---|
| **source-vserver** | | string optional | • The name of the source volume.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **transfer-priority** | | string optional | Specifies the priority at which the transfer runs. Possible values are: "normal", and "low". The default value is the value specified in the snapmirror policy which is associated with the relationship.<br><br>This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. This parameter is only returned by Data ONTAP 8.1 operating in Cluster-Mode. |
| **result-operation-id** | | string optional | Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded", "in_progress", "failed". This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **EDEST_IS_LS_VOLUME** | |
| **EOP_FROM_NONMGR_VSERVER** | |
| **ESOURCE_DEST_SAME** | |
| **ETRIES_COUNT_IS_ZERO** | |
| **ERELATION_IS_QUIESCED** | |
| **EDEST_VOL_LOCKED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **ETRANSFER_IN_PROGRESS** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |
| **EVSERVERDR_INCORRECT_SUBTYPE_DST** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE** | |
| **EVSERVERDR_MIRROR_STATUS_DELETING** | |
| **EVSERVERDR_SNAPNAME_GEN_FAILED** | |

| | |
|---|---|
| **EVSERVERDR_POLICY_LOOKUP_FAILED** | |
| **EVSERVERDR_QUEUEING_TO_PROCESS_FAILED** | |
| **EVSERVERDR_BREAK_INCOMPLETE** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **replicate** |

# snapmirror-update-iter

[top]

The snapmirror-update-iter API updates the destination volumes of one or more SnapMirror relationships. This API is not supported on Infinite Volume constituents. On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode (The relationship-control-plane field is set to 'v1'), A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **enable-storage-efficiency** | | boolean optional | Enables storage efficiency on a vault relationship which is not currently storage efficient. Storage efficient in this context refers to both over-the-wire efficiency and how the data is written to the destination volume.<br><br>The transfer fails if it cannot be done storage efficiently. If the transfer succeeds, storage efficiency will be enabled on this vault relationship and all future transfers will continue to be storage efficient for as long as possible, but will not fail should those transfers not be storage efficient.<br><br>The default value for this parameter is false. Note that a false value for this parameter only means that storage efficiency will not attempt to be switched on. If storage efficiency is currently enabled, providing this value as false will not disable storage efficiency. |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| | | | |

| | | | |
|---|---|---|---|
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on or scheduled to be worked on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **source-snapshot** | | string optional | Specifies the Snapshot copy on the source to use as the basis for the update. It is used for updates to Data ONTAP 7-mode qtree relationships and Data ONTAP Cluster-Mode relationships.<br><br>For a qtree relationship, Data ONTAP 7-mode does not create a new Snapshot copy and transfers the specified Snapshot copy instead.<br><br>For data protection relationships and extended data protection relationships with policy type async-mirror, Data ONTAP Cluster-Mode does not create a new Snapshot copy. Depending on the specific policy attached, it will either transfer only the specified Snapshot copy, or it will use the specified Snapshot copy as if it were the most recent one; that is, all copies between the most recent common one and the specified one are transferred, but no copies newer than the specified one are transferred.<br><br>For extended data protection relationships with policy type vault or mirror-vault, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It just transfers the specified Snapshot copy instead of the ones that match its policy's rules.<br><br>Vserver level SnapMirror relationships do not support this parameter. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |
| **transfer-priority** | | sm-transfer-priority-enum optional | Specifies the priority at which the transfer runs. The default value is the value specified in the snapmirror policy which is associated with the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Possible values:<br><br>• "low" ,<br>• "normal" |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | snapmirror-update- | Information about snapmirror objects that were not operated on |

| | | | |
|---|---|---|---|
| **failure-list** | | iter-info[] optional | due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed or scheduled to be processed. |
| **success-list** | | snapmirror-update-iter-info[] optional | The snapmirror objects that were successfully processed or scheduled to be processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-update-ls-set

[top]

The snapmirror-update-ls-set API updates destination volumes of the set of load-sharing mirrors. The API makes destination volumes, in the group of load-sharing mirrors, up-to-date mirrors of the source volume. You must specify the source endpoint when using snapmirror-update-ls-set. Separate SnapMirror transfers are performed from the source volume to each of the up-to-date destination volumes in the set of load-sharing mirrors. Load-sharing mirrors that lag behind the up-to-date destination volumes might not be updated by the snapmirror-update-ls-set API. Use the snapmirror-update API to update a lagging load-sharing mirror. A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **source-cluster** | | string optional | Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship. When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume. |
| **source-volume** | | string optional | Specifies the source volume of the SnapMirror relationship. The source cluster and source Vserver must also be specified if using this parameter. |
| **source-vserver** | | string optional | Specifies the source Vserver of the SnapMirror relationship. The source cluster and source volume must also be specified if using this parameter. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **ESOURCE_ISNOT_LOCAL_VOLUME** | |
| **ESOURCE_IS_EXISTING_DEST_VOLUME** | |
| **ETRIES_COUNT_IS_ZERO** | |
| **ERELATION_IS_QUIESCED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# Element definition: **address-pair**

[top]

Source and destination address pair.

| Name | Range | Type | Description |
|---|---|---|---|
| **destination-addr** | | string | Destination address in the form of filer name or IP address. |
| **source-addr** | | string | Source address in the form of filer name or IP address. |

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **cg-item-mapping**

[top]

Snapmirror Consistency Group Item Mapping

[none]

# Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

# Element definition: **destination-info**

[top]

Source location, destination location, and source snapshot of a snapmirrored pair.

| Name | Range | Type | Description |
|---|---|---|---|
| **destination-location** | | string | Destination location of the snapmirrored pair. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree> or the clone form: <filer>:<volume>-> [clone:<clone_name>]. |
| **source-location** | | string | The source location of the snapmirrored pair. The source location is of the volume form: <filer>:<volume>, or it is of the qtree form: <filer>:/vol/<volume>/<qtree>. In versions of ONTAP earlier than 7.0, there was a bug which omitted the filer name, so the volume form is: <volume>, and the qtree form is: /vol/<volume>/<qtree>. |
| **source-snapshot** | | string | The source snapshot. |

# Element definition: **sm-policy**

[top]

SnapMirror Policy

[none]

# Element definition: **sm-transfer-priority-enum**

[top]

low|normal Possible values:

- "low" ,
- "normal"

[none]

# Element definition: **smendpointtype**

[top]

flexvol|object-store Possible values:

- "flexvol" ,
- "object_store"

[none]

# Element definition: **snapmirror-abort-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |

# Element definition: **snapmirror-break-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |

# Element definition: **snapmirror-capabilities-info**

[top]

Capabilities information for a single endpoint type When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **endpoint-type** | | smendpointtype optional | Endpoint type. Only value of type flexvol is supported. The value of type object_store is for NetApp internal use only and is expected to be incompatible with a future release. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "flexvol" ,<br>• "object_store" |
| **is-dpo-destination-enabled** | | boolean optional | Whether or not this cluster has a DP_Optimized (Data Protection Optimized) license installed. If the license is installed, the value is true, otherwise it is false. Attributes: non-creatable, non- |

| | | | |
|---|---|---|---|
| | | | modifiable |
| **is-dpo-source-enabled** | | boolean optional | Whether or not this cluster supports bypassing source SnapMirror license checking if the destination cluster for a SnapMirror relationship has a DP_Optimized (Data Protection Optimized) license installed. Some hardware platforms support this bypassing and some do not. If one or more nodes support bypassing, the value is true, otherwise it is false. Attributes: non-creatable, non-modifiable |
| **is-snaplock-licensed** | | boolean optional | Whether or not this cluster has a SnapLock license installed. If the license is installed, the value is true, otherwise it is false. Attributes: non-creatable, non-modifiable |
| **snapmirror-policy-types** | | snapmirror-policy-cap-info[] optional | Capabilities information for policy types. |

# Element definition: **snapmirror-check-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |
| **status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

# Element definition: **snapmirror-connection-info**

[top]

Information about one connection.

| Name | Range | Type | Description |
|---|---|---|---|
| **address-pair1** | | address-pair | The first source and destination address pair. |
| **address-pair2** | | address-pair optional | The second source and destination address pair. |
| **mode** | | string | Connection mode. Possible values are: "multi" and "failover". |
| **name** | | string | Name of the connection. The name is in ASCII and must begin with an alpha character. |
| **snapmirror-error** | | snapmirror-error | Present if there is an error for a snapmirror connection. |

| | | | |
|---|---|---|---|
| | | optional | |

# Element definition: **snapmirror-cr-status-aggregate-eligibility-info**

[top]

SnapMirror Config-Replication Aggregate Eligibility Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | aggr-name optional | The aggregate being evaluated for config-replication volume hosting eligibility. Attributes: key, non-creatable, non-modifiable |
| **comment** | | string optional | If the aggregate is not eligible to host additional config-replication volumes, this comment indicates the reason. Attributes: non-creatable, non-modifiable |
| **hosted-configuration-replication-volumes** | | volume-name[] optional | The volumes used for config-replication that are currently hosted by this aggregate. Attributes: non-creatable, non-modifiable |
| **is-eligible-to-host-additional-volumes** | | boolean optional | Whether or not this aggregate is eligible to host more config-replication volumes. Attributes: non-creatable, non-modifiable |

# Element definition: **snapmirror-cr-status-comm-info**

[top]

Results of the SnapMirror config replication communication status check When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **heartbeat-recovery-steps** | | string optional | Recovery steps in case the check finds a problem with the peer cluster heartbeat. Attributes: non-creatable, non-modifiable |
| **last-heartbeat-received** | | datetime optional | The timestamp of the last SnapMirror configuration replication hearbeat received from the peer cluster. Attributes: non-creatable, non-modifiable |
| **last-** | | | The timestamp of the last SnapMirror configuration replication |

| | | | |
|---|---|---|---|
| **heartbeat-sent** | | datetime optional | heartbeat sent to the peer cluster. Attributes: non-creatable, non-modifiable |
| **peer-cluster** | | string optional | The peer cluster destination for SnapMirror configuration replication. Attributes: non-creatable, non-modifiable |
| **peer-cluster-uuid** | | string optional | The UUID of the peer cluster destination for SnapMirror configuration replication. Attributes: key, non-creatable, non-modifiable |
| **remote-heartbeat** | | string optional | Verifies that the SnapMirror configuration replication heartbeat to the peer cluster is healthy. Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |

# Element definition: **snapmirror-cr-status-info**

[top]

Results of the SnapMirror config replication status check When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Verifies that SnapMirror configuration replication is enabled on the cluster. Attributes: non-creatable, non-modifiable |
| **is-running** | | boolean optional | Verifies that SnapMirror configuration replication is running on the cluster. Attributes: non-creatable, non-modifiable |
| **recovery-steps** | | string optional | Recovery steps in case the check finds config replication is not enabled or is enabled but not running. Attributes: non-creatable, non-modifiable |
| **storage-in-use** | | string optional | The location of SnapMirror configuration replication storage.<br><br>Examples:<br>• Node Local on node-123<br>• Cluster-wide Volume: MDV_CRS_1bc7134a5ddf11e3b63f123478563412_A<br>• Unavailable<br><br>Attributes: non-creatable, non-modifiable |
| **storage-non-healthy-reason** | | string optional | The underlying root cause for non-healthy SnapMirror configuration replication storage. Attributes: non-creatable, non-modifiable |
| **storage-recovery-steps** | | string optional | Recovery steps in case the check finds a problem with configuration replication storage. Attributes: non-creatable, non-modifiable |
| | | | Verifies that SnapMirror configuration replication storage is healthy. Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **storage-status** | | string optional | • "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| **vserver-recovery-steps** | | string optional | Recovery steps in case the check finds a problem with configuration replication Vserver streams. Attributes: non-creatable, non-modifiable |
| **vserver-streams** | | string optional | Verifies that SnapMirror configuration replication Vserver streams are healthy. Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |

# Element definition: **snapmirror-cr-storage-info**

[top]

Snapmirror Config-Replication Storage info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **disallowed-aggregates** | | aggr-name[] optional | Specifies the list of aggregates that are disallowed for use by the Async Vserver DR configuration replication. An admin may modify this value to exclude aggregates. Attributes: non-creatable, modifiable |
| **use-mirrored-aggregate** | | boolean optional | Specifies whether mirrored aggregates are currently in use by Async Vserver DR configuration replication. Attributes: non-creatable, non-modifiable |

# Element definition: **snapmirror-destination-info**

[top]

Information about a Destination of a SnapMirror Relationship Source When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | Specifies a list of the Consistency Group (CG) item mappings. This |

| | | | |
|---|---|---|---|
| **cg-item-mappings** | | string[] optional | parameter is applicable to CG level relationships and will be considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,... Attributes: non-creatable, non-modifiable |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The destination endpoint can be specified using the location format above, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume. Attributes: key, non-creatable, non-modifiable |
| **destination-volume** | | string optional | Specifies the name of destination volume for the SnapMirror relationshp. The name of the destination Vserver must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable |
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the relationship. The name of the destination volume must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable |
| **is-constituent** | | boolean optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>Specifies whether or not the SnapMirror relationship is between Infinite Volume constituent volumes. This parameter is not supported for FlexGroup or FlexGroup constituent SnapMirror relationships. Attributes: non-creatable, non-modifiable |
| **policy-type** | | string optional | The type of the SnapMirror policy for the relationship. This parameter is only available on Data ONTAP 8.3 or later. On Data ONTAP 8.2, relationships with type extended data protection will behave as if the policy type were vault. The functionality of policy types async-mirror and mirror-vault is not available for extended data protection relationships on Data ONTAP 8.2. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Attributes: non-creatable, non-modifiable Possible values:<br><br>• "vault" ,<br>• "async_mirror" ,<br>• "mirror_vault" ,<br>• "smgr_mirror" ,<br>• "strict_sync_mirror" ,<br>• "sync_mirror" ,<br>• "active_strict_sync_mirror" ,<br>• "automated_failover" ,<br>• "migrate" ,<br>• "continuous" |
| **progress-last-updated** | **[0..2^31-1]** | integer optional | Specifies the timestamp indicating when the progress of the ongoing transfer was last updated. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **relationship-group-type** | | string optional | For FlexVol relationships, specifies the type of the group relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. This parameter is only available on Data ONTAP 8.3 or later. Attributes: non-creatable, non-modifiable Possible values:<br><br>• "none" ,<br>• "vserver" ,<br>• "infinitevol" ,<br>• "consistencygroup" , |

| | | | |
|---|---|---|---|
| | | | "flexgroup" ,<br>• "vserverflexgroup" |
| **relationship-id** | | string optional | Specifies the SnapMirror relationship ID. Attributes: key, non-creatable, non-modifiable |
| **relationship-status** | | string optional | Specifies the SnapMirror relationship status. This parameter is present only if at least one transfer has been performed since the node hosting the source volume joined the quorum. Possible values are:<br>• 'idle',<br>• 'transferring'<br><br>This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **relationship-type** | | string optional | Specifies the SnapMirror relationship type. Attributes: non-creatable, non-modifiable |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The source endpoint can be specified using the location format above, or by specifying the parameters for the name of the source Vserver and the name of the source volume. Attributes: key, non-creatable, non-modifiable |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. The name of the source Vserver must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable |
| **source-volume-node** | | string optional | Node which owns the source volume of the relationship. For FlexGroup relationships it is the node which owns the root constituent source volume. Attributes: non-creatable, non-modifiable |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. The name of the source volume must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable |
| **transfer-progress** | **[0..2^63-1]** | integer optional | Specifies the number of bytes processed so far for the ongoing transfer. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |

# Element definition: **snapmirror-destroy-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |

# Element definition: **snapmirror-file-path**

[top]

Snapmirror File Path

[none]

# Element definition: **snapmirror-get-dp-personality**

[top]

SnapMirror Data Protection Personality When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-dp-personality** | | string optional | DP Personality. Attributes: non-creatable, non-modifiable |

# Element definition: **snapmirror-history-info**

[top]

SnapMirror history When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-info** | | string optional | A message describing the cause of the failure or additional information about a successful operation such as if a checkpoint was cleared as part of an abort operation. Attributes: non-creatable, non-modifiable |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the following format:<br>• <[vserver:]volume><br>• <vserver:><br>This format depends on Vserver peering setup between the source and destination Vservers. The destination endpoint can be specified |

| | | | |
|---|---|---|---|
| | | | using the location format, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume or the destination Vserver for Vserver SnapMirror relationships. Attributes: key, non-creatable, non-modifiable |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship.If using this parameter, the following parameter should also be specified:<br>• The name of the destination Vserver.<br>Attributes: key, non-creatable, non-modifiable |
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the SnapMirror relationship. If using this parameter, the following parameter should also be specified for volume SnapMirror relationships:<br>• The name of destination volume.<br>Attributes: key, non-creatable, non-modifiable |
| **end-time** | | datetime optional | The timestamp of the end time of the operation, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable |
| **operation-id** | | string optional | A unique identifier assigned to a SnapMirror operation. Attributes: key, non-creatable, non-modifiable |
| **operation-type** | | string optional | The type of the operation happened on the relationship. Attributes: non-creatable, non-modifiable Possible values:<br>• "create" - Snapmirror Create,<br>• "modify" - Snapmirror Modify,<br>• "quiesce" - Snapmirror Quiesce,<br>• "resume" - Snapmirror Resume,<br>• "delete" - Snapmirror Delete,<br>• "initialize" - Snapmirror Initialize,<br>• "manual_update" - Snapmirror Manual Update,<br>• "scheduled_update" - Snapmirror Scheduled Update,<br>• "break" - Snapmirror Break,<br>• "resync" - Snapmirror Resync,<br>• "abort" - Snapmirror Abort,<br>• "restore" - Snapmirror Restore,<br>• "automatic_resync" - Snapmirror Automatic Resync,<br>• "failover" - Snapmirror Failover |
| **relationship-group-type** | | string optional | For FlexVol relationships, specifies the type of the group relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" ,<br>• "vserver" ,<br>• "infinitevol" ,<br>• "consistencygroup" ,<br>• "flexgroup" ,<br>• "vserverflexgroup" |
| **relationship-id** | | string optional | A unique identifier assigned to the SnapMirror relationship when it is created. This is not applicable for Vserver SnapMirror relationships. Attributes: non-creatable, non-modifiable |
| **result** | | string optional | Result of the SnapMirror operation. Attributes: non-creatable, non-modifiable Possible values:<br>• "success" - Succesful Operation,<br>• "failure" - Failed Operation |

| | | | |
|---|---|---|---|
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the following format:<br>• <[vserver:]volume><br>• <vserver:> This format depends on Vserver peering setup between the source and destination Vservers.<br>The source endpoint can be specified using the location format, or by specifying the parameters for the name of the source Vserver and the name of the source volume or the source Vserver for Vserver SnapMirror relationships. Attributes: non-creatable, non-modifiable |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. If using this parameter, the following parameter should also be specified:<br>• The name of the source Vserver.<br>Attributes: non-creatable, non-modifiable |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. If using this parameter, the following parameter should also be specified for volume SnapMirror relationships:<br>• The name of source volume.<br>Attributes: non-creatable, non-modifiable |
| **start-time** | | datetime optional | The timestamp of the start time of the operation, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable |
| **transfer-size** | **[0..2^63-1]** | integer optional | The total number of bytes transferred as part of the transfer operation. Attributes: non-creatable, non-modifiable |

# Element definition: **snapmirror-info**

[top]

Information about the SnapMirror Relationship. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **break-failed-count** | **[0..2^64-1]** | integer optional | The number of failed SnapMirror break operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **break-successful-count** | **[0..2^64-1]** | integer optional | The number of successful SnapMirror break operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This the relationship control |

| | | | |
|---|---|---|---|
| | | | plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **catalog-status** | | string optional | Specifies the catalog metadata transfer status for the SnapMirror relationship. Possible values are:<br>• 'idle' - No catalog metadata transfer is in progress,<br>• 'transferring' - A catalog metadata transfer is in progress.<br>This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable |
| **catalog-total-progress** | **[0..2^63-1]** | integer optional | The total number of bytes that have been processed so far for the current catalog metadata transfer for the relationship. This is set only when the catalog-status indicates that an activity is in progress. This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable |
| **catalog-transfer-snapshot** | | string optional | Specifies the name of the current snapshot copy for which the catalog metadata is being transferred. This is set only when the catalog-status indicates that an activity is in progress. This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable |
| **cg-item-mappings** | | string[] optional | Specifies a list of the consistency group (CG) item mappings. This parameter is relevant to CG level relationships and will be considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,... Attributes: optional-for-create, non-modifiable |
| **current-max-transfer-rate** | **[0..2^32-1]** | integer optional | The upper bound in kilobytes per second, at which data is transferred for the current transfer. This value can be the same as the 'max-transfer-rate' in the relationship or the policy or different if overwritten when starting the transfer via the associated commands or APIs (snapmirror-initialize, snapmirror-update, snapmirror-resync, snapmirror-restore). This parameter is only valid when a transfer is in progress. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **current-operation-id** | | string optional | Operation unique identifier of the currently executing SnapMirror operation.This parameter is only available in Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **current-transfer-error** | | string optional | A message describing the last retryable error encountered by the current transfer. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **current-transfer-priority** | | string optional | Priority assigned to the ongoing transfer. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if a transfer is in progress. Attributes: non-creatable, non-modifiable Possible values:<br>• "low" ,<br>• "normal" |
| | | | The type of transfer taking place. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values:<br>• "initialize" ,<br>• "update" , |

| | | | |
|---|---|---|---|
| **current-transfer-type** | | string optional | • "resync" ,<br>• "restore" ,<br>• "check" ,<br>• "file_restore" ,<br>• "cggrs_initialize" ,<br>• "cggrs_resync" ,<br>• "cg_update" ,<br>• "cg_initialize" ,<br>• "cg_resync" ,<br>• "cg_restore" ,<br>• "catalog_metadata" ,<br>• "cg_file_restore" ,<br>• "failover" ,<br>• "aufo" ,<br>• "failover_incapable" |
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br><br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br><br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. Attributes: key, optional-for-create, non-modifiable |
| | | | Specifies the name of the destination volume for the SnapMirror |

| | | | |
|---|---|---|---|
| **destination-volume** | | string optional | relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **destination-volume-node** | | string optional | Node which owns the destination volume of the relationship. For FlexGroup relationships it is the node which owns the root constituent destination volume. For object store relationships it is the node which owns the source volume. This parameter is available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **destination-vserver-uuid** | | string optional | A unique identifier assigned to the destination Vserver when it is created. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **exported-snapshot** | | string optional | The name of the exported Snapshot copy on the destination volume. Attributes: non-creatable, non-modifiable |
| **exported-snapshot-timestamp** | **[0..2^31-1]** | integer optional | The timestamp of the exported Snapshot copy on the destination volume, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable |
| **file-restore-file-count** | **[0..2^64-1]** | integer optional | The number of files being restored by file restore. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **file-restore-file-list** | | string[] optional | List of the destination file names of the files being restored by file restore. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **identity-preserve** | | boolean optional | This optional parameter specifies whether or not the identity of the source Vserver is replicated to the destination Vserver and is applicable on Data ONTAP 8.3 or later. If this parameter is set to true, the source Vserver's configuration will additionally be replicated to the destination. If the parameter is set to false, then only the source Vserver's volumes and RBAC configuration are replicated to the destination. By default this parameter will be false. Attributes: optional-for-create, non-modifiable |
| | | | Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is |

| | | | |
|---|---|---|---|
| **is-auto-expand-enabled** | | boolean optional | expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the paramter is not specified, auto expansion will be enabled on FlexGroup relationships. This parameter is only available on Data ONTAP 9.3 or later. Attributes: optional-for-create, modifiable |
| **is-constituent** | | boolean optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>Specifies whether or not the SnapMirror relationship is between Infinite Volume constituent volumes. This parameter is not supported for FlexGroup or FlexGroup constituent SnapMirror relationships. Attributes: non-creatable, non-modifiable |
| **is-healthy** | | boolean optional | False if the last manual or scheduled update failed or was aborted, or if the last scheduled update was delayed. Otherwise true. Attributes: non-creatable, non-modifiable |
| **lag-time** | **[0..2^32-1]** | integer optional | The amount of time in seconds by which the data on the mirror lags behind the source. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **last-transfer-duration** | **[0..2^32-1]** | integer optional | The amount of time in seconds it took for the last transfer to complete. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was successful. Attributes: non-creatable, non-modifiable |
| **last-transfer-end-timestamp** | **[0..2^31-1]** | integer optional | The Timestamp of the end of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **last-transfer-error** | | string optional | A message describing the cause of the last transfer failure. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode, if the relationship control plane is 'v2', and if the last transfer was unsuccessful. Attributes: non-creatable, non-modifiable |
| **last-transfer-error-codes** | **[0..2^32-1]** | integer[] optional | List of codes providing additional information on the cause and context of the last transfer failure. These are Data ONTAP internal codes, not API errnos. This parameter is reserved for use only by vendor provided management tools, and is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was unsuccessful. Attributes: non-creatable, non-modifiable |
| **last-transfer-from** | | string optional | The source endpoint of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **last-transfer-network-compression-ratio** | | string optional | The compression ratio achieved for the data sent over the wire as a part of the last transfer. If network compression was disabled for the last transfer, the ratio will be set to 1:1. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2', and if the last transfer was successful. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **last-transfer-size** | **[0..2^63-1]** | integer optional | The total number of bytes transferred as part of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was successful. This parameter is not supported for SnapMirror FlexGroup relationships, but it is |

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|---|---|---|---|
| | | | supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **last-transfer-type** | | string optional | The type of the previous transfer for the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values:<br>• "initialize" ,<br>• "update" ,<br>• "resync" ,<br>• "restore" ,<br>• "check" ,<br>• "file_restore" ,<br>• "cggrs_initialize" ,<br>• "cggrs_resync" ,<br>• "cg_update" ,<br>• "cg_initialize" ,<br>• "cg_resync" ,<br>• "cg_restore" ,<br>• "catalog_metadata" ,<br>• "cg_file_restore" ,<br>• "failover" ,<br>• "aufo" ,<br>• "failover_incapable" |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. Attributes: optional-for-create, modifiable |
| **mirror-state** | | string optional | Specifies the mirror state of the SnapMirror relationship. Possible values are:<br>• 'uninitialized' - Destination volume has not been initialized,<br>• 'snapmirrored' - Destination volume has been initialized and is ready to receive SnapMirror updates,<br>• 'broken-off' - Destination volume is RW and snapshots are present.<br><br>Attributes: non-creatable, non-modifiable |
| **network-compression-ratio** | | string optional | The compression ratio achieved for the data sent over the wire with network compression enabled. The left side of the ratio represents the value obtained by dividing uncompressed bytes transferred by compressed bytes transferred. The compression ratio is not maintained across checkpoint restarts. If network compression is disabled, the ratio will be set to 1:1. This is set only when the relationship-status indicates that an activity is in progress. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **newest-snapshot** | | string optional | The name of the newest Snapshot copy on the destination volume. Attributes: non-creatable, non-modifiable |
| **newest-snapshot-** | **[0..2^31-** | integer | The timestamp of the newest Snapshot copy on the destination volume, in seconds since Jan 1, 1970. Attributes: non-creatable, |

| | | | |
|---|---|---|---|
| **timestamp** | **1]** | optional | non-modifiable |
| **opmask** | **[0..2^64-1]** | integer optional | A mask that provides information about the capabilities of the relationship. This parameter is reserved for use only by vendor provided management tools. This parameter is available only on Data ONTAP 9.0 or later operating in Cluster-Mode. Attributes: non-creatable, non-modifiable |
| **policy** | | string optional | Specifies the name of the snapmirror policy for the relationship. For SnapMirror relationships of type 'vault' or 'extended data protection', the policy will also have rules to select snapshot copies that must be transferred. If no policy is specified, a default policy will be applied depending on the type of the SnapMirror relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: optional-for-create, modifiable |
| **policy-type** | | string optional | The type of the SnapMirror policy for the relationship. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. On Data ONTAP 8.2, relationships with type extended data protection will behave as if the policy type were vault. The functionality of policy types async-mirror and mirror-vault is not available for extended data protection relationships on Data ONTAP 8.2. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Attributes: non-creatable, non-modifiable Possible values:<br>• "vault" ,<br>• "async_mirror" ,<br>• "mirror_vault" ,<br>• "smgr_mirror" ,<br>• "strict_sync_mirror" ,<br>• "sync_mirror" ,<br>• "active_strict_sync_mirror" ,<br>• "active_sync_mirror" |
| **progress-last-updated** | **[0..2^31-1]** | integer optional | A timestamp indicating when the progress of the transfer was last updated. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if a transfer is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **relationship-control-plane** | | string optional | The type of the control plane used for the relationship. Possible values are:<br>• 'v1' - Data ONTAP 8.1 compatible control plane. The endpoint location format [<cluster>:][//<vserver>/]<volume> must be used. Long operations such as initialize, update and resync will spawn a job, and return a job id. The job API must be used to track the progress of the operations.<br>• 'v2' - Data ONTAP 8.2 and later compatible control plane. The endpoint location format [<vserver>:]<volume> should be used. Long operations such as initialize, update, and resync do not spawn a job and do not return a job id. The snapmirror-get API must be used to track the progress of these operations.<br><br>This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode.' Attributes: non-creatable, non-modifiable |
| | | | For FlexVol relationships, specifies the type of the group |

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| **relationship-group-type** | | string optional | relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" ,<br>• "vserver" ,<br>• "infinitevol" ,<br>• "consistencygroup" ,<br>• "flexgroup" |
| **relationship-id** | | string optional | A unique identifier assigned to the SnapMirror relationship when it is created. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **relationship-progress** | **[0..2^63-1]** | integer optional | The total number of bytes that have been processed so far for the current activity of the relationship as returned in the relationship-status. This is set only when the relationship-status indicates that an activity is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **relationship-status** | | string optional | Specifies the status of the SnapMirror relationship. Possible values are:<br>• 'idle' - Transfers are enabled, and no transfer is in progress,<br>• 'transferring' - SnapMirror transfers are enabled and a transfer is in progress,<br>• 'checking'- The destination volume is undergoing a diagnostic check and no transfer is in progress. Only applicable for SnapMirror relationships with the relationship-control-plane field set to 'v1',<br>• 'quiescing' - A SnapMirror transfer is in progress, additional transfers are disabled,<br>• 'quiesced' - SnapMirror transfers are disabled, no transfer is in progress,<br>• 'queued' - SnapMirror transfers are enabled, and a transfer operation has been accepted and queued in the system,<br>• 'preparing' - SnapMirror transfers are enabled, currently in the pre-transfer phase for Vault or extended data protection incremental transfers,<br>• 'finalizing' - SnapMirror transfers are enabled, currently in the post-transfer phase for vault or extended data protection incremental transfers,<br>• 'aborting' - SnapMirror transfers are enabled, however a transfer abort operation that may include removal of the checkpoint is underway,<br>• 'breaking' - The SnapMirror relationship is being broken off and no transfer is in progress.<br><br>Attributes: non-creatable, non-modifiable |
| **relationship-type** | | string optional | Specifies the type of the SnapMirror relationship. An extended data protection relationship with a policy of type vault is equivalent to a 'vault' relationship. Attributes: optional-for-create, non-modifiable Possible values:<br>• "data_protection" ,<br>• "load_sharing" ,<br>• "vault" , |

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| | | | "restore" ,<br>• "transition_data_protection" ,<br>• "extended_data_protection" |
| **resync-failed-count** | **[0..2^64-1]** | integer optional | The number of failed SnapMirror resync operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **resync-successful-count** | **[0..2^64-1]** | integer optional | The number of successful SnapMirror resync operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **schedule** | | string optional | Specifies the name of the cron schedule, which is used to update the SnapMirror relationship. Attributes: optional-for-create, modifiable |
| **snapshot-checkpoint** | **[0..2^63-1]** | integer optional | The number of bytes transferred as recorded for the checkpoint of the current or most recent transfer snapshot. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **snapshot-progress** | **[0..2^63-1]** | integer optional | The number of bytes transferred for the transfer snapshot. This is set only when the relationship-status indicates that an activity is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **source-cluster** | | string optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. |

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|---|---|---|---|
| | | | <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br><br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. Attributes: key, optional-for-create, non-modifiable |
| **source-volume** | | string<br>optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **source-vserver** | | string<br>optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **source-vserver-uuid** | | string<br>optional | A unique identifier assigned to the source Vserver when it is created. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **total-transfer-bytes** | **[0..2^64-1]** | integer<br>optional | Cumulative bytes transferred for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. This parameter is not supported for SnapMirror FlexGroup volume relationships, but it is supported for FlexGroup volume constituent relationships. Attributes: non-creatable, non-modifiable |
| **total-transfer-time-secs** | **[0..2^32-1]** | integer<br>optional | Cumulative total transfer time in seconds since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **transfer-snapshot** | | string<br>optional | The name of the current snapshot copy being transferred. This is set only when the relationship-status indicates that an activity is in progress. Attributes: non-creatable, non-modifiable |
| | | | Specifies the maximum number of times to attempt each manual or |

| | | | |
|---|---|---|---|
| **tries** | | string optional | scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is ignored. Attributes: optional-for-create, modifiable |
| **unhealthy-reason** | | string optional | The reason the relationship is not healthy. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **update-failed-count** | **[0..2^64-1]** | integer optional | The number of failed SnapMirror update operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **update-successful-count** | **[0..2^64-1]** | integer optional | The number of successful SnapMirror update operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option and should not be used for queries. The destination-vserver parameter should be used to select the Vserver in a cluster context. Attributes: optional-for-create, modifiable |

# Element definition: **snapmirror-initialize-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |
| **status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

[top]

# Element definition: **snapmirror-list-unprotected**

SnapMirror List Unprotected When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **source-vserver** | | string optional | Specifies the source Vserver for which to list unprotected volumes. Attributes: key, non-creatable, non-modifiable |

# Element definition: **snapmirror-modify-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |

# Element definition: **snapmirror-path**

[top]

Snapmirror path name

[none]

# Element definition: **snapmirror-promote-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-** | | string | Error description, if the operation caused an error. |

| | | | |
|---|---|---|---|
| **message** | | optional | |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |

## Element definition: **snapmirror-quiesce-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |

## Element definition: **snapmirror-release-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-destination-info | The keys for the snapmirror object to which the operation applies. |

## Element definition: **snapmirror-resume-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |

# Element definition: **snapmirror-resync-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |
| **status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

# Element definition: **snapmirror-schedule-info**

[top]

Contains the SnapMirror schedule per destination. If the schedule contains an error, only destination-location and snapmirror-error will be present.

| Name | Range | Type | Description |
|---|---|---|---|
| **days-of-month** | | string optional | Days in the month for which the schedule is set. The form is crontab-like, with possible values of:<br>• - := match nothing;<br>• 1 := match day 1;<br>• 1,3 := match day 1 and 3;<br>• 2-5 := match day 2,3,4,5;<br>• 1-30/7 := match day 1,8,15,22,29;<br>• * := matches all possible legal values;<br><br>If there is an error, days-of-month will not be present and snapmirror-error will be present. |
| **days-of-week** | | string optional | Days in the week for which the schedule is set. 0 represents Sunday, and 6 represents Saturday. The form is crontab-like, with possible values of:<br>• - := match nothing.<br>• 1 := match day 1 (Mon);<br>• 1,3 := match day 1 and 3 (Mon and Wed);<br>• 2-5 := match day 2,3,4,5 (Tue,Wed,Thu,Fri);<br>• * := matches all possible legal values;<br><br>If there is an error, days-of-week will not be present and snapmirror-error will be present. |
| **destination-** | | | The destination location of the schedule. The destination location is of |

| | | | |
|---|---|---|---|
| **location** | | string | the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. |
| **hours** | | string optional | Hours in the day for which the schedule is set. The form is crontab-like, with possible values of:<br>• - := match nothing;<br>• 1 := match hour 1;<br>• 1,3 := match hour 1 and 3;<br>• 2-5 := match hour 2,3,4,5;<br>• 1-24/3 := match hour 1,4,7,10,13,16,19,22;<br>• * := matches all possible legal values;<br>If there is an error, hours will not be present and snapmirror-error will be present. |
| **is-compressed** | | boolean optional | If true SnapMirror will compress/decompress the data that is transferred between the source and destination storage system. If false, transferred data will not be compressed. The default is false. |
| **max-transfer-rate** | | integer optional | Maximum transfer rate in kilobytes per second. If not present, then the transfer rate is as fast as the filer can transfer. |
| **minutes** | | string optional | Minutes in the hour for which the schedule is set. The form is crontab-like, with possible values of:<br>• - := match nothing;<br>• 1 := match minute 1;<br>• 1,3 := match minute 1 and 3;<br>• 2-5 := match minute 2,3,4,5;<br>• 1-12/3 := match minute 1,4,7,10;<br>• 0-55/5 := match minute 0,5,10,15,20,25,30,35,40, 45,50,55;<br>• * := matches all possible legal values;<br>If there is an error, minutes will not be present and snapmirror-error will be present. |
| **snapmirror-error** | | snapmirror-error optional | Present if there is an error for a snapmirror schedule. |
| **source-location** | | string optional | The source location of the schedule. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. If there is an error, source-location will not be present and snapmirror-error will be present. |
| **tcp-window-size** | | integer optional | TCP window size in bytes. If not present, then the TCP window size is set to an internally determined default value. |

# Element definition: **snapmirror-status-info**

[top]

The SnapMirror pair status.

| Name | Range | Type | Description |
|---|---|---|---|
| **base-snapshot** | | string optional | Base snapshot name. Only present if available. |
| **contents** | | string | State of the active file system of snapmirror destinations. Possible values are: "replica", "transitioning", and "original". |
| **current-** | | string | A human readable transfer error of the current snapmirror transfer. |

| | | | |
|---|---|---|---|
| **transfer-error** | | optional | Present when there is a current error. |
| **current-transfer-type** | | string optional | Type of the current SnapMirror transfer. Possible values are: initialize, store, schedule, retry, retrieve, resync, and migrate. Only present when there is a transfer. |
| **destination-location** | | string | The destination location of the SnapMirror pair. The form is <filer>:<volume> or <filer>:/vol/<volume>/<qtree>. |
| **inodes-replicated** | **[0..2^64-1]** | integer optional | Shows the number of inodes replicated. Present during directory processing phase. |
| **lag-time** | | integer | Amount of time since the last snapmirror transfer in seconds. |
| **last-transfer-duration** | | integer | Duration of the last SnapMirror transfer in seconds. |
| **last-transfer-from** | | string | Source location of the last SnapMirror transfer. |
| **last-transfer-size** | | integer | The size in kilo bytes (1024) of the last SnapMirror transfer. |
| **last-transfer-type** | | string optional | Last SnapMirror transfer type. Possible values are: "initialize", "store", "schedule", "retry", "retrieve", "resync", and "migrate". Only present when there was a last transfer. |
| **mirror-timestamp** | | integer | Access time in seconds since Jan 1, 1970. |
| **replication-ops** | **[0..2^64-1]** | integer optional | Counter that is incremented for every replication operation. Present during directory processing phase. |
| **source-location** | | string | The source location of the SnapMirror pair. The form is <filer>:<volume> or <filer>:/vol/<volume>/<qtree>. |
| **state** | | string | SnapMirror pair state. Possible values are: "uninitialized", "snapmirrored", "broken-off", "quiesced", "source", and "unknown". |
| **status** | | string | SnapMirror pair transfer status. Possible values are: "Idle, "Transferring", "Pending", "Aborting", "Migrating", "Quiescing", "Resyncing", "Waiting", "Syncing", "In-sync" and "Paused". In case the previous transfer was failed/aborted and had a restart checkpoint set, the status could be "Idle with restart checkpoint" or "Pending with restart checkpoint". In addition the status could be "Checking", "Fixing" and "Transferring, Checking" when "snapmirror check" command is being run on the destination volume. |
| **transfer-progress** | | integer | Number of kilo bytes (1024) transfered in a current on-going transfer. |

# Element definition: **snapmirror-sync-schedule-info**

[top]

Contains the synchronous SnapMirror schedule per destination. If the schedule contains an error, only destination-location and snapmirror-error will be present.

| Name | Range | Type | Description |
|---|---|---|---|
| **destination-location** | | string | The destination location of the schedule. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. |
| **is-compressed** | | boolean optional | If true SnapMirror will compress/decompress the data that is transferred between the source and destination storage system. If |

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|---|---|---|---|
| | | | false, transferred data will not be compressed. The default is false. |
| **max-transfer-rate** | | integer optional | Maximum transfer rate in kilobytes per second. If not present, then the transfer rate is as fast as the filer can transfer. |
| **ops-throttle** | | string optional | The number of outstanding operations allowed before blocking on the source. The format is a number followed by the one of the following units: "ops", "s", or "ms". If the specified value is less than 10s, the mirror is configured to run in a fully synchronous mode. If the specified value is greater than or equal to 10s, the mirror is configured to run in semi-synchronous mode. |
| **snapmirror-error** | | snapmirror-error optional | Present if there is an error for a snapmirror schedule. |
| **source-location** | | string optional | The source location of the schedule. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. If there is an error, source-location will not be present and snapmirror-error will be present. |
| **sync-mode** | | string | This specifies whether the mirror is configured in sync or in semi-sync mode. Possible values are: "full_sync" and "semi_sync". "full_sync" means that the mirror is configured to run in a fully synchronous mode. "semi_sync" means that the mirror is configured to run in a semi synchronous mode. |
| **tcp-window-size** | | integer optional | TCP window size in bytes. If not present, then the TCP window size is set to an internally determined default value. |
| **visibility-frequency** | | integer optional | Controls how often the source snapspot will be visible on the destination mirror. |

# Element definition: **snapmirror-update-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |
| **status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

# Element definition: **snapshot-id**

[top]

Snapshot Id

[none]

## Element definition: **snapshot-owner-name** [top]

Snapshot Copy Owner Name

[none]

## Element definition: **tieringpolicy-enum** [top]

Tiering Policy Possible values:

- "snapshot_only" - Tiers volume snapshot copies not associated with active file system to cloud tier.,
- "auto" - Tiers cold volume blocks to cloud tier,
- "none" - Do not tier volume blocks to cloud tier,
- "backup" - Transferred data blocks on DP volume starts on cloud tier.,
- "all" - Tier volume blocks to the cloud tier as soon as possible,
- "archive" - Tier volume blocks to the cloud tier as soon as possible and tagged for a less expensive storage class

[none]

## Element definition: **uuid** [top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

## Element definition: **volume-name** [top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace

being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

## Element definition: **volume-name-nolink** [top]

Volume Name

[none]

## Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

## Element definition: **xc-vs-name** [top]

Cross Cluster Vserver Name

[none]

## Element definition: **address-pair** [top]

Source and destination address pair.

| Name | Range | Type | Description |
|---|---|---|---|
| **destination-addr** | | string | Destination address in the form of filer name or IP address. |
| **source-addr** | | string | Source address in the form of filer name or IP address. |

## Element definition: **aggr-name** [top]

Name of the aggregate

[none]

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **smendpointtype**

[top]

flexvol|object-store Possible values:

- "flexvol" ,
- "object_store"

[none]

# Element definition: **snapmirror-destination-info**

[top]

Information about a Destination of a SnapMirror Relationship Source When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cg-item-mappings** | | string[] optional | Specifies a list of the Consistency Group (CG) item mappings. This parameter is applicable to CG level relationships and will be considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,... Attributes: non-creatable, non-modifiable |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The destination endpoint can be specified using the location format above, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume. Attributes: key, non-creatable, non-modifiable |
| **destination-volume** | | string optional | Specifies the name of destination volume for the SnapMirror relationshp. The name of the destination Vserver must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable |
| **destination-** | | string | Specifies the name of the destination Vserver for the relationship. The name of the destination volume must also be specified if using |

| | | | |
|---|---|---|---|
| **vserver** | | optional | this parameter. Attributes: key, non-creatable, non-modifiable |
| **is-constituent** | | boolean optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>Specifies whether or not the SnapMirror relationship is between Infinite Volume constituent volumes. This parameter is not supported for FlexGroup or FlexGroup constituent SnapMirror relationships. Attributes: non-creatable, non-modifiable |
| **policy-type** | | string optional | The type of the SnapMirror policy for the relationship. This parameter is only available on Data ONTAP 8.3 or later. On Data ONTAP 8.2, relationships with type extended data protection will behave as if the policy type were vault. The functionality of policy types async-mirror and mirror-vault is not available for extended data protection relationships on Data ONTAP 8.2. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Attributes: non-creatable, non-modifiable Possible values:<br><br>• "vault" ,<br>• "async_mirror" ,<br>• "mirror_vault" ,<br>• "smgr_mirror" ,<br>• "strict_sync_mirror" ,<br>• "sync_mirror" ,<br>• "active_strict_sync_mirror" ,<br>• "automated_failover" ,<br>• "migrate" ,<br>• "continuous" |
| **progress-last-updated** | **[0..2^31-1]** | integer optional | Specifies the timestamp indicating when the progress of the ongoing transfer was last updated. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **relationship-group-type** | | string optional | For FlexVol relationships, specifies the type of the group relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. This parameter is only available on Data ONTAP 8.3 or later. Attributes: non-creatable, non-modifiable Possible values:<br><br>• "none" ,<br>• "vserver" ,<br>• "infinitevol" ,<br>• "consistencygroup" ,<br>• "flexgroup" ,<br>• "vserverflexgroup" |
| **relationship-id** | | string optional | Specifies the SnapMirror relationship ID. Attributes: key, non-creatable, non-modifiable |
| **relationship-status** | | string optional | Specifies the SnapMirror relationship status. This parameter is present only if at least one transfer has been performed since the node hosting the source volume joined the quorum. Possible values are:<br><br>• 'idle',<br>• 'transferring'<br><br>This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **relationship-type** | | string optional | Specifies the SnapMirror relationship type. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The source endpoint can be specified using the location format above, or by specifying the parameters for the name of the source Vserver and the name of the source volume. Attributes: key, non-creatable, non-modifiable |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. The name of the source Vserver must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable |
| **source-volume-node** | | string optional | Node which owns the source volume of the relationship. For FlexGroup relationships it is the node which owns the root constituent source volume. Attributes: non-creatable, non-modifiable |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. The name of the source volume must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable |
| **transfer-progress** | **[0..2^63-1]** | integer optional | Specifies the number of bytes processed so far for the ongoing transfer. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |

# Element definition: **snapmirror-error**

[top]

Information about a single snapmirror schedule error.

| Name | Range | Type | Description |
|---|---|---|---|
| **errno** | | integer | The error number. |
| **reason** | | string | A human-readable concise reason for the error. |

# Element definition: **snapmirror-info**

[top]

Information about the SnapMirror Relationship. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **break-failed-count** | **[0..2^64-1]** | integer optional | The number of failed SnapMirror break operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| | | | The number of successful SnapMirror break operations for the |

| | | | |
|---|---|---|---|
| **break-successful-count** | **[0..2^64-1]** | integer optional | relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **catalog-status** | | string optional | Specifies the catalog metadata transfer status for the SnapMirror relationship. Possible values are:<br>• 'idle' - No catalog metadata transfer is in progress,<br>• 'transferring' - A catalog metadata transfer is in progress.<br>This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable |
| **catalog-total-progress** | **[0..2^63-1]** | integer optional | The total number of bytes that have been processed so far for the current catalog metadata transfer for the relationship. This is set only when the catalog-status indicates that an activity is in progress. This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable |
| **catalog-transfer-snapshot** | | string optional | Specifies the name of the current snapshot copy for which the catalog metadata is being transferred. This is set only when the catalog-status indicates that an activity is in progress. This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable |
| **cg-item-mappings** | | string[] optional | Specifies a list of the consistency group (CG) item mappings. This parameter is relevant to CG level relationships and will be considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,... Attributes: optional-for-create, non-modifiable |
| **current-max-transfer-rate** | **[0..2^32-1]** | integer optional | The upper bound in kilobytes per second, at which data is transferred for the current transfer. This value can be the same as the 'max-transfer-rate' in the relationship or the policy or different if overwritten when starting the transfer via the associated commands or APIs (snapmirror-initialize, snapmirror-update, snapmirror-resync, snapmirror-restore). This parameter is only valid when a transfer is in progress. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **current-operation-id** | | string optional | Operation unique identifier of the currently executing SnapMirror operation.This parameter is only available in Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **current-transfer-error** | | string optional | A message describing the last retryable error encountered by the current transfer. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **current-transfer-priority** | | string optional | Priority assigned to the ongoing transfer. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if a transfer is in progress. Attributes: non-creatable, non-modifiable Possible values:<br>• "low" ,<br>• "normal" |
| | | | The type of transfer taking place. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **current-transfer-type** | | string optional | • "initialize" ,<br>• "update" ,<br>• "resync" ,<br>• "restore" ,<br>• "check" ,<br>• "file_restore" ,<br>• "cggrs_initialize" ,<br>• "cggrs_resync" ,<br>• "cg_update" ,<br>• "cg_initialize" ,<br>• "cg_resync" ,<br>• "cg_restore" ,<br>• "catalog_metadata" ,<br>• "cg_file_restore" ,<br>• "failover" ,<br>• "aufo" ,<br>• "failover_incapable" |
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br><br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br><br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only |

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|---|---|---|---|
| | | | required on Data ONTAP 8.1 operating in Cluster-Mode. Attributes: key, optional-for-create, non-modifiable |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **destination-volume-node** | | string optional | Node which owns the destination volume of the relationship. For FlexGroup relationships it is the node which owns the root constituent destination volume. For object store relationships it is the node which owns the source volume. This parameter is available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **destination-vserver-uuid** | | string optional | A unique identifier assigned to the destination Vserver when it is created. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **exported-snapshot** | | string optional | The name of the exported Snapshot copy on the destination volume. Attributes: non-creatable, non-modifiable |
| **exported-snapshot-timestamp** | **[0..2^31-1]** | integer optional | The timestamp of the exported Snapshot copy on the destination volume, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable |
| **file-restore-file-count** | **[0..2^64-1]** | integer optional | The number of files being restored by file restore. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **file-restore-file-list** | | string[] optional | List of the destination file names of the files being restored by file restore. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **identity-preserve** | | boolean optional | This optional parameter specifies whether or not the identity of the source Vserver is replicated to the destination Vserver and is applicable on Data ONTAP 8.3 or later. If this parameter is set to true, the source Vserver's configuration will additionally be replicated to the destination. If the parameter is set to false, then only the source Vserver's volumes and RBAC configuration are replicated to the destination. By default this parameter will be false. |

| | | | |
|---|---|---|---|
| | | | Attributes: optional-for-create, non-modifiable |
| **is-auto-expand-enabled** | | boolean optional | Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the paramter is not specified, auto expansion will be enabled on FlexGroup relationships. This parameter is only available on Data ONTAP 9.3 or later. Attributes: optional-for-create, modifiable |
| **is-constituent** | | boolean optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>Specifies whether or not the SnapMirror relationship is between Infinite Volume constituent volumes. This parameter is not supported for FlexGroup or FlexGroup constituent SnapMirror relationships. Attributes: non-creatable, non-modifiable |
| **is-healthy** | | boolean optional | False if the last manual or scheduled update failed or was aborted, or if the last scheduled update was delayed. Otherwise true. Attributes: non-creatable, non-modifiable |
| **lag-time** | **[0..2^32-1]** | integer optional | The amount of time in seconds by which the data on the mirror lags behind the source. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **last-transfer-duration** | **[0..2^32-1]** | integer optional | The amount of time in seconds it took for the last transfer to complete. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was successful. Attributes: non-creatable, non-modifiable |
| **last-transfer-end-timestamp** | **[0..2^31-1]** | integer optional | The Timestamp of the end of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **last-transfer-error** | | string optional | A message describing the cause of the last transfer failure. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode, if the relationship control plane is 'v2', and if the last transfer was unsuccessful. Attributes: non-creatable, non-modifiable |
| **last-transfer-error-codes** | **[0..2^32-1]** | integer[] optional | List of codes providing additional information on the cause and context of the last transfer failure. These are Data ONTAP internal codes, not API errnos. This parameter is reserved for use only by vendor provided management tools, and is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was unsuccessful. Attributes: non-creatable, non-modifiable |
| **last-transfer-from** | | string optional | The source endpoint of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **last-transfer-network-compression-ratio** | | string optional | The compression ratio achieved for the data sent over the wire as a part of the last transfer. If network compression was disabled for the last transfer, the ratio will be set to 1:1. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2', and if the last transfer was successful. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| | | | The total number of bytes transferred as part of the last transfer. This parameter is available only on Data ONTAP 8.2 or later |

| | | | |
|---|---|---|---|
| **last-transfer-size** | **[0..2^63-1]** | integer optional | operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was successful. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **last-transfer-type** | | string optional | The type of the previous transfer for the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values:<br>• "initialize" ,<br>• "update" ,<br>• "resync" ,<br>• "restore" ,<br>• "check" ,<br>• "file_restore" ,<br>• "cggrs_initialize" ,<br>• "cggrs_resync" ,<br>• "cg_update" ,<br>• "cg_initialize" ,<br>• "cg_resync" ,<br>• "cg_restore" ,<br>• "catalog_metadata" ,<br>• "cg_file_restore" ,<br>• "failover" ,<br>• "aufo" ,<br>• "failover_incapable" |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. Attributes: optional-for-create, modifiable |
| **mirror-state** | | string optional | Specifies the mirror state of the SnapMirror relationship. Possible values are:<br>• 'uninitialized' - Destination volume has not been initialized,<br>• 'snapmirrored' - Destination volume has been initialized and is ready to receive SnapMirror updates,<br>• 'broken-off' - Destination volume is RW and snapshots are present.<br><br>Attributes: non-creatable, non-modifiable |
| **network-compression-ratio** | | string optional | The compression ratio achieved for the data sent over the wire with network compression enabled. The left side of the ratio represents the value obtained by dividing uncompressed bytes transferred by compressed bytes transferred. The compression ratio is not maintained across checkpoint restarts. If network compression is disabled, the ratio will be set to 1:1. This is set only when the relationship-status indicates that an activity is in progress. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **newest-** | | string | The name of the newest Snapshot copy on the destination volume. |

| | | | |
|---|---|---|---|
| **snapshot** | | optional | Attributes: non-creatable, non-modifiable |
| **newest-snapshot-timestamp** | **[0..2^31-1]** | integer optional | The timestamp of the newest Snapshot copy on the destination volume, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable |
| **opmask** | **[0..2^64-1]** | integer optional | A mask that provides information about the capabilities of the relationship. This parameter is reserved for use only by vendor provided management tools. This parameter is available only on Data ONTAP 9.0 or later operating in Cluster-Mode. Attributes: non-creatable, non-modifiable |
| **policy** | | string optional | Specifies the name of the snapmirror policy for the relationship. For SnapMirror relationships of type 'vault' or 'extended data protection', the policy will also have rules to select snapshot copies that must be transferred. If no policy is specified, a default policy will be applied depending on the type of the SnapMirror relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: optional-for-create, modifiable |
| **policy-type** | | string optional | The type of the SnapMirror policy for the relationship. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. On Data ONTAP 8.2, relationships with type extended data protection will behave as if the policy type were vault. The functionality of policy types async-mirror and mirror-vault is not available for extended data protection relationships on Data ONTAP 8.2. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Attributes: non-creatable, non-modifiable Possible values:<br>• "vault" ,<br>• "async_mirror" ,<br>• "mirror_vault" ,<br>• "smgr_mirror" ,<br>• "strict_sync_mirror" ,<br>• "sync_mirror" ,<br>• "active_strict_sync_mirror" ,<br>• "active_sync_mirror" |
| **progress-last-updated** | **[0..2^31-1]** | integer optional | A timestamp indicating when the progress of the transfer was last updated. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if a transfer is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **relationship-control-plane** | | string optional | The type of the control plane used for the relationship. Possible values are:<br>• 'v1' - Data ONTAP 8.1 compatible control plane. The endpoint location format [<cluster>:][//<vserver>/]<volume> must be used. Long operations such as initialize, update and resync will spawn a job, and return a job id. The job API must be used to track the progress of the operations.<br>• 'v2' - Data ONTAP 8.2 and later compatible control plane. The endpoint location format [<vserver>:]<volume> should be used. Long operations such as initialize, update, and resync do not spawn a job and do not return a job id. The snapmirror-get API must be used to track the progress of these operations.<br><br>This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode.' Attributes: non-creatable, non- |

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| | | | modifiable |
| **relationship-group-type** | | string optional | For FlexVol relationships, specifies the type of the group relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" ,<br>• "vserver" ,<br>• "infinitevol" ,<br>• "consistencygroup" ,<br>• "flexgroup" |
| **relationship-id** | | string optional | A unique identifier assigned to the SnapMirror relationship when it is created. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **relationship-progress** | **[0..2^63-1]** | integer optional | The total number of bytes that have been processed so far for the current activity of the relationship as returned in the relationship-status. This is set only when the relationship-status indicates that an activity is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **relationship-status** | | string optional | Specifies the status of the SnapMirror relationship. Possible values are:<br>• 'idle' - Transfers are enabled, and no transfer is in progress,<br>• 'transferring' - SnapMirror transfers are enabled and a transfer is in progress,<br>• 'checking'- The destination volume is undergoing a diagnostic check and no transfer is in progress. Only applicable for SnapMirror relationships with the relationship-control-plane field set to 'v1',<br>• 'quiescing' - A SnapMirror transfer is in progress, additional transfers are disabled,<br>• 'quiesced' - SnapMirror transfers are disabled, no transfer is in progress,<br>• 'queued' - SnapMirror transfers are enabled, and a transfer operation has been accepted and queued in the system,<br>• 'preparing' - SnapMirror transfers are enabled, currently in the pre-transfer phase for Vault or extended data protection incremental transfers,<br>• 'finalizing' - SnapMirror transfers are enabled, currently in the post-transfer phase for vault or extended data protection incremental transfers,<br>• 'aborting' - SnapMirror transfers are enabled, however a transfer abort operation that may include removal of the checkpoint is underway,<br>• 'breaking' - The SnapMirror relationship is being broken off and no transfer is in progress.<br><br>Attributes: non-creatable, non-modifiable |
| **relationship-** | | string | Specifies the type of the SnapMirror relationship. An extended data protection relationship with a policy of type vault is equivalent to a 'vault' relationship. Attributes: optional-for-create, non-modifiable Possible values:<br>• "data_protection" , |

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|---|---|---|---|
| **type** | | optional | • "load_sharing" ,<br>• "vault" ,<br>• "restore" ,<br>• "transition_data_protection" ,<br>• "extended_data_protection" |
| **resync-failed-count** | **[0..2^64-1]** | integer optional | The number of failed SnapMirror resync operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **resync-successful-count** | **[0..2^64-1]** | integer optional | The number of successful SnapMirror resync operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **schedule** | | string optional | Specifies the name of the cron schedule, which is used to update the SnapMirror relationship. Attributes: optional-for-create, modifiable |
| **snapshot-checkpoint** | **[0..2^63-1]** | integer optional | The number of bytes transferred as recorded for the checkpoint of the current or most recent transfer snapshot. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **snapshot-progress** | **[0..2^63-1]** | integer optional | The number of bytes transferred for the transfer snapshot. This is set only when the relationship-status indicates that an activity is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **source-cluster** | | string optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for |

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|---|---|---|---|
| | | | relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br><br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. Attributes: key, optional-for-create, non-modifiable |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **source-vserver-uuid** | | string optional | A unique identifier assigned to the source Vserver when it is created. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **total-transfer-bytes** | **[0..2^64-1]** | integer optional | Cumulative bytes transferred for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. This parameter is not supported for SnapMirror FlexGroup volume relationships, but it is supported for FlexGroup volume constituent relationships. Attributes: non-creatable, non-modifiable |
| **total-transfer-time-secs** | **[0..2^32-1]** | integer optional | Cumulative total transfer time in seconds since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **transfer-** | | string | The name of the current snapshot copy being transferred. This is set only when the relationship-status indicates that an activity is in |

| | | | |
|---|---|---|---|
| **snapshot** | | optional | progress. Attributes: non-creatable, non-modifiable |
| **tries** | | string optional | Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is ignored. Attributes: optional-for-create, modifiable |
| **unhealthy-reason** | | string optional | The reason the relationship is not healthy. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **update-failed-count** | **[0..2^64-1]** | integer optional | The number of failed SnapMirror update operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **update-successful-count** | **[0..2^64-1]** | integer optional | The number of successful SnapMirror update operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option and should not be used for queries. The destination-vserver parameter should be used to select the Vserver in a cluster context. Attributes: optional-for-create, modifiable |

# Element definition: **snapmirror-policy-cap-info**

[top]

Capabilities information for policy types.

| Name | Range | Type | Description |
|---|---|---|---|
| **default-policy** | | sm-policy optional | The recommended policy to use for this policy type. Attributes: non-creatable, non-modifiable |
| **default-schedule** | | string optional | The recommended schedule to use for this policy type. Attributes: non-creatable, non-modifiable |
| **is-licensed** | | boolean optional | Whether or not there is a license installed that enables using this policy type. If a SnapMirror license is installed, all policy types are licensed. If only a SnapVault license is installed, only policy type vault is licensed. Attributes: non-creatable, non-modifiable |
| | | sm- | A SnapMirror policy type supported by this endpoint type. Supported values are async_mirror, mirror_vault, and vault. Attributes: non-creatable, non-modifiable Possible values:<br>• "vault" ,<br>• "async_mirror" , |

| | | | |
|---|---|---|---|
| **policy-type** | | policy-type-enum optional | • "mirror_vault" ,<br>• "smgr_mirror" ,<br>• "strict_sync_mirror" ,<br>• "sync_mirror" ,<br>• "active_strict_sync_mirror" ,<br>• "automated_failover" ,<br>• "migrate" ,<br>• "continuous" |
| **supports-snaplock-dest** | | boolean optional | Whether or not this policy type supports a SnapLock volume as the destination. Attributes: non-creatable, non-modifiable |
| **supports-snaplock-source** | | boolean optional | Whether or not this policy type supports a SnapLock volume as the source. Attributes: non-creatable, non-modifiable |

# Element definition: **sm-policy**

[top]

SnapMirror Policy

[none]

# Element definition: **sm-policy-type-enum**

[top]

vault|async-mirror|mirror-vault|strict-sync-mirror|sync-mirror|automated-failover|continuous Possible values:

- "vault" ,
- "async_mirror" ,
- "mirror_vault" ,
- "smgr_mirror" ,
- "strict_sync_mirror" ,
- "sync_mirror" ,
- "active_strict_sync_mirror" ,
- "automated_failover" ,
- "migrate" ,
- "continuous"

[none]

# APIs in Category: **snapmirror-policy**


snapmirror-policy-add-rule
snapmirror-policy-create
snapmirror-policy-delete
snapmirror-policy-get
snapmirror-policy-get-iter
snapmirror-policy-modify
snapmirror-policy-modify-rule
snapmirror-policy-remove-rule


This set of APIs allows management of SnapMirror Policies in a cluster environment including: creation, deletion, modification and information query.

## snapmirror-policy-add-rule

[top]

Add a rule to SnapMirror policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **keep** | | string | Specifies the Snapshot copy retention count. |
| **policy-name** | | sm-policy | The name of the SnapMirror policy. |
| **prefix** | | string optional | Specifies the Snapshot copy creation prefix name associated with the rule. |
| **preserve** | | boolean optional | Specifies whether Snapshot copy preserve is enabled. |
| **schedule** | | string optional | Specifies the Snapshot copy creation schedule name associated with the rule. |
| **snapmirror-label** | | string | Specifies the Snapshot copy label. |
| **warn** | **[0..2^32-1]** | integer optional | Specifies the warning threshold count. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

## snapmirror-policy-create

[top]

Create the specified SnapMirror Policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **archive-after-days** | **[0..2^32-1]** | integer optional | Specifies the number of days before archiving objects for Snapshot copies in S3/Blob storage to the glacier/archive tier. Possible values are: integer from 0 to 999 and 'never'. Setting the value to 0 will enable sending objects for Snapshot copies to the glacier/archive tier as soon as possible. 999 means archive objects for Snapshot copies to the glacier/archive tier after retaining them for 999 days in S3/Blob storage. The value 'never' means never archive objects for Snapshot copies to the glacier/archive tier. If the parameter is not specified, archiving will behave as if it was specified as 'never'. This parameter is only supported for policies of type 'vault' and 'mirror-vault'. This parameter is only available on Data ONTAP 9.8 and later. |
| **are-data-ops-sequentially-split** | | boolean optional | Configure splitter to split all data ops sequentially. |
| **comment** | | string optional | A human readable description associated with the SnapMirror policy. |
| **common-snapshot-schedule** | | string optional | Specifies the common Snapshot copy creation schedule associated with the rule. |
| **discard-configs** | | svmdr-config-obj[] optional | Configurations Not Replicated During Identity Preserve Vserver DR Possible values:<br>• "network" - Network |
| **ignore-atime** | | boolean optional | Specifies whether incremental transfers will ignore files which have only their access time changed. Applies to SnapMirror vault relationships only. |
| **is-network-compression-enabled** | | boolean optional | Specifies whether network compression is enabled for transfers. The default value is 'false'. |
| **keep** | | string[] optional | Specifies the Snapshot copy retention count. |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred for the SnapMirror relationships. The default is unlimited (0) which permits the SnapMirror relationships to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. |
| **owner** | | policy-owner optional | The owner of the SnapMirror policy. Possible values:<br>• "cluster_admin" ,<br>• "vserver_admin" |
| **policy-name** | | sm-policy | The name of the SnapMirror policy. |
| **prefix** | | string[] optional | Specifies the Snapshot copy creation prefix name associated with the rule. |
| **preserve** | | boolean[] optional | Specifies whether Snapshot copy preserve is enabled, which determines the behavior when the Snapshot copy retention count is reached on the SnapMirror Vault destination. |
| **restart** | | sm-restart-enum | Defines the behavior of SnapMirror if an interrupted transfer exists. Applies to SnapMirror data protection relationship only. Possible values:<br>• "always" , |

| | | | |
|---|---|---|---|
| | | optional | • "never" ,<br>• "default" |
| **return-record** | | boolean optional | If set to true, returns the snapmirror-policy on successful creation. Default: false |
| **schedule** | | string[] optional | Specifies the Snapshot copy creation schedule name associated with the rule. |
| **sequential-split-op-timeout-secs** | **[0..2^32-1]** | integer optional | Configure sequential split op timeout. |
| **snapmirror-label** | | string[] optional | Specifies the Snapshot copy label. |
| **transfer-priority** | | sm-transfer-priority-enum optional | Specifies the priority at which a SnapMirror transfer runs. 'normal' : By default every transfer in the system has this priority. These transfers are scheduled before most 'low' priority transfers. 'low': These transfers have least priority and usually are scheduled after most 'normal' priority transfers. Possible values:<br>• "low" ,<br>• "normal" |
| **transfer-schedule-name** | | string optional | Specifies the name of the cron schedule, which is used to update the SnapMirror relationships. |
| **tries** | | string optional | Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. Valid input is a positive integer or 'unlimited'. The default is '8'. |
| **type** | | sm-policy-type-enum optional | The type of the Snapmirror policy. This field is only applicable on Data ONTAP 8.3 or later. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Policy type strict-sync-mirror and sync-mirror are not supported on Data ONTAP 9.4 or earlier. This parameter is required on Data ONTAP 9.5 and later. Possible values:<br>• "vault" ,<br>• "async_mirror" ,<br>• "mirror_vault" ,<br>• "smgr_mirror" ,<br>• "strict_sync_mirror" ,<br>• "sync_mirror" ,<br>• "active_strict_sync_mirror" ,<br>• "automated_failover" ,<br>• "migrate" ,<br>• "continuous" |
| **warn** | **[0..2^32-1]** | integer[] optional | Specifies the warning threshold count. |
| **window-size-for-tdp-mirror** | | size optional | Window size for TDP Mirror Transfer Operations. The default size is 2MB. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | snapmirror-policy-info optional | The snapmirror-policy created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| EINVALIDNPUTERROR | |
| EINTERNALERROR | |
| EOPNOTSUPPORTED | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# snapmirror-policy-delete

[top]

Delete the specified SnapMirror Policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| policy-name | | sm-policy | The name of the SnapMirror policy. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |
| EOPNOTSUPPORTED | |
| EPOLICY_CANNOT_DELETE_BUILTIN | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# snapmirror-policy-get

[top]

Get Information about a single SnapMirror Policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | snapmirror-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| policy-name | | sm-policy | The name of the SnapMirror policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | snapmirror-policy-info | The attributes of the snapmirror-policy. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINVALIDINPUTERROR | |

# snapmirror-policy-get-iter

[top]

Get Information about multiple SnapMirror Policies

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snapmirror-policy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror-policy object. All snapmirror-policy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snapmirror-policy-info[] optional | The list of attributes of snapmirror-policy objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snapmirror-policy objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |

# snapmirror-policy-modify

[top]

Modify the specified SnapMirror Policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **archive-after-days** | **[0..2^32-1]** | integer optional | Specifies the number of days before archiving objects for Snapshot copies in S3/Blob storage to the glacier/archive tier. Possible values are: integer from 0 to 999 and 'never'. Setting the value to 0 will enable sending objects for Snapshot copies to the glacier/archive tier as soon as possible. 999 means archive objects for Snapshot copies to the glacier/archive tier after retaining them for 999 days in S3/Blob storage. The value 'never' means never archive objects for Snapshot copies to the glacier/archive tier. If the parameter is not specified, archiving will behave as if it was specified as 'never'. This parameter is only supported for policies of type 'vault' and 'mirror-vault'. This parameter is only available on Data ONTAP 9.8 and later. |
| **are-data-ops-sequentially-** | | boolean optional | Configure splitter to split all data ops sequentially. |

| | | | |
|---|---|---|---|
| **split** | | | |
| **comment** | | string optional | A human readable description associated with the SnapMirror policy. |
| **common-snapshot-schedule** | | string optional | Specifies the common Snapshot copy creation schedule associated with the rule. |
| **discard-configs** | | svmdr-config-obj[] optional | Configurations Not Replicated During Identity Preserve Vserver DR Possible values:<br>• "network" - Network |
| **ignore-atime** | | boolean optional | Specifies whether incremental transfers will ignore files which have only their access time changed. Applies to SnapMirror vault relationships only. |
| **is-network-compression-enabled** | | boolean optional | Specifies whether network compression is enabled for transfers. The default value is 'false'. |
| **keep** | | string[] optional | Specifies the Snapshot copy retention count. |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred for the SnapMirror relationships. The default is unlimited (0) which permits the SnapMirror relationships to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. |
| **owner** | | policy-owner optional | The owner of the SnapMirror policy. Possible values:<br>• "cluster_admin" ,<br>• "vserver_admin" |
| **policy-name** | | sm-policy | The name of the SnapMirror policy. |
| **prefix** | | string[] optional | Specifies the Snapshot copy creation prefix name associated with the rule. |
| **preserve** | | boolean[] optional | Specifies whether Snapshot copy preserve is enabled, which determines the behavior when the Snapshot copy retention count is reached on the SnapMirror Vault destination. |
| **restart** | | sm-restart-enum optional | Defines the behavior of SnapMirror if an interrupted transfer exists. Applies to SnapMirror data protection relationship only. Possible values:<br>• "always" ,<br>• "never" ,<br>• "default" |
| **schedule** | | string[] optional | Specifies the Snapshot copy creation schedule name associated with the rule. |
| **sequential-split-op-timeout-secs** | **[0..2^32-1]** | integer optional | Configure sequential split op timeout. |
| **snapmirror-label** | | string[] optional | Specifies the Snapshot copy label. |
| **transfer-priority** | | sm-transfer-priority-enum optional | Specifies the priority at which a SnapMirror transfer runs. 'normal' : By default every transfer in the system has this priority. These transfers are scheduled before most 'low' priority transfers. 'low': These transfers have least priority and usually are scheduled after most 'normal' priority transfers. Possible values:<br>• "low" , |

| | | | |
|---|---|---|---|
| | | | • "normal" |
| **transfer-schedule-name** | | string optional | Specifies the name of the cron schedule, which is used to update the SnapMirror relationships. |
| **tries** | | string optional | Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. Valid input is a positive integer or 'unlimited'. The default is '8'. |
| **warn** | **[0..2^32-1]** | integer[] optional | Specifies the warning threshold count. |
| **window-size-for-tdp-mirror** | | size optional | Window size for TDP Mirror Transfer Operations. The default size is 2MB. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDNPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# snapmirror-policy-modify-rule

[top]

Modify a SnapMirror policy rule

| Input Name | Range | Type | Description |
|---|---|---|---|
| **keep** | | string optional | Specifies the Snapshot copy retention count. |
| **policy-name** | | sm-policy | The name of the SnapMirror policy. |
| **prefix** | | string optional | Specifies the Snapshot copy creation prefix name associated with the rule. |
| **preserve** | | boolean optional | Specifies whether Snapshot copy preserve is enabled. |
| **schedule** | | string optional | Specifies the Snapshot copy creation schedule name associated with the rule. |
| **snapmirror-label** | | string | Specifies the Snapshot copy label. |
| **warn** | **[0..2^32-1]** | integer optional | Specifies the warning threshold count. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# snapmirror-policy-remove-rule

[top]

Remove a rule from SnapMirror policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | sm-policy | The name of the SnapMirror policy. |
| **snapmirror-label** | | string | Specifies the Snapshot copy label. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# Element definition: **policy-owner**

[top]

cluster-admin|vserver-admin Possible values:

- "cluster_admin" ,
- "vserver_admin"

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **sm-policy**

[top]

SnapMirror Policy

[none]

# Element definition: **sm-policy-type-enum**

[top]

vault|async-mirror|mirror-vault|strict-sync-mirror|sync-mirror|automated-failover|continuous Possible values:

- "vault" ,
- "async_mirror" ,
- "mirror_vault" ,
- "smgr_mirror" ,
- "strict_sync_mirror" ,
- "sync_mirror" ,
- "active_strict_sync_mirror" ,
- "automated_failover" ,
- "migrate" ,
- "continuous"

[none]

# Element definition: **sm-restart-enum**

[top]

always|never|default Possible values:

- "always" ,
- "never" ,
- "default"

[none]

# Element definition: **sm-transfer-priority-enum**

[top]

low|normal Possible values:

- "low" ,
- "normal"

[none]

# Element definition: **snapmirror-policy-info**

[top]

Information about SnapMirror Policy When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **archive-after-days** | **[0..2^32-1]** | integer optional | Specifies the number of days before archiving objects for Snapshot copies in S3/Blob storage to the glacier/archive tier. Possible values are: integer from 0 to 999 and 'never'. Setting the value to 0 will enable sending objects for Snapshot copies to the glacier/archive tier as soon as possible. 999 means archive objects for Snapshot copies to the glacier/archive tier after retaining them for 999 days in S3/Blob storage. The value 'never' means never archive objects for Snapshot copies to the glacier/archive tier. If the parameter is not specified, archiving will behave as if it was specified as 'never'. This parameter is only supported for policies of type 'vault' and 'mirror-vault'. This parameter is only available on Data ONTAP 9.8 and later. Attributes: optional-for-create, modifiable |
| **are-data-ops-sequentially-split** | | boolean optional | Configure splitter to split all data ops sequentially. Attributes: optional-for-create, modifiable |
| **comment** | | string optional | A human readable description associated with the SnapMirror policy. Attributes: optional-for-create, modifiable |
| **common-snapshot-schedule** | | string optional | Specifies the common Snapshot copy creation schedule associated with the rule. Attributes: optional-for-create, modifiable |
| **create-snapshot** | | boolean optional | Specifies whether a new Snapshot Copy is created at the time of a SnapMirror transfer. This field is only applicable on Data ONTAP 8.3 or later. Attributes: non-creatable, non-modifiable |
| **discard-configs** | | svmdr-config-obj[] optional | Configurations Not Replicated During Identity Preserve Vserver DR Attributes: optional-for-create, modifiable Possible values:<br>• "network" - Network |
| **ignore-atime** | | boolean optional | Specifies whether incremental transfers will ignore files which have only their access time changed. Applies to SnapMirror vault relationships only. Attributes: optional-for-create, modifiable |
| **is-network-compression-enabled** | | boolean optional | Specifies whether network compression is enabled for transfers. The default value is 'false'. Attributes: optional-for-create, modifiable |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred for the SnapMirror relationships. The default is unlimited (0) which permits the SnapMirror relationships to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. Attributes: optional-for-create, modifiable |
| **owner** | | policy-owner optional | The owner of the SnapMirror policy. Attributes: optional-for-create, modifiable Possible values:<br>• "cluster_admin" ,<br>• "vserver_admin" |
| **policy-name** | | sm-policy optional | The name of the SnapMirror policy. Attributes: key, required-for-create, non-modifiable |
| **restart** | | sm-restart-enum optional | Defines the behavior of SnapMirror if an interrupted transfer exists. Applies to SnapMirror data protection relationship only. Attributes: optional-for-create, modifiable Possible values:<br>• "always" , |

| | | | |
|---|---|---|---|
| | | | "never" ,<br>• "default" |
| **sequential-split-op-timeout-secs** | **[0..2^32-1]** | integer optional | Configure sequential split op timeout. Attributes: optional-for-create, modifiable |
| **snapmirror-policy-rules** | | snapmirror-policy-rule-info[] optional | Information about rules in the policy. |
| **total-keep** | **[0..2^32-1]** | integer optional | Total Retention Count for All Rules in the Policy Attributes: non-creatable, non-modifiable |
| **total-rules** | **[0..2^32-1]** | integer optional | Total Rules in the Policy Attributes: non-creatable, non-modifiable |
| **transfer-priority** | | sm-transfer-priority-enum optional | Specifies the priority at which a SnapMirror transfer runs. 'normal' : By default every transfer in the system has this priority. These transfers are scheduled before most 'low' priority transfers. 'low': These transfers have least priority and usually are scheduled after most 'normal' priority transfers. Attributes: optional-for-create, modifiable Possible values:<br>• "low" ,<br>• "normal" |
| **transfer-schedule-name** | | string optional | Specifies the name of the cron schedule, which is used to update the SnapMirror relationships. Attributes: optional-for-create, modifiable |
| **tries** | | string optional | Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. Valid input is a positive integer or 'unlimited'. The default is '8'. Attributes: optional-for-create, modifiable |
| **type** | | sm-policy-type-enum optional | The type of the Snapmirror policy. This field is only applicable on Data ONTAP 8.3 or later. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Policy type strict-sync-mirror and sync-mirror are not supported on Data ONTAP 9.4 or earlier. This parameter is required on Data ONTAP 9.5 and later. Attributes: optional-for-create, non-modifiable Possible values:<br>• "vault" ,<br>• "async_mirror" ,<br>• "mirror_vault" ,<br>• "smgr_mirror" ,<br>• "strict_sync_mirror" ,<br>• "sync_mirror" ,<br>• "active_strict_sync_mirror" ,<br>• "automated_failover" ,<br>• "migrate" ,<br>• "continuous" |
| **vserver-name** | | vserver-name optional | Specifies the vserver for the SnapMirror policy. Attributes: key, non-creatable, non-modifiable |
| **window-size-for-tdp-mirror** | | size optional | Window size for TDP Mirror Transfer Operations. The default size is 2MB. Attributes: optional-for-create, modifiable |

# Element definition: **svmdr-config-obj**

[top]

network Possible values:

- "network" - Network

[none]

# Element definition: **policy-owner**

[top]

cluster-admin|vserver-admin Possible values:

- "cluster_admin" ,
- "vserver_admin"

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **sm-policy**

[top]

SnapMirror Policy

[none]

# Element definition: **sm-policy-type-enum**

[top]

vault|async-mirror|mirror-vault|strict-sync-mirror|sync-mirror|automated-failover|continuous Possible values:

- "vault" ,
- "async_mirror" ,
- "mirror_vault" ,
- "smgr_mirror" ,
- "strict_sync_mirror" ,
- "sync_mirror" ,
- "active_strict_sync_mirror" ,
- "automated_failover" ,
- "migrate" ,

- "continuous"

[none]

## Element definition: **sm-restart-enum** [top]

always|never|default Possible values:

- "always" ,
- "never" ,
- "default"

[none]

## Element definition: **sm-transfer-priority-enum** [top]

low|normal Possible values:

- "low" ,
- "normal"

[none]

## Element definition: **snapmirror-policy-rule-info** [top]

Information about rules in the policy.

| Name | Range | Type | Description |
|---|---|---|---|
| **keep** | | string optional | Specifies the maximum number of Snapshot copies that are retained on the SnapMirror destination volume for a rule. The total number of Snapshot copies retained for all the rules in a policy cannot exceed 251 on Data ONTAP 9.3 or earlier and 1019 on Data ONTAP 9.4 or later. For all the rules in SnapMirror policies of type async-mirror, this parameter must be set to value '1'. Attributes: optional-for-create, modifiable |
| **prefix** | | string optional | Specifies the Snapshot copy creation prefix name associated with the rule. Attributes: optional-for-create, modifiable |
| **preserve** | | boolean optional | Specifies the behavior when the Snapshot copy retention count is reached on the SnapMirror vault destination for the rule. The default value is 'false', which means that the oldest Snapshot copy will be rotated out to make room for new ones only if the number of Snapshot copies has exceeded the retention count specified in the keep parameter. When set to 'true', an incremental SnapMirror vault update will fail when the Snapshot copies have reached the retention count. For all the rules in SnapMirror policies of type async-mirror this parameter must be set to value 'false'. Attributes: optional-for-create, |

| | | | |
|---|---|---|---|
| | | | modifiable |
| **schedule** | | string optional | Specifies the Snapshot copy creation schedule name associated with the rule. Attributes: optional-for-create, modifiable |
| **snapmirror-label** | | string optional | Specifies the Snapshot copy label. It is used for the purpose of Snapshot copy selection for extended data protection relationships. Snapshot copies that have a SnapMirror label that matches this parameter will be transferred to the SnapMirror destination. The label can be 31 or fewer characters in length. SnapMirror policies of type async-mirror and mirror-vault have a rule added for label 'sm_created' at the time of policy creation. This rule cannot be removed or modified by the user. This rule when coupled with create-snapshot field set to 'true' indicates that the SnapMirror relationship using this policy shall create a new Snapshot copy and transfer it as part of an update operation. SnapMirror policies of type async-mirror support one additional rule with SnapMirorr label 'all_source_snapshots'. This rule along with the rule for SnapMirror label 'sm_created' indicates that all new Snapshot copies on the primary volume along with the newly created Snapsho155 :transferred on an initialize or update operation. Rules with any other SnapMirror labels may not be added to SnapMirror policies of type async-mirror. The rule for label sm_created when added to a SnapMirror policy of type vault indicates that all SnapMirror created Snapshot copies of the primary volume are selected for transfer. Attributes: optional-for-create, modifiable |
| **warn** | **[0..2^32-1]** | integer optional | Specifies the warning threshold count for the rule. The default value is 0. When set to a value greater than zero, an event is generated after the remaining number of Snapshot copies (for the particular rule) retained on a SnapMirror vault destination reaches the specified warn limit. The preserve parameter for the rule must be 'true' to set the warn parameter to a value greater than zero. Attributes: optional-for-create, modifiable |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **snapshot**


snapshot-autodelete-list-info
snapshot-autodelete-set-option
snapshot-create
snapshot-create-async
snapshot-delete
snapshot-delete-async
snapshot-delta-info
snapshot-get-iter
snapshot-get-reserve
snapshot-get-schedule
snapshot-list-info
snapshot-modify-iter
snapshot-modify-snaplock-expiry-time
snapshot-multicreate
snapshot-multicreate-validate
snapshot-multidelete
snapshot-multirename
snapshot-partial-restore-file
snapshot-partial-restore-file-list-info
snapshot-policy-add-schedule
snapshot-policy-create
snapshot-policy-delete
snapshot-policy-get
snapshot-policy-get-iter
snapshot-policy-modify
snapshot-policy-modify-schedule
snapshot-policy-remove-schedule
snapshot-reclaimable-info
snapshot-rename
snapshot-reserve-list-info
snapshot-restore-file
snapshot-restore-file-info
snapshot-restore-volume
snapshot-restore-volume-async
snapshot-set-reserve
snapshot-set-schedule
snapshot-volume-info


## snapshot-autodelete-list-info

[top]

Returns the current snapshot autodelete settings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the existing volume for which we want snapshot autodelete settings |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **options** | | snapshot-autodelete-info[] | List of snapshot autodelete options for this volume. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOLUMENOTONLINE** | |
| **EOPNOTSUPPORTED** | |
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **EAGGRRELOCATING** | |
| **EAPIMISSINGARGUMENT** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-autodelete-set-option

[top]

Set the option named 'option-name' to the value specified by 'option-value' in the autodelete settings of the specified volume.

This API is not supported on FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Name of the option to be set. Possible values:<br><br>"state" (value: "on" \| "off")<br>This option determines if the snapshot autodelete is currently enabled for the volume. Setting the option to "on" switches on the snapshot autodelete for the volume. Setting the option to "off" switches off the snapshot autodelete for the volume.<br><br>"commitment" (value: "try" \| "disrupt" \| "destroy" )<br>This option determines the snapshots which snapshot autodelete is allowed to delete to get back space. Setting this option to "try" only permits the snapshots which are not locked by data protection utilities (dump, mirroring, NDMPcopy) and data backing functionalities (volume, LUN, NVMe namespace and File clones) to be deleted. Setting this option to "disrupt" only permits the snapshots which are not locked by data backing functionalities (volume, LUN and File clones) to be deleted. Setting this option to "destroy", will destroy the data backing functionality (volume, LUN, NVMe namespace and File clones) if the backing snapshot is deleted. |

| | | | |
|---|---|---|---|
| **option-name** | | string | "trigger" (value: "volume" \| "snap_reserve" \| "(DEPRECATED)-space_reserve")<br>This option determines the condition which starts the automatic deletion of snapshots. Setting this option to "volume" triggers automatic deletion of snapshots when the volume reaches threshold capacity and the volume's snap reserve has been exceeded. Setting the option to "snap_reserve" triggers automatic deletion of snapshots when the snap reserve of the volume reaches threshold capacity. Setting the option to (DEPRECATED)-"space_reserve" triggers automatic deletion of snapshots when the space reserved the volume reaches threshold capacity and the volume's snap reserve has been exceeded. NOTE: The option "space_reserve" is deprecated. The threshold capacity is determined by the size of the volume as given below:<br>• If the volume size is less than 20 GB, the autodelete threshold is 85%.<br>• If the volume size is equal to or greater than 20 GB and less than 100 GB, the autodelete threshold is 90%.<br>• If the volume size is equal to or greater than 100 GB and less than 500 GB, the autodelete threshold is 92%.<br>• If the volume size is equal to or greater than 500 GB and less than 1 TB, the autodelete threshold is 95%.<br>• If the volume size is equal to or greater than 1 TB, the autodelete threshold is 98%.<br><br>"target_free_space" (value: <number>)<br>This option determines when snapshot autodelete should stop deleting snapshot. Depending on the trigger, snapshots are deleted till we reach the target free space percentage.<br><br>"delete_order" (value: newest_first \| oldest_first)<br>This option determines if the oldest or newest snapshot is deleted first.<br><br>"defer_delete" (value: scheduled \| user_created \| prefix \| none)<br>This option determines which kind of snapshots to delete in the end. Setting this option value to "scheduled" will delete the snapshots created by the snapshot scheduler last. Setting this option value to "user_created" will delete the snapshots not created by the snapshot scheduler last. Setting this option value to "prefix" will delete the snapshots matching the prefix string to be deleted last. Setting this option value to "none" will disable the above choices.<br><br>"prefix" (value: <string>)<br>This option can be set to provide the prefix string for the "prefix" value of the "defer_delete" option. The prefix string length can be 15 char long.<br><br>"destroy_list" (value: <string>)<br>A comma separated list of services which can be destroyed if the snapshot backing that service is deleted. For 7-mode, the possible values for this option are a combination of "lun_clone", "vol_clone", "cifs_share", "file_clone" or "none". For cluster-mode, the possible values for this option are a combination of "lun_clone,file_clone" (for LUN/NVMe namespace clone and/or file clone), "lun_clone,sfsr" (for LUN/NVMe namespace clone and/or sfsr), "vol_clone", "cifs_share", or "none". Please note that "lun_clone", "file_clone" and "sfsr" individually are not valid values. Only pairs "lun_clone,file_clone" and "lun_clone,sfsr" are supported. The option "sfsr" is not supported for |

| | | | |
|---|---|---|---|
| | | | 7-mode. The default value is "none" for 7-mode and cluster-mode. |
| **option-value** | | string | The value to set the named option |
| **volume** | | string | Name of the volume for which we want to change autodelete settings. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEBUSY** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EONTAPI_EVOLOPNOTSUPP** | |
| **EAGGRRELOCATING** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINCOMPATIBLE_AUTOSHRINK_AUTODELETE_TRIGGER** | |
| **EAPIMISSINGARGUMENT** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-create

[top]

Create a new snapshot on a specified volume.

This API is not supported on Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **async** | | boolean optional | If true, the snapshot is to be created asynchronously. The default value is false. |
| **comment** | | string optional | A human readable comment attached with the snapshot. The size of the comment can be at most 255 characters. This parameter is not supported on FlexGroups. |
| **expiry-time** | **[0..2^32-1]** | integer optional | Expiry time of the snapshot in seconds since Jan 1, 1970. Until time of expiry the snapshot will be protected against deletion by system processes. The snapshot is not explicitly deleted when expiry-time elapses. The protection can be bypassed by autodelete when it operates in destroy mode. |
| **is-valid-lun-clone-snapshot** | | boolean optional | If true, the snapshot create has been requested by snapvault hence all backing snapshots for all the LUN clones in this snapshot will be locked. This ensures the consistency of this snapshot. The default value is false. |
| **snapmirror-label** | | string optional | A human readable SnapMirror Label attached with the snapshot. Size of the label can be at most 31 characters. This label will be applied as an attribute to the snapshot that is created and will be used by the vaulting system to identify a vaulting scheme. This parameter is not supported on FlexGroups. |
| | | | |

| | | | |
|---|---|---|---|
| **snapshot** | | string<br>nonempty | Name of the snapshot to be created. The maximum string length is 256 characters. |
| **volume** | | string | Name of the volume on which the snapshot is to be created. The volume name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. |

| Errno | Description |
|---|---|
| **ESNAPSHOTEXISTS** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **ENOMORESNAPS** | |
| **ESNAPSHOTNOSPACE** | |
| **EONTAPI_ENOMEM** | |
| **EONTAPI_ETIMEDOUT** | |
| **EONTAPI_EINVAL** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **ECLONEINPROGRESS** | |
| **EAGGRRELOCATING** | |
| **EAGGRINSWITCHBACK** | |
| **EOP_DISALLOWED_DURING_GIVEBACK** | |
| **EAGGRFAILINGOVER** | |
| **EHALTING** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EAPIMISSINGARGUMENT** | |
| **ESNAPSHOTTAGSNOSPACE** | |
| **ENOSESSION** | |
| **ESNAPSHOTDOESNOTEXIST** | |
| **ESNAPDBNOTINITED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-create-async

[top]

This API is no longer supported as of ONTAP 9.5.0.

Create a new snapshot on a specified Infinite Volume.

This API is not supported on flexible volumes, Infinite Volume constituents, and FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string<br>optional | A human readable comment attached with the snapshot. The size of the comment can be at most 255 characters. |
| **snapshot** | | string<br>nonempty | Name of the snapshot to be created. The maximum string length is 256 characters. |

| | | | |
|---|---|---|---|
| **volume** | | string | Name of the Infinite Volume on which the snapshot is to be created. The Infinite Volume name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **ESNAPSHOTEXISTS** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **ENOMORESNAPS** | |
| **ESNAPSHOTNOSPACE** | |
| **EONTAPI_ENOMEM** | |
| **EONTAPI_ETIMEDOUT** | |
| **EONTAPI_EINVAL** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **ESNAPSHOTTAGSNOSPACE** | |
| **ESNAPSHOTDOESNOTEXIST** | |
| **ESNAPDBNOTINITED** | |

# snapshot-delete

[top]

Delete a snapshot on a specified volume. EBUSY is returned when the snapshot is in use. EROFS is returned when the volume is read-only. EAGAIN is returned when splitting a blockmap or reverting.

This API is not supported on Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ignore-owners** | | boolean optional | If this field is true, snapshot will be deleted even if some other processes are accessing it.<br><br>The default value is false. |
| **snapshot** | | string | Name of snapshot to be deleted on the specified volume. |
| **snapshot-instance-** | | UUID optional | The 128 bit unique snapshot identifier expressed in the form of UUID. This field is optional and can appear together with 'snapshot' to uniquely identify a snapshot for deletion. If this field is provided, 'snapshot' is a required parameter. |

| | | | |
|---|---|---|---|
| **uuid** | | | An example of an actual UUID is:<br><br>73a010ec-3d28-11df-84e8-123478563412 |
| **volume** | | string | Name of the volume on which the snapshot is to be deleted. |

| Errno | Description |
|---|---|
| **ESNAPSHOTDOESNOTEXIST** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EAPIERROR** | |
| **ESNAPSHOTNOTALLOWED** | |
| **EONTAPI_EBUSY** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_EAGAIN** | |
| **EONTAPI_ETIMEDOUT** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EOPNOTSUPPORTED** | |
| **EAGGRRELOCATING** | |
| **EAGGRINSWITCHBACK** | |
| **EOP_DISALLOWED_DURING_GIVEBACK** | |
| **EAGGRFAILINGOVER** | |
| **EHALTING** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EAPIMISSINGARGUMENT** | |
| **ESNAPSHOTBUSY** | |
| **ESNAPDBNOTINITED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-delete-async

[top]

This API is no longer supported as of ONTAP 9.5.0.

Delete a snapshot on a specified Infinite Volume. EBUSY is returned when the snapshot is in use. EROFS is returned when the Infinite Volume is read-only. EAGAIN is returned when splitting a blockmap or reverting.

This API is not supported on flexible volumes, Infinite Volume constituents, and FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ignore-owners** | | boolean<br>optional | If this field is true, snapshot will be deleted even if some other processes are accessing it. The default value is false. |
| **snapshot** | | string | Name of snapshot to be deleted on the specified Infinite Volume. |

| | | | |
|---|---|---|---|
| **snapshot-instance-uuid** | | UUID optional | The 128 bit unique snapshot identifier expressed in the form of UUID. This field is optional and can appear together with 'snapshot' to uniquely identify a snapshot for deletion. If this field is provided, 'snapshot' is a required parameter. An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412 |
| **volume** | | string | Name of the Infinite Volume on which the snapshot is to be deleted. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **ESNAPSHOTDOESNOTEXIST** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EAPIERROR** | |
| **ESNAPSHOTNOTALLOWED** | |
| **EONTAPI_EBUSY** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_EAGAIN** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EOPNOTSUPPORTED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **ESNAPDBNOTINITED** | |

# snapshot-delta-info

[top]

Returns the amount of space consumed between two snapshots or a snapshot and active filesystem.

This API is not supported on FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot1** | | string | Name of snapshot to be compared with snapshot2 for space consumption calculations. |
| **snapshot2** | | string optional | Name of snapshot to be compared with snapshot1 for space consumption calculations. If the snapshot is not specified, it is assumed to be Active File System. |
| **volume** | | string | Name of the volume on which the snapshot delta is to be calculated. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **consumed-size** | | integer | Size in bytes of space changed between the 2 specified snapshots or snapshot and the active file system. Range : [0 - 2^63-1]. |
| **elapsed-time** | | integer | Time in seconds elapsed between the 2 specified snapshots or the snapshot and the active file system. Range : [0 - 2^31-1]. |

| Errno | Description |
|---|---|
| **ESNAPSHOTDOESNOTEXIST** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EMULTIPLEVOLSFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EVOLUMENOTONLINE** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |
| **EAGGRRELOCATING** | |
| **EAGGRINSWITCHBACK** | |
| **EOP_DISALLOWED_DURING_GIVEBACK** | |
| **EAGGRFAILINGOVER** | |
| **EHALTING** | |
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_ETIMEDOUT** | |
| **EONTAPI_EAGAIN** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-get-iter

[top]

Iterate over a list of snapshot objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapshot-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snapshot-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snapshot object. All snapshot objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snapshot-info[] optional | The list of attributes of snapshot objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snapshot objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |
| **volume-errors** | | volume-error[] optional | Volume Error Info |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapshot-get-reserve

[top]

Obtain the current snapshot reserve on a specified volume. Error Returns: Invalid volume name.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume that contains the snapshot reserve. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **blocks-reserved** | | integer | The number of 1024 byte blocks that has been set aside as reserve for snapshot usage. |
| **percent-reserved** | | integer | The percentage of disk space that has been set aside as reserve for snapshot usage. |

| Errno | Description |
|---|---|
| **ESNAPSHOTDOESNOTEXIST** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVOL_RESTRICTED** | |
| **EVOLUMEBUSY** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **E_VOLUME_INACCESSIBLE** | |
| **EAGGRRELOCATING** | |
| **EAPIMISSINGARGUMENT** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-get-schedule

[top]

Obtain the current snapshot schedule on a specified volume.

This API is not the preferred way of obtaining snapshot schedule information in Clustered Data ONTAP. Snapshot schedule information for a given volume may be obtained in Clustered Data ONTAP by using the following steps:

- Issue API 'volume-get-iter' and record the 'snapshot-policy' field.
- Issue API 'snapshot-policy-get' and use the previously obtained 'snapshot-policy' field as input to find out information about all the schedules attached to the given policy.
- Issue API 'job-schedule-get' to obtain information about each individual schedule in the given snapshot policy.

This API is not supported on FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | This the volume name where the snapshots are located. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **days** | | integer | The number of snapshots taken daily to keep on line. Range : [0..2^32-1]. |
| **hours** | | integer | The number of snapshots taken hourly to keep on line. Range : [0..2^32-1]. |
| **minutes** | | integer | The number of snapshots taken minutely to keep on line. Range : [0..2^32-1]. |
| **weeks** | | integer | The number of snapshots taken weekly to keep on line. Range : [0..2^32-1]. |
| **which-hours** | | string | A list of the hours at which the hourly snapshots are created. |
| **which-minutes** | | string | A list of the minutes at which the minutely snapshots are created. |

| Errno | Description |
|---|---|
| **ESNAPSHOTDOESNOTEXIST** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVSERVERNOTFOUND** | |
| **EUSECLUSTERNATIVEUI** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOLUMEBUSY** | |
| **EAPIMISSINGARGUMENT** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-list-info

[top]

Return snapshot information for a specified volume. A list of snapshots and information about each snapshot is returned. In Data ONTAP Cluster-Mode, 'snapshot-get-iter' API is the preferred way of retrieving snapshot information.

This API is not supported on FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-7-mode-snapshot** | | boolean optional | If set to true, check if snapshot is a 7-mode snapshot. A 7-mode snapshot can appear in a cluster-mode volume as a result of the volume being transitioned from 7-mode to cluster-mode. A 7-mode snapshot cannot be used in a volume snapshot restore. The default value is false. |
| **lun-clone-snapshot** | | boolean optional | If set to true, check if snapshot contains any LUN or NVMe namespace clones. The default value is false. |
| **snapowners** | | boolean optional | If set to true, owners of the busy snapshot are returned. If false, or if the option is omitted, the list of owners is not returned. |
| **target-name** | | string optional | Name of the object on which to list the snaplist information. Arguments "target-name" and "target-type" should be used together. Arguments "volume" and ("target-name", "target-type") pair are mutually exclusive. One and only one of them should be specified. |
| **target-type** | | string optional | Type of the object on which to list the snaplist information. Possible values: volume, aggregate. |
| **terse** | | boolean optional | If set to true, the snapshot block ownership values, namely the "total" and "cumulative-total" outputs, will be omitted. If set to false, the block ownership calculation will be included in the output. The default value is false. |
| **volume** | | string optional | Name of the volume on which to list the snaplist information. It is for backward compatibility. The recommended usage is to use arguments ("target-name", "target-type") pair. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshots** | | snapshot-info[] optional | |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVSERVERNOTFOUND** | |
| **EVOLUMEBUSY** | |
| **EAGGRRELOCATING** | |
| **EAGGRINSWITCHBACK** | |
| **EOP_DISALLOWED_DURING_GIVEBACK** | |
| **EAGGRFAILINGOVER** | |
| **EHALTING** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-modify-iter

[top]

Modify the attributes of snapshot or a group of snapshot objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapshot-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapshot objects match a given query. If set to true, the API will continue modifying the next matching snapshot even when modification of a previous snapshot fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching snapshot even when the modification of a previous matching snapshot fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | snapshot-info | If modifying a specific snapshot, this input element must specify all keys. If modifying snapshot objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapshot objects (just keys) that were not modified due to some error. If set to false, the list of snapshot objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapshot objects (just keys) that were successfully updated. If set to false, the list of snapshot objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapshot-modify-iter-info[] optional | Information about snapshot objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapshot objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of snapshot objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapshot objects that matched the query and were successfully updated. |
| **success-list** | | snapshot-modify-iter-info[] optional | The snapshot objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |
| **EINVALIDINPUTERROR** | |

# snapshot-modify-snaplock-expiry-time

[top]

Modifies snaplock expiry time of a snapshot copy. Expiry time can only be extended from existing expiry time.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **expiry-time** | | integer optional | |
| **infinite-expiry-time** | | boolean optional | If this option is set to true, API will set the infinite expiry time on the specified snapshot copy. |
| **snapshot** | | string nonempty | Specifies the name of the snapshot copy for which snaplock expiry time needs to be modified. The snapshot must have already been retained by snaplock. |
| **volume** | | string | Specifies the name of the volume that contains snapshot copy. |

| Errno | Description |
|---|---|
| **ENOENT** | |
| **EONTAPI_EWORMMNOTWORMA** | |
| **EONTAPI_EWORMNOCLOCK** | |
| **EINTERNALERROR** | |
| **EONTAPI_EWORMVOLNOTWORM** | |
| **EVOLUMEOFFLINE** | |

# snapshot-multicreate

[top]

Create a snapshot with the specific name, on each of the specified volumes. It is the caller's responsibility to ensure that the data in the snapshots across all volumes is consistent, by quiescing I/O to these volumes (or the LUNs or NVMe namespaces of interest in these volumes), across the call to this API. The API is asynchronous by default and responds once the snapshot creation consistency point starts. To make it synchronous this API should be called with the async flag set as false by using wait-for-sync parameter. When a failure is encountered while creating a Snapshot copy on a volume, this API stops and returns the error immediately. It does not continue on to create Snapshot copies on the remaining volumes. When the API fails, the returned error code is for the failed volume. For clustered systems, the output 'status' will be set to FALSE in case of failure. In such case the caller should look at the output 'volume-errors' to find out in which volume snapshot creation failed. When an error occurs, it is possible that some snapshots may have been created. If the option cleanup is set to TRUE (default), API will attempt to delete these snapshots (but snapshot deletion may fail). When set to FALSE, it is users' responsibility to delete them. The output array volume-snapcreated-list records for each volume, if a snapshot has been created or not. There are at least two expected use cases for this API. The first one is to call this API with the cleanup option set to TRUE (default). If the call fails, any successfully created snapshots will be deleted before the function returns. This is a simple use case, but has the downside that in case of a failure, the call may take a long time to return due to snapshot cleanup. Another use case would be to call this API in a time critical environment. In such a scenario, it would be good to reduce the impact due to a failure. Hence, it would be better to first call the snapshot-multicreate-validate ZAPI, which would reduce the likelihood of failure of the snapshot-multicreate API. In case a failure does occur, the caller could avoid the cleanup delay by setting the cleanup option to FALSE, and performing snapshot cleanup later, outside the time-critical window.

This API is not supported on FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **cleanup** | | boolean optional | When the API fails, some snapshots may have been created for some volumes. When set to TRUE, the API will attempt to delete these snapshots. Note that newly created snapshots cannot be deleted right away until the snapshots are on-disk, which may take up to 10 secs. When set to FALSE, newly created snapshots are not deleted. Users can delete them later as needed. Default is TRUE. |
| **snapmirror-label** | | string optional | The SnapMirror Label for the schedule. This label will be used to define vaulting policies at a vault destination. Maximum length of this field is 31 characters |
| **snapshot** | | string nonempty | Name of the snapshot to be created. The maximum string length is 256 characters. |
| **volume-names** | | volume-name[] | Names of the volumes across which the snapshot is to be created. The maximum number of volumes on a cluster system is 1200 (100 for traditional volumes and 500 for flexible volumes. The number is then doubled for a cluster system). |
| **wait-for-sync** | | boolean optional | Specifies if we should wait for the snapshot creating consistency point to complete before responding to the user for the multicreate API. Default value is 'false'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **status** | | boolean optional | Set to 'FALSE' in case of failure of the API. The output 'volume-errors' will contain the error code and reason for the volume on which snapshot creation failed. This output is only returned for clustered systems. |
| **volume-errors** | | volume-error[] optional | Error code and reason due to which snapshot creation failed on a volume. This output is only returned for clustered systems. |
| **volume-is-snapcreated-list** | | volume-is-snapcreated[] optional | An array records if a snapshot has been created for a given volume. This is returned only in case of failure. |

| Errno | Description |
|---|---|
| **ESNAPSHOTEXISTS** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEBUSY** | |
| **EOPNOTSUPPORTED** | |
| **ENOMORESNAPS** | |
| **ESNAPSHOTNOSPACE** | |
| **EONTAPI_ENOMEM** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EPERM** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_EAGAIN** | |
| **EONTAPI_EWORMPERIOD** | |
| **EONTAPI_EWORMNOCLOCK** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| | |

| |
|---|
| **EINVALIDINPUTERROR** |
| **EOPNOTSUPPORTED** |
| **EAGGRRELOCATING** |
| **EAGGRINSWITCHBACK** |
| **EOP_DISALLOWED_DURING_GIVEBACK** |
| **EAGGRFAILINGOVER** |
| **EHALTING** |
| **EAPIMISSINGARGUMENT** |

| Vfiler-enabled |
|---|
| Yes |

# snapshot-multicreate-validate

[top]

This is a companion API of snapshot-multicreate. It validates the snapshot creation operation on the specified volumes. But it does not actually create any snapshot. This API only does validations on all volumes and report all errors in the output array. This API is intended to be issued before the snapshot-multicreate API to find out all the errors that may be found during the snapshot create. Its main purpose is to enable snapshot-multicreate's caller to reduce the likelihood of snapshot-multicreate's failure, thereby attempting to avoid the cleanup overhead (of deleting any newly created snapshots) during failure processing. However, this validation API does not guarantee that snapshot-multicreate API will actually work. Something could change between the two calls to cause the actual snapshot creations to fail.

This API is not supported on FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | string nonempty | Name of the snapshot to be created. The maximum string length is 256 characters. |
| **volume-names** | | volume-name[] | Names of the volumes across which the snapshot creation is to be validated. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **volume-errors** | | volume-error[] | An array records the error code associated with each volume. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EOPNOTSUPPORTED** | |
| **EVOLUMEBUSY** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |

| | |
|---|---|
| **EAGGRRELOCATING** | |
| **EAGGRINSWITCHBACK** | |
| **EOP_DISALLOWED_DURING_GIVEBACK** | |
| **EAGGRFAILINGOVER** | |
| **EHALTING** | |
| **EAPIMISSINGARGUMENT** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

# snapshot-multidelete

[top]

Delete the snapshot from the given flexible volumes. This API will return failure if the volume could not be found or it is busy. All the volumes should be online when this API is invoked. It will only delete snapshots on Read-Write volumes. Once all the necessary information to delete snapshots is available, this API will start deleting snapshots on the volumes. If any of the snapshot delete failed, the API will remember the failed volume and continue deleting snapshot on the remaining volumes. In case of failure to delete the snapshots from all the given volumes, the API will return a SUCCESS and also return information about the failed snapshot deletes via the 'volume-errors' output. If the API returns SUCCESS, the applications should check if the 'volume-errors' output is returned or not to check for failed snapshot deletions.

This API is not supported on FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **reverting** | | boolean optional | When the reverting flag is set to true, this API will delete a snapshot on each volume that was created in the current release. The default value is false. |
| **reverting-fg** | | boolean optional | When the reverting FG flag is set to true, this API will delete a snapshot that was created in the current release on each flexgroup. The default value is false. |
| **snapshot** | | string nonempty optional | Name of the snapshot to be deleted. The maximum string length is 256 characters. This field is ignored when the reverting flag is set to true. |
| **snapshot-tags** | | d-snapshot-tag-info[] optional | If the snapshot is locked by the given snapshot tag, the snapshot lock will be ignored and the snapshot will be deleted. |
| **use-snapshot-as-prefix** | | boolean optional | If this option is set to true, this API will delete all snapshots whose names start with the given snapshot name from the volumes specified in the input. The snapshots will be deleted asynchronously in the background. If set to true, the API will not return a list of volume errors. The default value is false. |
| **volume-names** | | volume-name[] | Names of the volumes across which the snapshot is to be deleted. |
| | | | The identities of the volumes from which the snapshot will be deleted.<br><br>The volume identity string is its 128-bit universally-unique identifier (UUID) or its DSID.<br><br>UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second |

| | | | |
|---|---|---|---|
| **volume-uuids** | | UUID[] optional | through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.<br><br>Here is an example of an actual UUID:<br><br>49e370d6-5b5a-11d9-9eb5-000100000529<br><br>This field is ignored when the reverting flag is set to true. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshots-deleted** | | integer optional | The number of snapshots deleted. |
| **volume-errors** | | volume-error[] optional | Error code and reason due to which snapshot deletion failed on a volume. This output is only returned when the API returns SUCCESS but snapshot on some volumes could not be deleted. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEBUSY** | |
| **EONTAPI_ENOMEM** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EPERM** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_EAGAIN** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |
| **EAGGRRELOCATING** | |
| **EAGGRINSWITCHBACK** | |
| **EOP_DISALLOWED_DURING_GIVEBACK** | |
| **EAGGRFAILINGOVER** | |
| **EHALTING** | |
| **ESNAPSHOTBUSY** | |
| **EONTAPI_ENOMORESNAPS** | |

# snapshot-multirename

[top]

Rename Snapshot copies with a specific name to a new name across multiple volumes. The API processes all the specified volumes even if rename fails on one or more volumes. The snapshot-multirename-errors field should be inspected for failures even if the API is successful.This API is not supported on FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-snapshot-name** | | snapshot-id | The new snapshot name. |

| | | | |
|---|---|---|---|
| **snapshot-name** | | snapshot-id | The current snapshot name. |
| **volume-names** | | volume-name[] | Names of the volumes across which the snapshot is to be renamed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-multirename-errors** | | snapshot-multirename-error[] optional | Information of the error details for snapshot multirename operation |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EAPIUNSUPPORTEDVERSION** | |
| **EINVALIDINPUTERROR** | |
| **ESNAPSHOTNOSPACE** | |

# snapshot-partial-restore-file

[top]

Restores a particular range of bytes in a file from a specified snapshot.

Partial file restores are used to restore particular pieces of LUNs, NVMe namespace and NFS or CIFS container files that are used by a host to store multiple sources of data. For example, a host may be storing multiple user databases in the same LUN. A partial file restore can be used to restore one of those databases in the LUN while not touching the other databases that are also stored in the LUN. Compressed files will not be restored, though compression may be enabled on the volume.

Partial file restores require significant management by the caller. The caller must understand the metadata of the host LUN, NVMe namespace or container file so that they can know which bytes belong to the object being restored.

Partial file restore is supported only between LUNs or NVMe namespaces with equal block sizes and is supported from source LUN to destination NVMe namespace and from source NVMe namespace to destination LUN.

Before the restore operation begins, the caller must quiesce the object being restored. It must remain quiesced for the duration of the restore operation. No host I/O should be issued for the object while it is being restored because the snapshot-partial-restore-file commands will be incrementally restoring the file, LUN, or NVMe namespace and the host will therefore see inconsistent content for the object until the restore operation is completed. Host I/O is permitted for the other objects stored in the LUN, NVMe namespace or container file because the partial file restore will not touch the bytes belonging to those other objects.

During the restore the caller must issue a snapshot-partial-restore-file command for each of the byte ranges that belong to the object being restored, based on the metadata of the LUN, NVMe namespace or container file. Once each command returns, that byte range is restored and the changes are persistent. If the filer should halt while processing a command, that byte range of the LUN, NVMe namespace or container file is inconsistent. Some of the bytes at the beginning of the range may have been restored while bytes at the end of the range have not been restored. Once the filer is rebooted the

caller should re-issue the command to restore that byte range to complete the restore.

Once the restore is completed, the caller must purge any host operating system or application buffers that may hold data for the file, LUN, or NVMe namespace that is now stale. For NFS or CIFS mounted volumes the easiest way to purge any host buffers is to unmount and remount the volume. Applications holding buffered data may need to be shut down and restarted.

Multiple partial file restore requests may be issued to the same file, LUN, or NVMe namespace simultaneously. There is no requirement that the requests are all restoring from the same snapshot so that multiple restore operations for different objects may be concurrent on the same file. There is no checking to prevent overlapping byte ranges between requests. Preventing this condition is the responsibility of the caller.

Partial file restores are not intended for restoring parts of normal user-level files that are stored in an NFS or CIFS exported volume. Use snapshot-restore-file to restore normal files like these.

The volume where the LUN, NVMe namespace or container file to restore and where the snapshot to restore from live must be online and must not be a mirror volume.

The partial file restore request may fail if there is not sufficient free space to overwrite all of the blocks in the byte range to be restored.

The partial file restore request is synchronous, meaning that the command will not return until the entire byte range is restored. The snapshot being restored from cannot be deleted while a request is being executed, but it can be deleted between requests. If this happens the next request will notice that the snapshot has been deleted and will return an error.

The maximum number of bytes of data that can be restored in a single request is given by the max-byte-count value returned by the snapshot-partial-restore-file-list-info command. This limit ensures that requests are periodically interruptible and avoids overloading the filer.

If the system halts while a partial file restore request is being executed, the request will not be restarted upon reboot. Some of the bytes at the beginning of the range may have been restored while bytes at the end of the range have not been restored. The caller should reissue the partial file restore request for that byte range to complete the restore.

This API is not supported on FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **byte-count** | | integer | The number of bytes to restore, beginning at start-byte. The byte count must be a multiple of 4096. Use snapshot-partial-restore-file-list-info to determine the maximum number of bytes that can be restored in a single request. Range : [0 - 2^64-1] |
| **path** | | string | Path of the file to restore. Path syntax has two forms: /vol/<volumename>/<rest of path> /<rest of path> In the latter case (relative path), if volume was not specified, the root volume will be used. |
| **snapshot** | | string | The simple name of the snapshot to restore from. The snapshot must be from same volume as the file to partially restore. |
| **snapshot-instance-uuid** | | string optional | A unique physical version identifier for a given snapshot within a volume or an aggregate. A typical snapshot instance UUID will look like: c0335624-21f3-450c-aea1-55884d0218b9 |
| **start-byte** | | integer | The starting byte offset in the file to partially restore. The first byte of the file is byte zero. The start byte must be a multiple of 4096. Range : [0 - 2^64-1] |
| **volume** | | string optional | Volume to restore to/from. If this is passed in, the path argument should be relative to the volume. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |

| | |
|---|---|
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EONTAPI_EVOLOPNOTSUPP** | |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EONTAPI_EBUSY** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMEBUSY** | |
| **EAGGRRELOCATING** | |
| **EAPIMISSINGARGUMENT** | |
| **EVDISK_ERROR_7MODE_LUN** | |
| **EOP_DISALLOWED_VOL_IS_SYNC_SM** | |
| **EVDISK_INVALID_SECTOR_SIZE** | |
| **EVDISK_LUN_CROSS_NVME_NS** | |
| **EVDISK_NVME_NS_CROSS_LUN** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-partial-restore-file-list-info

[top]

Returns partial file restore settings of the vserver.

This API is not supported on FlexGroups or Infinite Volumes.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **max-byte-count** | | integer | The maximum number of bytes that can be restored in a single request. This limit ensures that requests are periodically interruptible and avoids overloading the filer. Range : [0 - 2^64-1] |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-policy-add-schedule

[top]

Add a new schedule to the Snapshot Policy. A schedule can be created by using 'job-schedule-cron-create' or 'job-schedule-interval-create' APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..1023]** | integer | The maximum number of snapshots to be retained for the schedule. The count of all the snapshots to be retained for this policy cannot be more than 1023. |
| | | snapshot- | A human readable string describing the name of the snapshot |

| | | | |
|---|---|---|---|
| **policy** | | policy | scheduling policy. |
| **prefix** | | string optional | The snapshot name prefix for the schedule. This field should be unique within the policy. |
| **schedule** | | string | A human readable string describing the name of a new schedule to be added inside the snapshot policy. Maximum length of this field can be 255 characters. The schedule name can be any one of the reserved schedules like 'hourly', 'weekly' or 'daily' or it can be a user created schedule. |
| **snapmirror-label** | | string optional | The SnapMirror Label for the schedule. This label will be used to define vaulting policies at a vault destination. Maximum length of this field is 31 characters |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |

# snapshot-policy-create

[top]

This API creates a Snapshot policy and adds the schedules to it. A Snapshot policy includes at least one schedule, up to a maximum of 5 schedules, and a maximum number of Snapshot copies per schedule. A schedule can be created by using 'job-schedule-cron-create' or 'job-schedule-interval-create' APIs. When applied to a volume, the Snapshot policy specifies the schedule on which Snapshot copies are taken and the maximum number of Snapshot copies that each schedule can take. The total count of all the Snapshot copies to be retained for the policy cannot be more than 1023.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | A human readable description associated with the snapshot policy. The maximum length of this field can be 255 characters. |
| **count1** | **[0..1023]** | integer | Retention count for the snapshots created by the first schedule. |
| **count2** | **[0..1023]** | integer optional | Retention count for the snapshots created by the second schedule. |
| **count3** | **[0..1023]** | integer optional | Retention count for the snapshots created by the third schedule. |
| **count4** | **[0..1023]** | integer optional | Retention count for the snapshots created by the fourth schedule. |
| **count5** | **[0..1023]** | integer optional | Retention count for the snapshots created by the fifth schedule. |
| **enabled** | | boolean | Status of the snapshot policy indicating whether the policy will be enabled or disabled. If set to true, the policy will be enabled. |
| **policy** | | string | The name of the snapshot scheduling policy which has to be created. Maximum length of this string can be 256 characters. |
| **prefix1** | | string optional | Snapshot name prefix for the first schedule. Prefix name should be unique within the policy. |
| **prefix2** | | string optional | Snapshot name prefix for the second schedule. Prefix name should be unique within the policy. |
| **prefix3** | | string optional | Snapshot name prefix for the third schedule. Prefix name should be unique within the policy. |
| **prefix4** | | string optional | Snapshot name prefix for the fourth schedule. Prefix name should be unique within the policy. |

| | | | |
|---|---|---|---|
| **prefix5** | | string optional | Snapshot name prefix for the fifth schedule. Prefix name should be unique within the policy. |
| **schedule1** | | string | First schedule to be added inside the policy. At least one schedule has to be added to create a policy. |
| **schedule2** | | string optional | Second schedule to be added inside the policy. |
| **schedule3** | | string optional | Third schedule to be added inside the policy. |
| **schedule4** | | string optional | Fourth schedule to be added inside the policy. |
| **schedule5** | | string optional | Fifth schedule to be added inside the policy. |
| **snapmirror-label1** | | string optional | Label for SnapMirror Operations for first schedule. Maximum length of this field is 31 characters. |
| **snapmirror-label2** | | string optional | Label for SnapMirror Operations for second schedule. Maximum length of this field is 31 characters. |
| **snapmirror-label3** | | string optional | Label for SnapMirror Operations for third schedule. Maximum length of this field is 31 characters. |
| **snapmirror-label4** | | string optional | Label for SnapMirror Operations for fourth schedule. Maximum length of this field is 31 characters. |
| **snapmirror-label5** | | string optional | Label for SnapMirror Operations for fifth schedule. Maximum length of this field is 31 characters. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |

# snapshot-policy-delete

[top]

Delete the specified Snapshot Scheduling Policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | snapshot-policy | A human readable string describing the name of the snapshot scheduling policy. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |

# snapshot-policy-get

[top]

Get Information about a single Snapshot Policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapshot-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy** | | snapshot-policy | A human readable string describing the name of the snapshot scheduling policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapshot-policy-info | The attributes of the snapshot. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |

# snapshot-policy-get-iter

[top]

Get Information about multiple Snapshot Policies

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapshot-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snapshot-policy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snapshot object. All snapshot objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snapshot-policy-info[] optional | The list of attributes of snapshot objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snapshot objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |

# snapshot-policy-modify

[top]

Enable or Disable the specified Snapshot Scheduling Policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | A human readable comment attached with the snapshot. The size of the comment can be at most 255 characters. |
| **enabled** | | boolean optional | The state of the snapshot policy. If true, the snapshot policy is enabled and scheduled snapshots will be created on the volume associated with this policy. |
| **policy** | | string | A human readable string describing the name of the snapshot scheduling policy. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDNPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |

# snapshot-policy-modify-schedule

[top]

Modify a snapshot policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-count** | **[0..1023]** | integer optional | The new maximum number of snapshots to be retained for the schedule. The count of all the snapshots to be retained for this policy cannot be more than 1023. |
| **new-snapmirror-label** | | string optional | The new SnapMirror Label for the schedule. This label will be used to define vaulting policies at a vault destination. If an empty label is specified, the existing label will be deleted. The maximum length of this field is 31 characters |
| **policy** | | snapshot-policy | A human readable string describing the name of the snapshot scheduling policy. |
| **schedule** | | string | A human readable string describing the name of a schedule whose retention count will be modified. Maximum length of this field can be 255 characters. The schedule name can be any one of the reserved schedules like 'hourly','weekly' or 'daily' or it can be user created schedule. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |

[top]

# snapshot-policy-remove-schedule

Remove a snapshot schedule from policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | snapshot-policy | A human readable string describing the name of the snapshot scheduling policy. |
| **schedule** | | string | A human readable string describing the name of a schedule which will be removed from the snapshot policy. Maximum length of this field can be 255 characters. The schedule name can be any one of the reserved schedules like 'hourly','weekly' or 'daily' or it can be a user created schedule. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# snapshot-reclaimable-info

[top]

Returns the amount of space that would be freed when a set of snapshots are deleted from a specified volume.

This API is not supported on FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshots** | | snapshot-name[] | List of snapshots. A maximum of 1023 snapshots can be listed. |
| **volume** | | string | Name of the volume on which the snapshot reclaimable space info is to be collected. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **reclaimable-size** | | integer | Size in bytes of space reclaimable if the snapshots were deleted. Range : [0 - 2^63-1]. |

| Errno | Description |
|---|---|
| **ESNAPSHOTDOESNOTEXIST** | |
| **ESNAPSHOTTOOMANY** | |
| **ESNAPSHOTCORRUPT** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EOPNOTSUPPORTED** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAGGRFAILINGOVER** | |

| | |
|---|---|
| **EAGGRRELOCATING** | |
| **EAGGRINSWITCHBACK** | |
| **EOP_DISALLOWED_DURING_GIVEBACK** | |
| **EHALTING** | |
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_ETIMEDOUT** | |

| Vfiler-enabled |
|---|
| Yes |

# snapshot-rename

[top]

Rename a specified snapshot to a new name on a specified volume. This API is not supported on FlexGroups or Infinite Volume constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **current-name** | | string | Name of snapshot to be renamed. |
| **new-name** | | string | New name of snapshot as a result of the rename. |
| **volume** | | string | Name of the volume where the current snapshot and the new snapshot are located. |

| Errno | Description |
|---|---|
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EOPNOTSUPPORTED** | |
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **ESNAPSHOTDOESNOTEXIST** | |
| **ESNAPSHOTEXISTS** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EAGGRRELOCATING** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **ESNAPSHOTACSLOCKED** | |
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_ETIMEDOUT** | |
| **ESNAPSHOTNOSPACE** | |
| **ESNAPDBNOTINITED** | |

| Vfiler-enabled |
|---|
| Yes |

# snapshot-reserve-list-info

[top]

Gets the percentage of disk space that is reserved for snapshots in the indicated volume. If no volume

is specified, this will return the percentage of disk space reserved for snapshots for each of the volumes in the system. Reserve space can be used only by snapshots and not by the active file system. This API is deprecated in Data ONTAP Cluster-Mode 8.2 and later. Use volume-get-iter instead.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string<br>optional | Volume to get percentage of space reserved for snapshots. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-reserve-details** | | snapshot-reserve-detail-info[] | List of volumes along with their snapshot space reservation configuration. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EVSERVERNOTFOUND** | |
| **EVOLUMEBUSY** | |
| **EOPNOTSUPPORTED** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **EAGGRRELOCATING** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-restore-file

[top]

Restores a single file, LUN, or NVMe namespace from the specified snapshot. This operation can be executed to overwrite an existing version of the file, LUN, or NVMe namespace present in the active file system or create a new copy of the file, LUN, or NVMe namespace at a separate location within the same volume. Only normal files, LUNs, and NVMe namespaces are restored. Special files and directories (and their contents) are not restored. Starting Data ONTAP 9.0, restore operation is supported on file with streams. The file, LUN, or NVMe namespace is ready for read/write access once this API returns.

This API is not supported on FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ignore-streams** | | boolean<br>optional | Use this option to control the behavior while restoring file with streams. If false, streams are restored along with the file. If true, the file is restored without its streams. The default value is false. This option is only supported on Data ONTAP 9.0 and later. |
| **path** | | string | Path of the file to restore. Path syntax has two forms: /vol/<volumename>/<rest of path> /<rest of path> In the latter case (relative path), if volume was not specified, the root volume will be used. |
| **restore-path** | | string<br>optional | Path to restore to. The path must be a full path to a filename, and must be in the same volume as the volume used for the restore. If not specified, restore-path is defaulted to the original path. |
| **snapshot** | | string | Name of snapshot to restore from. Snapshot must be from same volume as the file to restore. |
| **snapshot-** | | string | A unique physical version identifier for a given snapshot within a volume |

| | | | |
|---|---|---|---|
| **instance-uuid** | | optional | or an aggregate. A typical snapshot instance UUID will look like: c0335624-21f3-450c-aea1-55884d0218b9 |
| **space-efficient-split-disabled** | | boolean optional | By default 'false', space-efficient LUN/NVMe namespace clone split is allowed during restore. This parameter, if set to 'true', disables space-efficient splitting for this specific operation. |
| **volume** | | string optional | Volume to restore to/from. If this is passed in, the path argument should be relative to the volume. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EONTAPI_EVOLOPNOTSUPP** | |
| **EINTERNALERROR** | |
| **EOBJECT_NOT_FOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EONTAPI_EBUSY** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMEBUSY** | |
| **EAGGRRELOCATING** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EAPIMISSINGARGUMENT** | |
| **EVDISK_ERROR_7MODE_LUN** | |
| **EONTAPI_ENOMEM** | |
| **EVDISK_ERROR_TOO_MANY_LUNS** | |
| **EOP_DISALLOWED_VOL_IS_SYNC_SM** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-restore-file-info

[top]

Get information about snapshot file restores on a given vserver. Returns maximum snapshot file restores limit and snapshot file restores in progress numbers.

This API is not supported on FlexGroups.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **max-sfsr-limit** | | integer | The maximum number of parallel single file snapshot restores (SFSR) allowed on a filer. |
| **sfsr-in-progress** | | integer | Number of single file snapshot restores (SFSR) in progress on a filer. |

| Errno | Description |
|---|---|
| **EVERSERVERNOTFOUND** | |
| **EVOLUMEBUSY** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

| Vfiler-enabled |
|---|

| Yes |
|---|

# snapshot-restore-volume

[top]

Reverts a volume to a specified snapshot. The volume must be online and must not be a mirror. If reverting the root volume, the filer will be rebooted. Non-root volumes do not require a reboot. A volume cannot have both a volume snaprestore and a single-file snaprestore executing simultaneously. Multiple single-file snaprestores can be in progress simultaneously. After the reversion, the volume is in the same state as it was when the snapshot was taken.

This API is not supported on Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | If this field is set to "true", the Snapshot copy is restored even if the volume has one or more newer Snapshot copies which are currently used as reference Snapshot copy by SnapMirror. If a restore is done in this situation, this will cause future SnapMirror transfers to fail. The SnapMirror relationship may be repaired using "snapmirror resync" command if a common Snapshot copy is found between the source and destination volume. If there is no common Snapshot copy between the source and the destination volume, a baseline SnapMirror copy would be required.<br><br>The default value is false. |
| **preserve-lun-ids** | | boolean optional | When this field is specified, LUNs in the volume being restored will remain mapped and their identities preserved such that host connectivity will not be disrupted during the restore operation. I/O's to the LUN will be fenced during the restore operation by placing the LUNs in an unavailable state. Once the restore operation has completed, hosts will be able to resume I/O access to the LUNs.<br><br>The default value is false. |
| **snapshot** | | string | Name of snapshot to restore from. |
| **snapshot-instance-uuid** | | UUID optional | The 128 bit unique snapshot identifier expressed in the form of UUID. This field is optional and can appear together with 'snapshot' to uniquely identify a snapshot to restore. If this field is provided, 'snapshot' is a required parameter.<br><br>An example of an actual UUID is:<br><br>84a010ec-3d28-11df-84e8-123478653412 |
| **volume** | | string | Name of volume to restore. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |
| **EONTAPI_EWORMVOLSLC** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **ESNAPSHOTDOESNOTEXIST** | |
| | |

| | |
|---|---|
| **EOPNOTSUPPORTED** | |
| **EAGGRRELOCATING** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOP_DISALLOWED_DURING_TAKEOVER** | |
| **EAPIMISSINGARGUMENT** | |
| **ESNAPRESTORE_ONDEMAND_DEST** | |
| **ESNAPRESTORE_ONDEMAND_SOURCE** | |
| **EOP_DISALLOWED_VOL_IS_SYNC_SM** | |

| Vfiler-enabled |
|---|
| Yes |

# snapshot-restore-volume-async

[top]

This API is no longer supported as of ONTAP 9.5.0.

Reverts an Infinite Volume to a specified snapshot. The Infinite Volume must be online and unmounted and must not be a mirror. After the reversion, the Infinite Volume is in the same state as it was when the snapshot was taken.

This API is not supported on flexible volumes, Infinite Volume constituents, and FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | string | Name of snapshot to restore from. |
| **snapshot-instance-uuid** | | UUID optional | The 128 bit unique snapshot identifier expressed in the form of UUID. This field is optional and can appear together with 'snapshot' to uniquely identify a snapshot to restore. If this field is provided, 'snapshot' is a required parameter. An example of an actual UUID is: 84a010ec-3d28-11df-84e8-123478653412 |
| **volume** | | string | Name of Infinite Volume to restore. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |
| **EONTAPI_EWORMVOLSLC** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| | |

| | |
|---|---|
| **ESNAPSHOTDOESNOTEXIST** | |
| **EOPNOTSUPPORTED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **ESNAPRESTORE_ONDEMAND_DEST** | |
| **ESNAPRESTORE_ONDEMAND_SOURCE** | |

# snapshot-set-reserve

[top]

Sets the size of the indicated volume's snapshot reserve to the specified percentage. Reserve space can be used only by snapshots and not by the active file system.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **percentage** | | integer | Percentage to set. Range [0-100]. |
| **volume** | | string | Name of volume on which to set the snapshot space reserve. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMECREATING** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUMEBUSY** | |
| **EONTAPI_ENOSPC** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EOPNOTSUPPORTED** | |
| **EAGGRRELOCATING** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EAPIMISSINGARGUMENT** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-set-schedule

[top]

Set the snapshot schedule on a specified volume. If number of snapshots requested is greater than ONTAP allows, then ESNAPTOOMANY will be returned with the maximum allow snapshots in the reason.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **days** | | integer optional | Number of snapshots taken daily to keep on line. If not provided, the number of daily snapshots is left at the previous value. |
| **hours** | | integer optional | Number of snapshots taken hourly to keep on line. If not provided, the number of weekly snapshots is left at the previous value. |
| **minutes** | | integer optional | Number of snapshots taken minutely to keep on line. If not provided, the number of minutely snapshots is left at the previous value. |
| **volume** | | string | Name of the volume name where the snapshots are located. |
| | | | |

| | | | |
|---|---|---|---|
| **weeks** | | integer optional | Number of snapshots taken weekly to keep on line. If not provided, the number of weekly snapshots is left at the previous value. |
| **which-hours** | | string optional | Comma-separated list of the hours at which the hourly snapshots are created. If hours is 0, which-hours is ignored and cleared. |
| **which-minutes** | | string optional | Comma-separated list of the minutes at which the minutely snapshots are created. If minutes is 0, which-minutes is ignored and cleared. |

| Errno | Description |
|---|---|
| **ESNAPSHOTDOESNOTEXIST** | |
| **ESNAPSHOTTOOMANY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEBUSY** | |
| **EAPIMISSINGARGUMENT** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-volume-info

[top]

Returns snapshot related volume information. The information returned is valid at the time the API call reached the filer and maybe outdated soon after.

This API is not supported on FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume on which the space needs to be checked. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **size-available** | | integer | Total bytes that when exhausted will disable us from taking snapshots. If this value is 0, snapshots cannot be taken. Any other value would allow us to take a reliable snapshot. This space may or may not get exhausted by taking a snapshot. Also it may get used by writes/allocations in the volume. This is not equal to the free space in the active file system or anyway related to the size of the next snapshot. Range : [0..2^64-1]. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEOFFLINE** | |
| **EVOL_RESTRICTED** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EOPNOTSUPPORTED** | |
| **E_VOLUME_INACCESSIBLE** | |
| **EAGGRRELOCATING** | |
| **EAPIMISSINGARGUMENT** | |

| Vfiler-enabled |
|---|

**Yes**

# Element definition: **UUID**

[top]

The 128-bit universally-unique identifier (UUID). UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412

[none]

# Element definition: **snapshot-autodelete-info**

[top]

Option name and value.

| Name | Range | Type | Description |
|---|---|---|---|
| **option-name** | | string | Option key. Possible values: "state" (value: "on" \| "off") "commitment" (value: "try" \| "disrupt") "trigger" (value: "volume" \| "snap_reserve" \| "(DEPRECATED)-space_reserve") "target_free_space" (value: <number>) "delete_order" (value: newest_first \| oldest_first) "defer_delete" (value: scheduled \| user_created \| prefix \| none) "destroy_list" (value: <user-defined>) "prefix" (value: <string>) |
| **option-value** | | string | Option value. |

# Element definition: **snapshot-id**

[top]

Snapshot Id

[none]

# Element definition: **snapshot-info**

[top]

One snapshot contained in the specified volume. This type is used by snapshot-get-iter, snapshot-modify-iter and snapshot-list-info ZAPIs. When using this type to modify snapshot information, every field except snapmirror-label is non-modifiable.

| Name | Range | Type | Description |
|---|---|---|---|
| **access-time** | | integer optional | The volume access time when the snapshot was created in seconds since Jan 1, 1970. This value will not change even if the snapshot is accessed. Range : [0..2^32-1]. |
| **afs-used** | **[0..2^64-** | integer | Size of the active filesystem at the time the snapshot was taken in |

| | | | |
|---|---|---|---|
| | **1]** | optional | bytes. |
| **busy** | | boolean optional | Indicates whether the snapshot can be deleted or not. The snapshot cannot be deleted in the following circumstances:<br><br>If set to true, the snapshot is hard-locked by some application(s) and hence cannot be deleted. The lock cannot be over-ridden and only the application(s) locking the snapshot can release the lock. The output 'snapshot-owners-list' will report the application(s) who have hard-locked the snapshot.<br><br>If set to false and some applications are dependent on it, the snapshot is soft-locked and hence cannot be deleted. The output 'dependency' will report the application(s) who have soft-locked the snapshot. In order to over-ride the soft-lock, use the 'ignore-owners' field while deleting the snapshot.<br><br>If above conditions don't hold, then snapshot is not locked and can be deleted. |
| **comment** | | string optional | A human readable comment for the snapshot. It can be at most 255 characters. This field is returned only if it is explicitly requested using desired-attributes. |
| **compress-savings** | **[0..2^64-1]** | integer optional | Savings due to compression at the time the snapshot was taken in bytes. |
| **compression-type** | | string optional | The compression type enabled on the volume at the time the Snapshot copy was taken. Possible values:<br><br>• 'none' ... There was no compression enabled on the volume<br>• 'secondary' ... Secondary compression was enabled on the volume<br>• 'adaptive' ... Adaptive compression was enabled on the volume |
| **contains-lun-clones** | | boolean optional | This snapshots contains LUN clones. If true, this snapshot contains LUN clones. This is available only if the 'lun-clone-snapshot' option is specified. |
| **convert-recovery** | | boolean optional | Snapshot copy was created during a volume conversion operation. |
| **cumulative-percentage-of-total-blocks** | | integer optional | Percentage of blocks owned by this snapshot and all more recent snapshots, relative to the total number of blocks in the volume. Not returned for Infinite Volumes. |
| **cumulative-percentage-of-used-blocks** | | integer optional | Percentage of blocks owned by this snapshot and all more recent snapshots, relative to the number of blocks currently used in the volume. Not returned for Infinite Volumes. |
| **cumulative-total** | | integer optional | Cumulative total of 1024 byte blocks of this snapshot and previous snapshots. If the "terse" input is true, this value is omitted. |
| **dedup-savings** | **[0..2^64-1]** | integer optional | Savings due to dedup at the time the snapshot was taken in bytes. |
| **dependency** | | string | Application(s) dependent on this snapshot. The list is comma-separated if more than one application depends on this snapshot. It includes "busy" string if the snapshot is hard-locked by an application. This field is returned only if it is explicitly requested using desired-attributes.<br><br>Possible values include:<br><br>• "acs"<br>• "backup" |

| | | | |
|---|---|---|---|
| | | optional | • "dump"<br>• "file_clone"<br>• "LUNs"<br>• "snaplock"<br>• "snapmirror"<br>• "snapvault"<br>• "vclone"<br>• "snap restore" |
| **expiry-time** | **[0..2^32-1]** | integer optional | Expiry time of the snapshot in seconds since Jan 1, 1970. Until time of expiry the snapshot will be protected against deletion by system processes. The snapshot is not explicitly deleted when expiry-time elapses. The protection can be bypassed by autodelete when it operates in destroy mode. This field is returned only if it is explicitly requested using desired-attributes. |
| **infinite-snaplock-expiry-time** | | boolean optional | Indicates if the snaplock expiry time is infinite. If this flag is set, snaplock-expiry-time field will not carry any value. |
| **inofile-version** | | integer optional | The inofile-version of the snapshot. |
| **is-7-mode-snapshot** | | boolean optional | True if the snapshot is a 7-mode snapshot. |
| **is-constituent-snapshot** | | boolean optional | True if the snapshot is a constituent snapshot. |
| **logical-used** | **[0..2^64-1]** | integer optional | Snapshot logical size at the time the snapshot was taken in bytes. |
| **name** | | string optional | Name of the snapshot to be listed. |
| **percentage-of-total-blocks** | | integer optional | Percentage of blocks owned by this snapshot, relative to the total number of blocks in the volume. |
| **percentage-of-used-blocks** | | integer optional | Percentage of blocks owned by this snapshot, relative to the number of blocks currently used in the volume. |
| **performance-metadata** | **[0..2^64-1]** | integer optional | Amount of space in use for performance optimization at the time the snapshot was taken, in bytes. |
| **reserved-size** | **[0..2^64-1]** | integer optional | Reserved (holes and overwrites) at the time the snapshot was taken in bytes. |
| **snap-state** | | boolean optional | State of Snapshot. Only applicable for Firefly. True if snapshot is created/valid, false otherwise. |
| **snaplock-expiry-time** | **[0..2^64-1]** | integer optional | SnapLock expiry time of the snapshot in seconds since Jan 1, 1970. Snapshot will not be allowed to be deleted or renamed until the SnapLock ComplianceClock time goes beyond this retention time. |
| **snapmirror-label** | | string optional | A human readable SnapMirror Label attached with the snapshot. Size of the label can be at most 31 characters. This label will be used by the vaulting system to identify a vaulting scheme. |
| **snapshot-instance-uuid** | | UUID optional | The 128 bit unique snapshot identifier expressed in the form of UUID. This field uniquely identifies the snapshot's physical data layout. |
| **snapshot-owners-list** | | snapshot-owner[] optional | The list of owners of a busy snapshot. |
| **snapshot-** | | UUID | The 128 bit unique snapshot identifier expressed in the form of UUID. This field uniquely identifies the snapshot's logical data |

| | | | |
|---|---|---|---|
| **version-uuid** | | optional | layout. |
| **state** | | string optional | The state of the snapshot. Possible values:<br>• 'valid' ... For an Infinite Volume, the snapshot is complete and consistent. For a FlexGroup, the snapshot is consistent, exists on all of its constituents and can be managed normally.<br>• 'invalid' ... The namespace constituent snapshot is missing for an Infinite Volume.<br>• 'partial' ... For an Infinite Volume, one or more data constituent snapshots are missing. For a FlexGroup, the snapshot is consistent but exists only on the subset of the constituents that existed prior to the FlexGroup's expansion. Partial snapshots cannot be used for a snapshot restore operation.<br><br>Only a snapshot on an Infinite Volume can have a state of invalid. Only a snapshot on an Infinite Volume or a FlexGroup can have the states of valid and partial.<br><br>The default value is valid. |
| **total** | | integer optional | Number of 1024 byte blocks in the snapshot. If the "terse" input is true, this value is omitted. |
| **vbn0-savings** | **[0..2^64-1]** | integer optional | Savings due to vbn0 at the time the snapshot was taken in bytes. This field is returned only if it is explicitly requested using desired-attributes. |
| **volume** | | string optional | Volume name. |
| **volume-provenance-uuid** | | UUID optional | Provenance UUID of the volume at the time the snapshot was created. Refer to the volume-get-iter API for a description of the volume provenance UUID. |
| **vserver** | | string optional | Name of the vserver to which this volume belongs. |

# Element definition: **snapshot-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against snapshot object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **snapshot-key** | | snapshot-info | The keys for the snapshot object to which the modify operation applies. |

# Element definition: **snapshot-multirename-error**

[top]

Information of the error details for snapshot multirename operation When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s

description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-number** | **[0..2^32-1]** | integer optional | Error code due to which snapshot rename failed on a volume. Attributes: non-creatable, non-modifiable |
| **error-reason** | | string optional | Error reason due to which snapshot rename failed on a volume. Attributes: non-creatable, non-modifiable |
| **volume-name** | | string optional | Volume name on which snapshot rename failed. Attributes: non-creatable, non-modifiable |

# Element definition: **snapshot-name**

[top]

Name of snapshot.

[none]

# Element definition: **snapshot-policy**

[top]

Snapshot Policy

[none]

# Element definition: **snapshot-policy-info**

[top]

A typedef containing information about the Snapshot Scheduling Policies. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | A human readable description associated with the snasphot policy. The maximum length of this field can be 255 characters. Attributes: optional-for-create, modifiable |
| | | boolean | The state of the snapshot policy. If true, the snapshot policy is enabled |

| | | | |
|---|---|---|---|
| **enabled** | | optional | and scheduled snapshots will be created on the volume associated with this policy. Attributes: required-for-create, modifiable |
| **policy** | | snapshot-policy optional | A human readable string describing the name of the snapshot scheduling policy. Attributes: key, required-for-create, non-modifiable |
| **policy-owner** | | string optional | Owner of the policy Attributes: non-creatable, non-modifiable |
| **snapshot-policy-schedules** | | snapshot-schedule-info[] optional | Information about individual snapshot schedules. To obtain information about invocation times for individual schedules, use API 'job-schedule-get'. |
| **total-schedules** | **[0..5]** | integer optional | Total Number of Schedules in this Policy Attributes: non-creatable, non-modifiable |
| **vserver-name** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **snapshot-reserve-detail-info**

[top]

Information about a volume's snapshot space reservation configuration.

| Name | Range | Type | Description |
|---|---|---|---|
| **percentage** | | integer | Percentage of volume reserved for snapshots. Range : [0 - 100]. |
| **size** | | integer | Size in bytes of volume reserved for snapshots. Range : [0 - 2^64-1]. |
| **volume** | | string | Name of volume. |
| **vserver** | | string optional | Name of the vserver to which this volume belongs. This field is returned only when request is sent to Admin Vserver LIF. |

# Element definition: **volume-error**

[top]

The error code of a given volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **errno** | | integer optional | The error code of the snapshot operation for a given volume. It is returned only when an error is found. |
| **name** | | volume-name | Name of a volume. |
| **reason** | | string optional | Description of the error. It is returned only when an error is found. |
| **vserver** | | string optional | Virtual server containing the volume. |

# Element definition: **volume-is-snapcreated**

[top]

The status of the snapshot creation for a given volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-snapcreated** | | boolean | TRUE means a snapshot has been created for the volume. |
| **name** | | volume-name | Name of a volume. |

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **UUID**

[top]

The 128-bit universally-unique identifier (UUID). UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412

[none]

# Element definition: **snapshot-info**

[top]

One snapshot contained in the specified volume. This type is used by snapshot-get-iter, snapshot-modify-iter and snapshot-list-info ZAPIs. When using this type to modify snapshot information, every field except snapmirror-label is non-modifiable.

| Name | Range | Type | Description |
|---|---|---|---|
| **access-time** | | integer optional | The volume access time when the snapshot was created in seconds since Jan 1, 1970. This value will not change even if the snapshot is accessed. Range : [0..2^32-1]. |
| **afs-used** | **[0..2^64-1]** | integer optional | Size of the active filesystem at the time the snapshot was taken in bytes. |
| | | | Indicates whether the snapshot can be deleted or not. The snapshot cannot be deleted in the following circumstances: |

| | | | |
|---|---|---|---|
| **busy** | | boolean optional | If set to true, the snapshot is hard-locked by some application(s) and hence cannot be deleted. The lock cannot be over-ridden and only the application(s) locking the snapshot can release the lock. The output 'snapshot-owners-list' will report the application(s) who have hard-locked the snapshot.<br><br>If set to false and some applications are dependent on it, the snapshot is soft-locked and hence cannot be deleted. The output 'dependency' will report the application(s) who have soft-locked the snapshot. In order to over-ride the soft-lock, use the 'ignore-owners' field while deleting the snapshot.<br><br>If above conditions don't hold, then snapshot is not locked and can be deleted. |
| **comment** | | string optional | A human readable comment for the snapshot. It can be at most 255 characters. This field is returned only if it is explicitly requested using desired-attributes. |
| **compress-savings** | **[0..2^64-1]** | integer optional | Savings due to compression at the time the snapshot was taken in bytes. |
| **compression-type** | | string optional | The compression type enabled on the volume at the time the Snapshot copy was taken. Possible values:<br><br>• 'none' ... There was no compression enabled on the volume<br>• 'secondary' ... Secondary compression was enabled on the volume<br>• 'adaptive' ... Adaptive compression was enabled on the volume |
| **contains-lun-clones** | | boolean optional | This snapshots contains LUN clones. If true, this snapshot contains LUN clones. This is available only if the 'lun-clone-snapshot' option is specified. |
| **convert-recovery** | | boolean optional | Snapshot copy was created during a volume conversion operation. |
| **cumulative-percentage-of-total-blocks** | | integer optional | Percentage of blocks owned by this snapshot and all more recent snapshots, relative to the total number of blocks in the volume. Not returned for Infinite Volumes. |
| **cumulative-percentage-of-used-blocks** | | integer optional | Percentage of blocks owned by this snapshot and all more recent snapshots, relative to the number of blocks currently used in the volume. Not returned for Infinite Volumes. |
| **cumulative-total** | | integer optional | Cumulative total of 1024 byte blocks of this snapshot and previous snapshots. If the "terse" input is true, this value is omitted. |
| **dedup-savings** | **[0..2^64-1]** | integer optional | Savings due to dedup at the time the snapshot was taken in bytes. |
| **dependency** | | string optional | Application(s) dependent on this snapshot. The list is comma-separated if more than one application depends on this snapshot. It includes "busy" string if the snapshot is hard-locked by an application. This field is returned only if it is explicitly requested using desired-attributes.<br><br>Possible values include:<br><br>• "acs"<br>• "backup"<br>• "dump"<br>• "file_clone"<br>• "LUNs" |

| | | | |
|---|---|---|---|
| | | | • "snaplock"<br>• "snapmirror"<br>• "snapvault"<br>• "vclone"<br>• "snap restore" |
| **expiry-time** | **[0..2^32-1]** | integer<br>optional | Expiry time of the snapshot in seconds since Jan 1, 1970. Until time of expiry the snapshot will be protected against deletion by system processes. The snapshot is not explicitly deleted when expiry-time elapses. The protection can be bypassed by autodelete when it operates in destroy mode. This field is returned only if it is explicitly requested using desired-attributes. |
| **infinite-snaplock-expiry-time** | | boolean<br>optional | Indicates if the snaplock expiry time is infinite. If this flag is set, snaplock-expiry-time field will not carry any value. |
| **inofile-version** | | integer<br>optional | The inofile-version of the snapshot. |
| **is-7-mode-snapshot** | | boolean<br>optional | True if the snapshot is a 7-mode snapshot. |
| **is-constituent-snapshot** | | boolean<br>optional | True if the snapshot is a constituent snapshot. |
| **logical-used** | **[0..2^64-1]** | integer<br>optional | Snapshot logical size at the time the snapshot was taken in bytes. |
| **name** | | string<br>optional | Name of the snapshot to be listed. |
| **percentage-of-total-blocks** | | integer<br>optional | Percentage of blocks owned by this snapshot, relative to the total number of blocks in the volume. |
| **percentage-of-used-blocks** | | integer<br>optional | Percentage of blocks owned by this snapshot, relative to the number of blocks currently used in the volume. |
| **performance-metadata** | **[0..2^64-1]** | integer<br>optional | Amount of space in use for performance optimization at the time the snapshot was taken, in bytes. |
| **reserved-size** | **[0..2^64-1]** | integer<br>optional | Reserved (holes and overwrites) at the time the snapshot was taken in bytes. |
| **snap-state** | | boolean<br>optional | State of Snapshot. Only applicable for Firefly. True if snapshot is created/valid, false otherwise. |
| **snaplock-expiry-time** | **[0..2^64-1]** | integer<br>optional | SnapLock expiry time of the snapshot in seconds since Jan 1, 1970. Snapshot will not be allowed to be deleted or renamed until the SnapLock ComplianceClock time goes beyond this retention time. |
| **snapmirror-label** | | string<br>optional | A human readable SnapMirror Label attached with the snapshot. Size of the label can be at most 31 characters. This label will be used by the vaulting system to identify a vaulting scheme. |
| **snapshot-instance-uuid** | | UUID<br>optional | The 128 bit unique snapshot identifier expressed in the form of UUID. This field uniquely identifies the snapshot's physical data layout. |
| **snapshot-owners-list** | | snapshot-owner[]<br>optional | The list of owners of a busy snapshot. |
| **snapshot-version-uuid** | | UUID<br>optional | The 128 bit unique snapshot identifier expressed in the form of UUID. This field uniquely identifies the snapshot's logical data layout. |
| | | | The state of the snapshot. Possible values: |

| | | | |
|---|---|---|---|
| **state** | | string optional | 'valid' ... For an Infinite Volume, the snapshot is complete and consistent. For a FlexGroup, the snapshot is consistent, exists on all of its constituents and can be managed normally.<br>• 'invalid' ... The namespace constituent snapshot is missing for an Infinite Volume.<br>• 'partial' ... For an Infinite Volume, one or more data constituent snapshots are missing. For a FlexGroup, the snapshot is consistent but exists only on the subset of the constituents that existed prior to the FlexGroup's expansion. Partial snapshots cannot be used for a snapshot restore operation.<br><br>Only a snapshot on an Infinite Volume can have a state of invalid. Only a snapshot on an Infinite Volume or a FlexGroup can have the states of valid and partial.<br><br>The default value is valid. |
| **total** | | integer optional | Number of 1024 byte blocks in the snapshot. If the "terse" input is true, this value is omitted. |
| **vbn0-savings** | **[0..2^64-1]** | integer optional | Savings due to vbn0 at the time the snapshot was taken in bytes. This field is returned only if it is explicitly requested using desired-attributes. |
| **volume** | | string optional | Volume name. |
| **volume-provenance-uuid** | | UUID optional | Provenance UUID of the volume at the time the snapshot was created. Refer to the volume-get-iter API for a description of the volume provenance UUID. |
| **vserver** | | string optional | Name of the vserver to which this volume belongs. |

# Element definition: **snapshot-owner**

[top]

owner of a busy snapshot

| Name | Range | Type | Description |
|---|---|---|---|
| **owner** | | string | Name of the owner of a busy snapshot |

# Element definition: **snapshot-policy**

[top]

Snapshot Policy

[none]

# Element definition: **snapshot-schedule-info**

[top]

Information about individual snapshot schedules

| Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^32-1]** | integer optional | Maximum number of snapshots to retain for the schedule present in the snapshot policy. Attributes: non-creatable, non-modifiable |
| **prefix** | | string optional | Snapshot name prefix for the schedule present in the snapshot policy. Prefix will be used in the snapshot name instead of the schedule name. If prefix is not provided, schedule name will be used in the snapshot name. For eg, if the prefix name 'hourly-even' is assigned to the schedule name 'hourly' then the snapshot name will look like 'hourly-even.2010-05-10_0205'. If no prefix is associated with the schedule 'hourly' then prefix will be set to 'hourly' as the default value. Attributes: non-creatable, non-modifiable |
| **schedule** | | string optional | A human readable string describing the name of a schedule present in the snapshot policy. Maximum length of this field can be 255 characters. The schedule name can be any one of the reserved schedules like 'hourly', 'weekly','daily' or it can be a user created schedule. Attributes: non-creatable, non-modifiable |
| **snapmirror-label** | | string optional | Snapshot SnapMirror Label for the schedule present in the snapshot policy. The value specified will be added as an attribute to the snapshot created by the schedule. The maximum length of this field is 31 characters Attributes: non-creatable, non-modifiable |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **UUID**

[top]

The 128-bit universally-unique identifier (UUID). UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412

[none]

# APIs in Category: **snapvault**


snapvault-add-softlock
snapvault-get-all-softlocked-snapshots
snapvault-get-softlocks
snapvault-primary-abort-snapshot-create
snapvault-primary-abort-transfer
snapvault-primary-delete-snapshot-schedule
snapvault-primary-destinations-list-info
snapvault-primary-get-relationship-status
snapvault-primary-initiate-incremental-restore-transfer
snapvault-primary-initiate-restore-transfer
snapvault-primary-initiate-snapshot-create
snapvault-primary-relationship-status-list-iter-end
snapvault-primary-relationship-status-list-iter-next
snapvault-primary-relationship-status-list-iter-start
snapvault-primary-release-relationship
snapvault-primary-set-snapshot-schedule
snapvault-primary-snapshot-schedule-list-info
snapvault-primary-snapshot-schedule-status-list-info
snapvault-remove-softlock
snapvault-secondary-abort-snapshot-create
snapvault-secondary-abort-transfer
snapvault-secondary-configuration-list-info
snapvault-secondary-create-relationship
snapvault-secondary-delete-relationship


SnapVault functionality within Data ONTAP provides disk-to-disk remote backup, archival and recovery. Note that the value expected for volume-name is only the volume name string. The path arguments used in these APIs are of the form: /vol/<volume>/<qtree>.

snapvault-secondary-delete-snapshot-schedule
snapvault-secondary-destinations-list-info
snapvault-secondary-get-configuration
snapvault-secondary-get-relationship-status
snapvault-secondary-initiate-incremental-transfer
snapvault-secondary-initiate-snapshot-create
snapvault-secondary-modify-configuration
snapvault-secondary-relationship-status-list-iter-end
snapvault-secondary-relationship-status-list-iter-next
snapvault-secondary-relationship-status-list-iter-start
snapvault-secondary-release-relationship
snapvault-secondary-resync-relationship
snapvault-secondary-set-snapshot-schedule
snapvault-secondary-snapshot-schedule-list-info
snapvault-secondary-snapshot-schedule-status-list-info

# snapvault-add-softlock

[top]

Request the system to add softlock for the specified snapshot. Softlocks can be added to preserve the snapshots which user wants to retain down the cascade.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | string | Name of the snapshot to be softlocked. |
| **softlock-name** | | string optional | Name of softlock which uniquely identifies the softlock for the snapshot. When not specified, softlock will be added with default name. Name of softlock can contain letters, numbers, and underscore character (_), and can be up to 64 characters long. |
| **volume** | | string | Name of the volume where the snapshot exists. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |

# snapvault-get-all-softlocked-snapshots

[top]

List all snapshots which are softlocked for snapvault by external means.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume for which softlocked snapshots to be listed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-list** | | snapshot-name[] optional | List of snapshots which are softlocked by external means. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |

# snapvault-get-softlocks

[top]

List all snapvault softlocks on the given snapshot which are locked by external means.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | string | Name of the snapshot for which softlocks to be listed. |
| **volume** | | string | Name of the volume where the snapshot exists. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapvault-softlocks** | | snapvault-softlock-info | snapvault softlock information for the snapshot. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |

# snapvault-primary-abort-snapshot-create

[top]

Request the primary to abort a snapshot creation that is already in progress. The snapshot schedule for which the snapshot creation is in progress must be specified as input.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **schedule-name** | | string | Name of the schedule used for snapshot creation. |
| **volume-name** | | string | Primary volume in which snapshot create is in progress. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| | |

| Errno | Description |
|---|---|
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| snapvault_client |

# snapvault-primary-abort-transfer

[top]

Request the primary system to abort an active transfer. The abort can be hard abort, which means the transfer will not be restartable. Or it could be a soft abort, which will not clean the restart checkpoints. In that case the transfer may be restartable. An aborted transfer may be restarted by using the same API used to initiate the transfer in the previous attempt. If that request cannot restart the aborted transfer, then it will initiate a fresh new transfer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| is-hard-abort | | boolean optional | When set to 'true' a hard abort is performed. In that case the restart checkpoints are cleared. Default value is 'false'. |
| system-path | | string | The system path which is the target of transfer. |
| target-system | | string optional | The system filer which is the target of transfer. |

| Errno | Description |
|---|---|
| ESNAPVAULTERR | |
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| snapvault_client |

# snapvault-primary-delete-snapshot-schedule

[top]

Request the primary system to delete the specified snapshot schedules. The snapshot schedules that match the volume name and if specified the schedule name, will be deleted.

| Input Name | Range | Type | Description |
|---|---|---|---|
| schedule-name | | string optional | Name of the schedule to be deleted. |
| | | | |

| | | | |
|---|---|---|---|
| **volume-name** | | string | The primary volume for which the schedules are to be deleted. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-destinations-list-info

[top]

Request the primary to list all snapvault destinations that have been replicated from any source path on this primary system. If a source path is provided, then the primary will return destinations information only for that source path. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-destinations-list-info

| Input Name | Range | Type | Description |
|---|---|---|---|
| **source-path** | | string<br>optional | Source path on this primary for which the destination information is desired. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **destinations** | | snapvault-destination-info[] | List of all snapvault destinations known to this primary. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-get-relationship-status

[top]

Request the primary to return the status entries for desired relationships. The relationships whose status is desired must be specified using the system path. When snapvault primary and secondary are

licensed on the same filer, output of this API is identical to the output of snapvault-secondary-get-relationship-status

| Input Name | Range | Type | Description |
|---|---|---|---|
| **system-path** | | string | System path for relationships whose status is desired. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **status** | | snapvault-status-info[] | Status entries for desired relationships. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-initiate-incremental-restore-transfer

[top]

Request to initiate an incremental restore from a given secondary path to an existing primary path, using the specified secondary snapshot. The request will only initiate the restore and return. The actual restore operation will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-primary-get-relationship- status API should be used to determine progress of the restore operation. If the dataset contains LUNs, the restore will attempt to prevent disruptions to clients using those LUNs. Upon success, the primary path will have the exact same contents as the specified secondary path in the specified secondary snapshot.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection-mode** | | string optional | This option specifies the mode to be used for establising connection between primary and secondary. If this option is set to "inet6", connections between primary and secondary will be established using IPv6 addresses only. If there are no IPv6 addressess configured, then the connection will fail. If the option is set to "inet", connections between primary and secondary will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail. When this option is not specified, Connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet". This argument is not effective when an IP address is specified instead of secondary hostname. If the IP address format and connection mode do not match, the operation will fail with proper error message. |
| **max-transfer-rate** | | integer optional | |
| **no-lun-clone-** | | boolean | This option dictates how a lun clone would be transferred from source to destination. If this option is "flase", a LUN clone would be transferred as a |

| | | | |
|---|---|---|---|
| **expansion** | | optional | LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false". |
| **primary-path** | | string | The pre-existing primary path to which data is being restored. |
| **secondary-path** | | string | The secondary path to restore from. |
| **secondary-snapshot** | | string optional | Name of the secondary snapshot to be used for this restore transfer. |
| **secondary-system** | | string | The secondary system to restore from. This input will be used by the primary system to establish contact with the secondary. Therefore it is expected to be a hostname that the primary can resolve. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-initiate-restore-transfer

[top]

Request the primary system to begin a baseline restore transfer from the given secondary path to the given primary path. If the primary path does not already exist, it will be created before starting the restore transfer. If it already exists, its contents will be overwritten by the restore transfer if overwrite-existing-content is set to true else an error is returned. If an existing primary path contains LUNs, then under certain conditions, restore will prevent disruptions to clients using those LUNs. The request will only start the restore transfer and return. The actual transfer will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-primary-get-relationship-status API should be used to check the status of the restore.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection-mode** | | string optional | This option specifies the mode to be used for establising connection between primary and secondary. If this option is set to "inet6", connections between primary and secondary will be established using IPv6 addresses only. If there are no IPv6 addressess configured, then the connection will fail. If the option is set to "inet", connections between primary and secondary will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail. When this option is not specified, Connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet". This argument is not effective when an IP address is specified instead of secondary hostname. If the IP address format and connection mode do not match, the operation will fail with proper error message. |
| | | | The maximum transfer rate in kilobytes (1024 bytes) per second to be |

| | | | |
|---|---|---|---|
| **max-transfer-rate** | | integer optional | applied only for this update transfer. If this option is not provided the default behavior will be to allow the transfer to proceed as fast as possible. Range:[1..2^31-2] |
| **no-lun-clone-expansion** | | boolean optional | This option dictates how a lun clone would be transferred from source to destination. If this option is "false", a LUN clone would be transferred as a LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false". |
| **overwrite-existing-content** | | boolean optional | This option specifies to overwrite an existing primary qtree or not. If specified primary qtree path already exists and the option is set to "true" the existing qtree will be overwritten and and previous data will be lost. If specified primary qtree path already exists and the option is set to "false" then an error is returned. The default value of the option is "true". |
| **primary-path** | | string | The primary path to which data is being restored. The primary path will be created during the restore if it doesn't already exist. |
| **secondary-path** | | string | The secondary path to restore from. |
| **secondary-snapshot** | | string optional | Name of the secondary snapshot to be used for this restore transfer. If this option is not provided, the secondary system will choose the snapshot that contains the most recent back-up for this secondary path. |
| **secondary-system** | | string | The secondary system to restore from. This input will be used by the primary system to establish contact with the secondary. Therefore it is expected to be a hostname that the primary can resolve. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-initiate-snapshot-create

[top]

Request the primary to force a snapshot creation for a specified snapshot schedule. The snapshot schedule must be identified by the volume name and the snapshot prefix. All the properties of the specified schedule will be applied to the snapshot creation. This API should be used when it is desirable to create snapshots right away, without having to wait for the pre-configured scheduled time. This API returns after only initiating the snapshot creation, and there is no guarantee that the snapshot creation will succeed. The snapvault-primary-snapshot-schedule-status-list-info API should be used to track progress of the snapshot creation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **options** | | snapvault-snapcreate-options optional | Describes options for snap create request. |
| **schedule-** | | | The name of the schedule to be used for this snapshot |

| | | | |
|---|---|---|---|
| **name** | | string | creation. |
| **volume-name** | | string | The primary volume for which the snapshot schedule was configured. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-relationship-status-list-iter-end

[top]

Terminate the status list iteration set up by the snapvault-primary-relationship-status-list-iter-start API. The primary will clean up any saved info for this iteration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from the previous primary-relationship-status-list-iter-start. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-relationship-status-list-iter-next

[top]

Request the primary to continue the iteration set up with the snapvault-primary-relationship-status-list-iter-start API. A list consisting of a number of status entries, upto the specified maximum, will be returned. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-secondary-relationship-status-list-iter-next

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **maximum** | | integer | The maximum number of entries to retrieve. Range:[0..2^32-1] |
| **tag** | | string | Tag from a previous primary-relationship-status-list-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | The number of records being returned by this particular request. When this value is 0, there are no more records to be returned. Range:[0..2^32-1] |
| **status-list** | | snapvault-status-info[] optional | List of entries, each representing status entry for a relationship. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-relationship-status-list-iter-start

[top]

Request the primary to start an iteration through the list of the status entries for all relationships.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | This tells you the number of items that have been saved for future retrieval with primary-relationship-status-list-iter-next. Range:[0..2^32-1] |
| **tag** | | string | Tag to be used in subsequent iterations. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-release-relationship

[top]

Request the release of a snapvault relationship formed by a "create-relationship" or "resync-relationship" operation. This operation deletes the registry entry and the softlocks on the source snapshot.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **primary-path** | | string | The primary path for the relationship. |
| **secondary-path** | | string | The secondary path for the relationship. |
| **secondary-system** | | string | The secondary system for the relationship. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-set-snapshot-schedule

[top]

Request the primary system to configure the specified snapshot schedule. It can also update existing snapshot schedules. If the optional input schedule is skipped, the days-of-week is set to "mon-sun" and hours-of-day set to 0, i.e. midnight.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-schedule** | | snapvault-primary-snapshot-schedule-info | Specifies details of the schedule to be set. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-snapshot-schedule-list-info

[top]

Request the primary to return a list of configured snapshot schedules. Without any input arguments this request returns the list of all snapshot schedules configured on the primary. If a volume is specified then only the list of schedules configured for that volume will be returned. When snapvault primary and secondary are licensed on the same filer, snapvault-secondary-snapshot-schedule-list-info and this API return the same number of schedules.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string<br>optional | The primary volume for which the list of snapshot schedules are desired. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-schedules** | | snapvault-primary-snapshot-schedule-info[]<br>optional | List of snapshot schedule entries. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-snapshot-schedule-status-list-info

[top]

Request the primary to return status for all configured snapshot schedules. If a specific volume is provided as input, this API will return only the status for schedules within that volume. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-secondary-snapshot-schedule-status-list-info

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string<br>optional | Primary volume for which snapshot schedule status is desired. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-schedule-status** | | snapvault-snapshot-schedule-status-info[] | List of status entries, one for each snapshot schedule. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| | |

| |
|---|
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **snapvault_client** |

# snapvault-remove-softlock

[top]

request the system to remove softlock for the given snapshot.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | string | Name of the snapshot for which softlock to be removed. |
| **softlock-name** | | string optional | Name of softlock which uniquely identifies the softlock for the snapshot. When not specified, softlock with default name will be removed. When softlock-name has value "-all", all softlocks on the snapshot will be removed. Name of softlock can contain letters, numbers, and underscore character (_), and can be up to 64 characters long. |
| **volume** | | string | Name of the volume where the snapshot exists. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |

# snapvault-secondary-abort-snapshot-create

[top]

Request the secondary to abort a snapshot creation that is already in progress. The snapshot schedule for which the snapshot creation is in progress must be specified as input.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **schedule-name** | | string | The name of the schedule used by the snapshot creation. |
| **volume-name** | | string | The secondary volume in which snapshot create is in progress. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **snapvault_server** |

# snapvault-secondary-abort-transfer

[top]

Request the secondary system to abort the current transfer. The abort can be hard abort, which means the transfer will not be restartable. By default, a soft abort is used, which means the transfer is restartable. An aborted transfer may be restarted by using the same API used to initiate the transfer in the previous attempt. If that request cannot restart the aborted transfer, then it will initiate a fresh new transfer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-hard-abort** | | boolean optional | When set to 'true' a hard abort is performed. In that case the restart checkpoints are cleared. Default value is 'false'. |
| **system-path** | | string | The system path which is the target of update. |
| **target-system** | | string optional | The system filer which is the target of transfer. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_server** |

# snapvault-secondary-configuration-list-info

[top]

Request to return a list of all configuration entries found on the secondary system.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **configurations** | | snapvault-configuration-info[] optional | List of configuration entries. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| |

| snapvault_server |
|---|

# snapvault-secondary-create-relationship

[top]

Request the secondary system to configure a new snapvault relationship with the given primary and secondary systems and paths. This API is equivalent to the 'snapvault start' Data ONTAP command. All the inputs provided with this request will be stored in the configuration entry maintained by the secondary system. These values will be used as default settings for further incremental update transfers for this relationship. The snapvault-secondary-modify-configuration API can be used to change these configured settings. A successful configuration will automatically be followed by a baseline transfer from the primary to the secondary. The secondary path will be created during the baseline transfer hence it is required that the secondary path must not exist when issuing this request. This request will only begin the baseline transfer and return. The transfer will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-get-relationship-status API should be used to check the status of the transfer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **configuration** | | snapvault-configuration-info | Relationship configuration |
| **no-lun-clone-expansion** | | boolean optional | This option dictates how a lun clone would be transferred from source to destination. If this option is "false", a LUN clone would be transferred as a LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false". |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_server** |

# snapvault-secondary-delete-relationship

[top]

Request the secondary system to unconfigure and delete the relationship permanently. The secondary path will be deleted. But none of the snapshots that capture this secondary path will be deleted. This API corresponds to the 'snapvault stop' Data ONTAP command.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **secondary-path** | | string | The secondary-path to be deleted. The path will be unconfigured and deleted. |

| | |
|---|---|

| Errno | Description |
|---|---|
| ESNAPVAULTERR | |
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |
| ESNAPVAULTBUSY | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| snapvault_server |

# snapvault-secondary-delete-snapshot-schedule

[top]

Request the secondary system to delete the specified snapshot schedules. The snapshot schedules that match the volume name and the snapshot prefix when specified, will be deleted.

| Input Name | Range | Type | Description |
|---|---|---|---|
| delete-schedule-softlock | | boolean optional | When set to 'true', snapvault will delete ACS softlock set by this schedule. The default value for this option is 'false'. |
| schedule-name | | string optional | The name of the schedule to be deleted. |
| volume-name | | string | The secondary volume for which the schedule is to be deleted. |

| Errno | Description |
|---|---|
| ESNAPVAULTERR | |
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |
| ESNAPVAULTBUSY | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| snapvault_server |

# snapvault-secondary-destinations-list-info

[top]

Request the secondary to list all snapvault destinations that have been replicated from any source path on this secondary system. If a source path is provided, then the secondary will return destinations information only for that source path. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-destinations-list-info

| Input Name | Range | Type | Description |
|---|---|---|---|
| source-path | | string optional | Source path on this secondary for which the destination information is desired. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| destinations | | snapvault-destination-info[] | List of all snapvault destinations known to this secondary. |

| Errno | Description |
|---|---|
| ESNAPVAULTERR | |
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| snapvault_server |

# snapvault-secondary-get-configuration

[top]

Request the secondary to return the configuration entry for a relationship. The relationship must be specified by providing the secondary path as input.

| Input Name | Range | Type | Description |
|---|---|---|---|
| secondary-path | | string | The secondary path for the relationship whose configuration entry is desired. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| configuration | | snapvault-configuration-info optional | A single configuration entry. |

| Errno | Description |
|---|---|
| ESNAPVAULTERR | |
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| snapvault_server |

# snapvault-secondary-get-relationship-status

[top]

Request the secondary to return the status entries for desired relationships. The relationships whose status is desired must be specified using the system path. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-get-relationship-status

| Input Name | Range | Type | Description |
|---|---|---|---|
| **system-path** | | string | System path for the relationships whose status is desired. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **status** | | snapvault-status-info[] | Status entries for desired relationships. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_server** |

# snapvault-secondary-initiate-incremental-transfer

[top]

Request the snapvault secondary system to begin an incremental transfer to the given secondary path. This API is equivalent to the 'snapvault update' Data ONTAP command. It is required that this secondary path has already been configured as part of a snapvault relationship. The primary system and path configured in that relationship will be used as the source for this transfer. The request will only start the transfer and return. The actual transfer will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-secondary-get-relationship-status API should be used to check the status of the update.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **max-transfer-rate** | | integer optional | The maximum transfer rate in kilobytes (1024 bytes) per second to be applied only for this update transfer. If this option is not provided the default behavior will be to allow the transfer to proceed as fast as possible. Range:[1.. 2^31-2] |
| **no-lun-clone-expansion** | | boolean optional | This option dictates how a lun clone would be transferred from source to destination. If this option is "false", a LUN clone would be transferred as a LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false". |
| **primary-snapshot** | | string optional | Name of the primary snapshot to be used for this update transfer. This option is supported for only primary systems. If this option is not provided, the primary system will create a new source snapshot for this transfer. |
| **secondary-** | | | The secondary path that will be used as the destination for this update |

| | | | |
|---|---|---|---|
| **path** | | string | transfer. It is required that this secondary path is already a part of some configured snapvault relationship. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_server** |

# snapvault-secondary-initiate-snapshot-create

[top]

Request the secondary to force a snapshot creation for a specified snapshot schedule. The snapshot schedule must be identified by the volume name and the schedule name. All the properties of the specified schedule will be applied to the snapshot creation. This API should be used when it is desirable to create snapshots right away, without having to wait for the pre-configured scheduled time. This API returns after only initiating the snapshot creation, and there is no guarantee that the snapshot creation will succeed. The snapvault-secondary-snapshot-schedule-status-list-info API should be used to track progress of the snapshot creation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **lock-backing-snapshot** | | boolean optional | When set to 'true' any snapshots backing the LUN clones present in the snapshot being created will be locked down. As a result, the locked backing snapshots can't be deleted as long as the snapshot that is locking them exists. The default value for this option is 'false', which doesn't lock any backing snapshots. |
| **options** | | snapvault-snapcreate-options optional | Describes options for snap create request. |
| **schedule-name** | | string | The name of the schedule to be used for creating the snapshot. The schedule-name will be used as a prefix in the name of each snapshot created by this schedule. If an empty string is provided, the snapshot creation process will be started, but a snapshot will not be created. This is useful to bring all the relationships of a secondary volume to a consistent state. |
| **volume-name** | | string | The secondary volume in which the snapshot is to be created. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| snapvault_server |

## snapvault-secondary-modify-configuration

[top]

Request change in one or more configuration parameters of an existing snapvault relationship identified by the secondary path provided. Only the parameters that are specified as input will be changed for this configuration.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| configuration | | snapvault-configuration-info | Relationship configuration |

| Errno | Description |
| --- | --- |
| ESNAPVAULTERR | |
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| snapvault_server |

## snapvault-secondary-relationship-status-list-iter-end

[top]

Terminate the status list iteration set up by the snapvault-secondary-relationship-status-list-iter-start API. The secondary will clean up any saved info for this iteration.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| tag | | string | Tag from the previous secondary-relationship-status-list-iter-start. |

| Errno | Description |
| --- | --- |
| ESNAPVAULTERR | |
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |

| snapvault_server |
|---|

# snapvault-secondary-relationship-status-list-iter-next

[top]

Request the secondary to continue the iteration set up with the snapvault-secondary-relationship-status-list-iter-start API. A list consisting of a number of status entries, upto the specified maximum, will be returned. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-relationship-status-list-iter-next

| Input Name | Range | Type | Description |
|---|---|---|---|
| maximum | | integer | The maximum number of entries to retrieve. Range:[0..2^32-1] |
| tag | | string | Tag from a previous secondary-relationship-status-list-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| records | | integer | The number of records being returned by this particular request. When this value is 0, there are no more records to be returned. Range:[0..2^32-1] |
| status-list | | snapvault-status-info[] optional | List of entries, each representing status entry for a relationship. |

| Errno | Description |
|---|---|
| ESNAPVAULTERR | |
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| snapvault_server |

# snapvault-secondary-relationship-status-list-iter-start

[top]

Request the secondary to start an iteration through the list of the status entries for all relationships. This list will also include entries for snapvault restores from this secondary.

| Output Name | Range | Type | Description |
|---|---|---|---|
| records | | integer | This tells you the number of items that have been saved for future retrieval with secondary-relationship-status-list-iter-next. Range: [0..2^32-1] |
| tag | | string | Tag to be used in subsequent iterations. |

| Errno | Description |
|---|---|
| | |

| ESNAPVAULTERR | |
|---|---|
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| snapvault_server |

# snapvault-secondary-release-relationship

[top]

Request the release of a snapvault relationship formed after a restore operation on the primary system. This operation deletes the registry entry and removes the softlock on the source base snapshot.

| Input Name | Range | Type | Description |
|---|---|---|---|
| primary-path | | string | The primary path that had been used for the restore. |
| primary-system | | string | The primary system which had performed the restore. |
| secondary-path | | string | The secondary path that was used as source for restore. |

| Errno | Description |
|---|---|
| ESNAPVAULTERR | |
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |
| ESNAPVAULTBUSY | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| snapvault_server |

# snapvault-secondary-resync-relationship

[top]

Request to resynchronize the relationship for an existing secondary path. This API is equivalent to the 'snapvault start -r' Data ONTAP command. In addition the configuration entry for this relationship will be updated with any parameters that are provided as input. Finally an update transfer to this secondary path will be started. The resynchronization is commonly used when the primary dataset has been migrated to a different location for e.g. via snapvault restore. This functionality is also required if the secondary path was made writable for e.g. via wafl iron. This request will only start the resync process and return. The process will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-secondary-get-relationship-status API should be used to check the status of this restore.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **configuration** | | snapvault-configuration-info | Relationship configuration |
| **no-lun-clone-expansion** | | boolean optional | This option dictates how a lun clone would be transferred from source to destination. If this option is "false", a LUN clone would be transferred as a LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false". |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_server** |

# snapvault-secondary-set-snapshot-schedule

[top]

Request the secondary system to configure the specified snapshot schedule. If this request is made for an existing snapshot schedule, then that snapshot schedule is updated with any new values specified. If the optional input schedule is skipped, the days-of-week is set to "mon-sun" and hours-of-day set to 0, i.e. midnight.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-schedule** | | snapvault-secondary-snapshot-schedule-info | Specifies details of the schedule to be set. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_server** |

# snapvault-secondary-snapshot-schedule-list-info

[top]

Request the secondary to return a list of configured snapshot schedules. Without any input arguments this request returns the list of all snapshot schedules configured on the secondary. If a volume is specified then only the list of schedules configured for that volume will be returned. When snapvault primary and secondary are licensed on the same filer, snapvault-primary-snapshot-schedule-list-info and this API return the same number of schedules.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string<br>optional | The secondary volume for which the list of snapshot schedules are desired. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-schedules** | | snapvault-secondary-snapshot-schedule-info[]<br>optional | List of snapshot schedule entries. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_server** |

# snapvault-secondary-snapshot-schedule-status-list-info

[top]

Request the secondary to return status for all configured snapshot schedules. If a specific volume is provided as input, this API will return only the status for schedules within that volume. This API corresponds to the 'snapvault status -s' Data ONTAP command. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-snapshot-schedule-status-list-info

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string<br>optional | Secondary volume for which snapshot schedule status is desired. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-schedule-status** | | snapvault-snapshot-schedule-status-info[] | List of status entries, one for each snapshot schedule. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

**Vfiler-enabled**
**Yes**

**License**
**snapvault_server**

# Element definition: **snapshot-name**

[top]

Name of snapshot.

[none]

# Element definition: **snapvault-configuration-info**

[top]

Describes the elements of the snapvault configuration entry.

| Name | Range | Type | Description |
|---|---|---|---|
| **connection-mode** | | string optional | This option specifies the mode to be used for establising connection between primary and secondary. If this option is set to "inet6", connections between primary and secondary will be established using IPv6 addresses only. If there are no IPv6 addressess configured, then the connection will fail. If the option is set to "inet", connections between primary and secondary will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail. When this option is not specified, Connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet". This argument is not effective when an IP address is specified instead of primary hostname. If the IP address format and connection mode do not match, the operation will fail with proper error message. |
| **is-access-time-change-ignored** | | boolean optional | Sets the ignore_atime option in snapvault configuration entry. When set to 'true', snapvault primary does not send files with only access time changes during incremental transfers. The default value is 'false' |
| **is-open-file-backup-allowed** | | boolean optional | Sets the back_up_open_files option in the snapvault configuration entry. This option is used to allow or disallow the inclusion of open files on the primary system at the time of the transfer. This option is currently applicable only for OSSV relationships. When set to 'false' the OSSV primary agents will exclude files that are open from the transfer. The default value for this parameter is 'true'. |
| **is-primary-path-utf8-encoded** | | boolean optional | Specifies encoding format for the primary pathname. A 'true' value indicates that the primary pathname is in UTF8 format. The default encoding format is ASCII/extended ASCII. The default value is 'false'. |
| **max-transfer-rate** | | integer optional | The maximum transfer rate in kilobytes (1024 bytes) per second that will be used for this relationship as well as baseline transfer. The default value for this parameter will allow transfers to proceed as fast as possible. Range:[1..2^31-2] |
| | | | The primary path that will be used as the source for this relationship as well as for baseline transfer. This can be either in UTF8 or |

| | | | |
|---|---|---|---|
| **primary-path** | | string | ASCII/extended ASCII depending on whether or not 'is-primary-path-utf8-encoded' flag is set. If option 'is-primary-path-utf8-encoded' is not specified, then the primary-path considered as in ASCII/extended ASCII. |
| **primary-system** | | string | The primary system for this relationship as well as for the baseline transfer. This input will be used by the secondary system to establish contact with the primary. Therefore this input is expected to be a hostname that the primary can resolve. |
| **secondary-path** | | string | The secondary path that will be used as destination for this relationship as well as baseline transfer. The secondary path will be created during the baseline transfer and hence it must not exist when issuing this request. |
| **tries-count** | | integer optional | The maximum number of times a transfer will be tried. Transfers that are retried using this mechanism may be capable of restarting from where the previous attempt failed. If a transfer does not succeed even after those many attempts, then the secondary will give up. All the data that was transferred during previous tries for this transfer will be discarded. The default value for this parameter is 2. When set to 0, the relationship will become dormant. In other words no transfers will be allowed to this secondary path. The maximum value accepted for this input is 120. Range:[0..120] |
| **use-compression** | | string optional | Specifies whether to compress the network data stream. Possible values are 'on', 'off', and 'default'. When the value is set to 'on', stream compression will be enabled. When the value is set to 'off', stream compression will be disabled. When the value is set to 'default' then the default value will be used. In case of snapvault create relationship API, when this option is not specified, the default value will be used. In case of snapvault modify API, when this option is not specified, the last configured value for this relationship will be used. The default value for this option is the value of global compression option. |

# Element definition: **snapvault-destination-info**

[top]

Structure of each entry of destinations list.

| Name | Range | Type | Description |
|---|---|---|---|
| **chained-destinations** | | snapvault-chained-destination-info[] | List of destinations that form a dependency chain starting from the source-path. This list will contain only one element for non-cascaded configurations. The last element of this list represents the destination for which the snapshot returned in source-snapshot has been preserved on the source system. |
| **source-path** | | string | The source path for this destination. |
| **source-snapshot** | | string | The source snapshot that has been preserved on the source system for the destination. |

# Element definition: **snapvault-primary-snapshot-schedule-info**

[top]

Structure of each snapshot schedule.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **is-auto-update** | | boolean optional | Schedules that have is-auto-update set to 'true' will initiate update transfers for all relationships in that volume before creating a new snapshot. Default value is 'false'. This setting is honoured only for the secondary schedules. It is ignored for the SnapVault primary schedules. |
| **options** | | snapvault-schedule-options optional | Describes snapvault schedule options. |
| **preserve-snapshots** | | string optional | Allowed values are on/off/default. It prevents SnapVault from auto-deleting older snapshots from this SnapVault snapshot schedule to create new snapshots when set to on. When unspecified, value is set to default. When set to default, the behaviour of preserving snapshots is guided by the global snapvault.preservesnap option. This setting is honoured only for the secondary schedules. It is ignored for the SnapVault primary schedules. |
| **retention-count** | | integer | Denotes the maximum number of most recent snapshots that will be retained by this schedule. Range:[0..254] |
| **schedule** | | snapvault-schedule-info optional | Describes the actual schedule. |
| **schedule-name** | | string | Uniquely identifies this schedule within a primary volume. The schedule-name will be used as a prefix in the name of each snapshot created by this schedule. |
| **volume-name** | | string | The primary volume for which this schedule has been configured. |
| **warn-at-count** | | integer optional | On SnapVault secondary, when preserve-snapshots is set, SnapVault sends a warning message when the number of remaining snapshots for this backup schedule is less than this input. Setting this to zero turns off the same warning. Default value is 0. This setting is honoured only for the secondary schedules. It is ignored for the SnapVault primary schedules. Range:[0..retention-count - 1] |

# Element definition: **snapvault-secondary-snapshot-schedule-info**

[top]

Snapshot schedules for each volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-auto-update** | | boolean | Schedules that have is-auto-update set to 'true' will initiate update transfers for all relationships in that volume before creating a new snapshot. |
| **options** | | snapvault-schedule-options optional | Describes schedule options. |
| **preserve-snapshots** | | string optional | Allowed values are on/off/default. It prevents SnapVault from auto-deleting older snapshots from this SnapVault snapshot schedule to create new snapshots when set to on. When unspecified, value is set to default. When set to default, the behaviour of preserving snapshots is guided by the global snapvault.preservesnap option. This setting is honoured only for the secondary schedules. It is ignored for the SnapVault primary schedules. |
| **retention-** | | integer | Denotes the maximum number of most recent snapshots that will be |

| | | | |
|---|---|---|---|
| **count** | | | retained by this schedule. Range:[0..254] |
| **schedule** | | snapvault-schedule-info optional | Describes the actual schedule. |
| **schedule-name** | | string | Uniquely identifies the schedule within a secondary volume. The schedule-name is used as a prefix in the name of each snapshot created by this schedule. |
| **volume-name** | | string | The secondary volume for which these schedules have been configured. |
| **warn-at-count** | | integer optional | On SnapVault secondary, when preserve-snapshots is set, SnapVault sends a warning message when the number of remaining snapshots for this backup schedule is less than this input. Setting this to zero turns off the same warning. Default value is 0. Range:[0..retention-count - 1] |

# Element definition: **snapvault-snapcreate-options**

[top]

Snap create options.

| Name | Range | Type | Description |
|---|---|---|---|
| **tries-count** | | integer | This option is similar to one in snapvault-schedule-options. Range:[-1..120] |

# Element definition: **snapvault-snapshot-schedule-status-info**

[top]

Structure of the snapshot schedule status entry.

| Name | Range | Type | Description |
|---|---|---|---|
| **schedule-name** | | string | Uniquely identifies schedule within a volume. |
| **status** | | string | Status of this schedule. Possible values are: "Idle", "Active", "Aborting", "Queued", "Saving". |
| **volume-name** | | string | Volume for which this schedule is configured. |

# Element definition: **snapvault-softlock-info**

[top]

Structure of the snapvault softlock.

| Name | Range | Type | Description |
|---|---|---|---|
| **softlock-name** | | string | Name of the softlock. This field will be empty if softlock-name is not specified while adding softlock. |
| **type** | | string | Type of snapvault softlock. This indicates whether the softlock added using zapi or command line interface. Possible types are "cli", "api" |

# Element definition: **snapvault-status-info**

[top]

Format of each status entry.

| Name | Range | Type | Description |
|---|---|---|---|
| **base-snapshot** | | string optional | Snapshot the relationship is currently based upon. |
| **compressed-bytes** | | integer optional | Number of compressed bytes transferred if QSM compression is being used. This field is absent if the transfer is not compressed. Range:[0..2^64-1] |
| **contents** | | string optional | State of the active file system of the snapvault path on this system. Possible values are: "replica", "transitioning" and "original". This field is present only on the destination. |
| **current-transfer-error** | | string optional | A human readable error string for the current transfer. |
| **current-transfer-type** | | string optional | Type of the current transfer. Possible values are: "initialize", "update", "retry", "resync". Only available for active transfers. |
| **destination-path** | | string | Destination path. |
| **destination-system** | | string | Destination hostname. |
| **inodes-replicated** | **[0..2^64-1]** | integer optional | Shows the number of inodes replicated. Present during directory processing phase. |
| **lag-time** | | integer optional | Amount of time in seconds since the beginning of the most recently successful transfer from source. This field is present only when there has been a successful baseline transfer. Range: [1..2^32-1] |
| **last-transfer-duration** | | integer optional | Duration of last transfer in seconds. Range:[0..2^32-1] |
| **last-transfer-from-path** | | string optional | Source path used for the last transfer. |
| **last-transfer-from-system** | | string optional | Source system used for the last transfer. |
| **last-transfer-size** | | integer optional | Size in kilobytes (1024 bytes) of the last transfer. Range: [0..2^32-1] |
| **last-transfer-type** | | string optional | Last transfer type. Possible values are: "initialize", "update", "retry", "resync". |
| **mirror-timestamp** | | integer optional | Creation time of the snapshot used for the most recent successful transfer. Specified in seconds since Jan 1, 1970. This field is present only when there has been a successful baseline transfer. Range:[1..2^32-1] |
| **replication-ops** | **[0..2^64-1]** | integer optional | Counter that is incremented for every replication operation. Present during directory processing phase. |
| **source-path** | | string | Source path. |
| **source-system** | | string | Source hostname. |
| **state** | | string | State of this relationship. Possible values are: "uninitialized","snapvaulted","broken-off","unknown", "source","restoring","quiesced". |
| **status** | | string | Transfer status for this relationship. Possible values are: "idle", "transferring", "pending", "aborting", "quiescing", "resyncing", "restoring". |
| | | | Number of kilobytes (1024 bytes) transferred so far. This field is |

| | | | |
|---|---|---|---|
| **transfer-progress** | | integer optional | valid only for active transfers. If there is no active transfer in progress, this field is absent. Range:[0..2^32-1] |
| **uncompressed-bytes** | | integer optional | Number of uncompressed bytes transferred if QSM compression is being used. This field is absent if the transfer is not compressed. Range:[0..2^64-1] |

# Element definition: **snapvault-chained-destination-info**

[top]

Structure of each entry of destinations-chain.

| Name | Range | Type | Description |
|---|---|---|---|
| **destination-path** | | string | Destination path. |
| **destination-system** | | string optional | Hostname of the destination system. |

# Element definition: **snapvault-schedule-info**

[top]

Representation of the scheduling information.

| Name | Range | Type | Description |
|---|---|---|---|
| **days-of-week** | | string optional | Days of the week for which this schedule has been set. This is a comma separated list of days, where a day is specified by the first three letters of the day. Day ranges are also allowed. Here are the possible formats:<br>• - := matches no day of the week<br>• mon := matches Monday<br>• tue,thu := matches Tuesday and Thursday<br>• mon-fri := matches mon,tue,wed,thu,fri<br>Default value is mon-sun, i.e. every day. |
| **hours-of-day** | | string optional | Hours of the day for which this schedule has been set. This is a comma separated list of the hours during the day where hours are specified as integers from 0 to 23. Hour ranges are also allowed. Step values are allowed in conjunction with ranges. Here are the possible formats:<br>• 4 := matches 4 am.<br>• 0,13 := matches midnight and 1pm.<br>• 0-23 := matches all hours<br>• 0-8/2 := matches 'every 2 hours' starting from midnight until 8am.<br>Default value is 0, i.e. midnight. |

# Element definition: **snapvault-schedule-options**

[top]

Describes snapvault schedule options.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **retention-period** | | string optional | This option is used to specify a retention period for snapshots, which are created by this schedule, for SnapLock volumes. The retention period is specified as a count followed by a suffix. the valid suffixes are d - for days m - for months y - for years For example a value of 6m represents a retention period of 6 months. THe maximum valid retention period is 30 years, or the maximum retention period set for the volume, whichever is shorter. The minimum valid retention period is 0 days, ir the minimum retention period set for the volume, whichever is longer. If the option value is default or the retention-period option is not specified, the snapshots will be created with retention period equal to the default retention period of the secondary SnapLock volume, or 30 years, whichever is shorter. |
| **tries-count** | | integer optional | Number of times SnapVault should try creating each scheduled snapshot before giving up. If the snapshot creation fails due to transient errors such as the volume being out of space, SnapVault will keep trying to create the snapshot every minute untill the request is fulfilled. The allowed range is from 0 to 120. The default value is unlimited. If tries-count is not use, then the value will remain unchanged and the already configured value will be used. The default value for this option is -1. Range:[-1..120] |

# APIs in Category: **snmp**


snmp-community-add
snmp-community-delete
snmp-community-delete-all
snmp-disable
snmp-enable
snmp-enable-snmpv3
snmp-get
snmp-get-next
snmp-status
snmp-test-trap-trigger
snmp-trap-disable
snmp-trap-enable
snmp-traphost-add
snmp-traphost-delete


A note on snmp-community-* ZAPI:

The snmp-community-* ZAPI must be executed on the Cluster LIF. Vserver tunneling must be used to add/delete an SNMP community for a Vserver. If Vserver tunneling is not used while executing these ZAPI, then it will default to Cserver.

## snmp-community-add

[top]

Adds a community to the list of communities.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-control** | | string | Access control for the community. The only supported value is "ro" (read-only). |
| **community** | | string | Community name to be added. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **E_COMMUNITY_CREATE_FAILED** | |

## snmp-community-delete

[top]

Deletes a community from the list of communities.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-control** | | string | Access control for the community.The only supported value is "ro" (read-only). |
| **community** | | string | Community name to be deleted. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |

# snmp-community-delete-all

[top]

Deletes all the communities.

| Errno | Description |
|---|---|
| EONTAPI_EINVAL | |

# snmp-disable

[top]

Disables snmp protocol.

# snmp-enable

[top]

Enables snmp protocol.

# snmp-enable-snmpv3

[top]

Enable SNMPv3 cluster-wide

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| E_FIPS_USERS_AND_TRAPHOSTS_DELETE_FAILED | |
| E_ENABLE_SNMPV3_DISABLED | |

# snmp-get

[top]

Retrieves the value of a snmp object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| object-id | | string | Fully qualified object identifier of a snmp object. Only numeric OID's (ex: .1.3.6.1.4.1.789.1.1.1.0) are allowed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | If true, the string returned in 'value' is the hexadecimal representation |

| | | | |
|---|---|---|---|
| **is-value-hexadecimal** | | boolean optional | of the octet string returned by a snmp call to the object-id. This output is not present if 'value' is a normal string. |
| **value** | | string | Value of the snmp object specified through the input argument "object-id". |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |

# snmp-get-next

[top]

This is used to retrieve the next OID in the mib tree of data. Instead of returning the data you requested, it returns the next OID in the tree and its value. Unlike the snmp-get api, this api does return data for a OID which is too short or is missing the index part of the OID.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **object-id** | | string | Object Identifier of a snmp object. The OID can be a fully qualified OID or a partial OID. Only numeric OID's (ex: .1.3.6.1.4.1.789.1.1.1.0) are allowed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-value-hexadecimal** | | boolean optional | If true, the string returned in 'value' is the hexadecimal representation of the octet string returned by a snmp call to the object-id. This output is not present if 'value' is a normal string. |
| **next-object-id** | | string | Object Identifier of the next snmp object in the mib. |
| **value** | | string | Value of the snmp object reported through the output argument "next-object-id". |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |

# snmp-status

[top]

Returns configuration information of the SNMP agent daemon.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **communities** | | community-info[] optional | Returns a list of communities and their access control settings. |
| **contact** | | string | Contact name. |
| **is-trap-enabled** | | boolean | Retuns "true" if traps are enabled. "false" otherwise. |
| **location** | | string | Location name. |
| **traphosts** | | traphost-info[] optional | Returns a list of registered trap hosts followed by their IP addresses. Only resolvable trap hosts are returned. If a host name cannot be found in /etc/hosts for a previously registered IP address, its name defaults to a string representation of its IP address. |

# snmp-test-trap-trigger

[top]

Trigger SNMP test trap

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snmp-trap-disable

[top]

Disables snmp traps.

# snmp-trap-enable

[top]

Enables snmp traps.

# snmp-traphost-add

[top]

Adds a host to the list of trap hosts.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **host** | | string | Specify the host to be added. Host may be specified in Domain Name format such as MyHost.MyNetwork.com, or as an IP address such as 10.20.30.40. If a Domain Name is used, the host must resolve to an IP address. |
| **username** | | string optional | Specify the USM user name to indicate SNMPv3 traphost. USM user must have already been defined before adding a SNMPv3 traphost. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **E_TRAPHOST_CREATE_FAILED** | |

# snmp-traphost-delete

[top]

Deletes a host from the list of trap hosts.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **host** | | string | Specify the host to be added. Host may be specified in Domain Name format such as MyHost.MyNetwork.com, or as an IP address such as 10.20.30.40. If a Domain Name is used, the host must resolve to an IP address. |
| **username** | | string optional | Specify the USM user name to indicate SNMPv3 traphost. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |

# Element definition: **community-info**

[top]

Information about a single community.

| Name | Range | Type | Description |
|---|---|---|---|
| **access-control** | | string | Access control of the community.The only supported value is "ro" (read-only). |
| **community** | | string | Community name. |

# Element definition: **traphost-info**

[top]

Information about a single registered trap host.

| Name | Range | Type | Description |
|---|---|---|---|
| **host-name** | | string | Name of the trap host given by the user. Can be one of the following: hostname, ip-address, or alias Hostname will be a fully qualified Domain Name. |
| **ip-address** | | string | IP address of the trap host. |

# APIs in Category: **storage-acp-firmware**

| | |
|---|---|
| storage-acp-firmware-file-get-iter | This is an auto generated category. |

## storage-acp-firmware-file-get-iter

[top]

return the firmware file list

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-acp-firmware-file optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-acp-firmware-file optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-acp-firmware object. All storage-acp-firmware objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-acp-firmware-file[] optional | The list of attributes of storage-acp-firmware objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-acp-firmware objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **storage-acp-firmware-file**

[top]

Show firmware files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **filename** | | string optional | Storage Firmware File Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# APIs in Category: **storage-adapter**


storage-adapter-enable-adapter
storage-adapter-get-adapter-info
storage-adapter-get-adapter-list


## storage-adapter-enable-adapter

[top]

Enables specified host adapter. I/O traffic can be issued on the adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | The adapter name is either a slot number, or, if a port letter is also present, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b". If adapter-name is not supplied, the command will return EAPIMISSINGARGUMENT. |
| **node-name** | | string | This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EOPNOTSUPPORTED** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

## storage-adapter-get-adapter-info

[top]

Display the information about a specified host adapter. The information is displayed base on the controller interface type. ATA, Parallel SCSI, SAS, FC.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b". |
| **node-name** | | string optional | This field is only valid when the request is sent to the Admin Vserver LIF. If node-name is not specified when the request is sent to Admin VserverLIF, then all matching adapters in the cluster will be returned. This is the storage system name the command will be executed on. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **adapter-details** | | adapter-detail-info[] | List of detail info for given adapter. |

# storage-adapter-get-adapter-list

[top]

Get the list of adapters present on this system.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string optional | This field is only valid when the request is sent to the Admin Vserver LIF. If node-name is not specified when the request is sent to Admin VserverLIF, then all matching adapters in the cluster will be returned. This is the storage system name the command will be executed on. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **adapter-list** | | adapter-name-elem[] | The adapter-list is a list of the names of adapters on this system. These adapter names can be used by other commands, including storage-adapter-enable-adapter and storage-adapter-disable-adapter. |

# Element definition: **adapter-detail-info**

[top]

Detailed information for specific adapter. Display different info base on the type of adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-fc** | | adapter-fc-info optional | Information for fc (Fibre Channel) adapter. |
| **adapter-name** | | string | Adapter port name, which is adapter slot number and, if presented, the port letter designator together. Examples are 8a, 11b. Note that a physical adapter may contain multiple ports. |
| **adapter-parallel-scsi** | | adapter-parallel-scsi-info optional | Information for parallel SCSI adapter. |
| **adapter-sas** | | adapter-sas-info optional | Information for sas (serial attached SCSI) adapter. |
| **adapter-type** | | string | Type of adapter present in the system. Possible values: "ADT_IF_ATA", "ADT_IF_PARALLEL_SCSI", "ADT_IF_SAS", "ADT_IF_FC". |
| **node-name** | | string optional | This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name. |

# Element definition: **adapter-name-elem**

[top]

A list of adapter-names that can be used in other storage-adapter interface calls.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | The adapter name is the slot number and, if present, the port letter designate. Examples are 8a, 11b |

| | | | |
|---|---|---|---|
| **node-name** | | string optional | This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name. |

# Element definition: **adapter-fc-info**

[top]

Detailed information for fc adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-bar** | | adapter-bar-info[] optional | List of base address information |
| **adapter-model** | | string | Model of the adapter. |
| **adapter-sff-info** | | adapter-sff-info optional | If the port has a small form factor transceiver/connector (also known as sff), then this is the vendor information on the sff. |
| **adapter-sfp-info** | | adapter-sfp-info optional | If the port has a small form factor pluggable transceiver/connector (also known as sfp), then this is the vendor information on the sfp. |
| **cache-line-sz** | **[0..2^8-1]** | integer optional | Storage port adapter's data cache size, |
| **fc-link-rate** | **[0..2^16-1]** | integer | Link rate of Fibre Channel port. |
| **fc-node-name** | | string | Fibre Channel node name. |
| **fc-packet-size** | **[0..2^32-1]** | integer | Size of Fibre Channel packets. |
| **fc-port-name** | | string optional | Fibre Channel World Wide Port Name (WWPN) of adapter. |
| **firmware-rev** | | string | Firmware revision of adapter. |
| **hardware-rev** | | string | Hardware revision of adapter. |
| **host-loop-id** | **[0..125]** | integer optional | Storage port adapter's Fibre Channel loop id, |
| **host-port-id** | **[0..125]** | integer optional | Storage port adapter's port id, |
| **is-enabled** | | boolean | Is the adapter enabled? true or false. |
| **is-ext-gbic** | | boolean | Is the Fibre Channel gbic external? true or false. |
| **is-in-use** | | boolean | Is the adapter inuse? true or false |
| **is-pci-64-capable** | | boolean optional | Is the adapter pci-64-capable? true or false. |
| **is-redundant** | | boolean | Is the adapter used in dual-attached config? true or false |
| **is-sram-parity** | | boolean optional | Is the adapter sram parity configured and enabled? true or false. |
| **preload-table-rev** | | string optional | Preload table revision of adapter. |

# Element definition: **adapter-parallel-scsi-info**

[top]

Detailed information for parallel SCSI adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-model** | | string | Model of the adapter. |
| **bus-width** | | string | Possible values: "narrow", or "wide". |
| **firmware-rev** | | string | Firmware revision of adapter. |
| **hardware-rev** | | string | Hardware revision of adapter. |
| **is-enabled** | | boolean | Is the adapter enabled? |

# Element definition: **adapter-sas-info**

[top]

Detailed information for sas (Serial Attached SCSI) adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-board-revision** | | string optional | Adapter board revision as assigned by the manufacturer. Will be missing if data not available or not supported. |
| **adapter-date-code** | | string optional | Adapter data code assigned by the manufacturer. Will be missing if data not available or not supported. |
| **adapter-family** | | string optional | Adapter family as assigned by the vendor. Example: 2432. Will be missing if data not available or not supported. |
| **adapter-manufacturer** | | string optional | Manufacturing facility where adapter was built. Will be missing if data not available or not supported. |
| **adapter-manufacturer-part-number** | | string optional | Adapter part number assigned by the manufacturer. Will be missing if data not available or not supported. |
| **adapter-model** | | string | Model of the adapter. This is the same as adapter-vendor followed with adapter-family. Example: "Qlogic 2432" |
| **adapter-part-number** | | string optional | Adapter part number assigned by the vendor. Will be missing if data not available or not supported. |
| **adapter-serial-number** | | string optional | Adapter serial number. If the serial number is missing, a) It could be an internal connection , i.e. platforms with an embedded shelf b) The cable serial number can't be read or has a mal-formed serial number, part number. If the serial number is missing, but disks are present, a connection is present. |
| **adapter-slot** | **[0..20]** | integer | Slot number for the adapter port. |
| **adapter-state** | | string | Current state of the adapter. Possible values: "up", "down", "offline_soft", "offline_hard", "offline_loopback". |
| **adapter-vendor** | | string optional | Represents the adapter vendor. Example: Qlogic. Will be missing if data not available or not supported. |
| **base-wwn** | | string | Physical base node world-wide name |
| **firmware-rev** | | string | Firmware revision of adapter |
| **hardware-rev** | | string | This is the hardware chip revision of adapter. |
| **is-enabled** | | boolean | Is the adapter enabled? |
| **is-in-use** | | boolean | Is adapter in use? true or false. |
| **is-redundant** | | boolean | Is adapter dual-attached? true or false. |

| | | | |
|---|---|---|---|
| **sas-adapter-disabled-phy-count** | **[0..4]** | integer optional | Number of disabled PHYs on the host adapter. |
| **sas-adapter-enabled-phy-count** | **[0..4]** | integer optional | Number of enabled PHYs on the host adapter. |
| **sas-adapter-expander-phy-states** | | sas-adapter-expander-phy-state-info[] optional | List of expander PHYs, a SAS adapter transceivers, state info. It will be missing if data is not available or if no expander is connected to the adapter. |
| **sas-phy** | | phy-state-info[] optional | List of adapter PHY state info. |
| **sas-qsfp-cable** | | sas-qsfp-cable-info optional | QSFP information of the cable. QSFP is acronym for Quad Small Form-factor Pluggable.. Will be missing if data not available or not or cable not present supported. |

# Element definition: **adapter-bar-info**

[top]

display base address information

| Name | Range | Type | Description |
|---|---|---|---|
| **bar-base** | | integer | Base address occupied by the storage port adapter. Range : [0..2^32-1] |
| **bar-size** | | integer | Address range occupied by the storage port adapter. Range : [0..2^32-1] |
| **bar-type** | | string | Type of base address information. Possible values are: "I/O", and "memory mapped I/O". |

# Element definition: **adapter-sff-info**

[top]

Information on small form factor transceiver/connector (also known as sff).

| Name | Range | Type | Description |
|---|---|---|---|
| **part-number** | | string | Vendor's part number for the sff. If data not available, value will be "not_available". |
| **serial-number** | | string | Serial number for sff. If data not available, value will be "not_available". |
| **speed-capabilities** | | string | Comma separated list of speed capabilities of the sff. Example: "1, 2 Gbit/Sec". If data not available, value will be "not_available". |
| **vendor** | | string | sff vendor name. If data not available, value will be "not_available". |

# Element definition: **adapter-sfp-info**

[top]

Information on small form factor pluggable transceiver/connector (also known as sfp).

| Name | Range | Type | Description |
|---|---|---|---|
| **part-number** | | string | Vendor's part number for the sfp. If data not available, value will be "not_available". |
| **serial-number** | | string | Serial number for sfp. If data not available, value will be "not_available". |
| **speed-capabilities** | | string optional | Comma separated list of speed capabilities of the sfp. Example: "1, 2 Gbit/Sec". If data not available, value will be "not_available". |
| **vendor** | | string | sfp vendor name If data not available, value will be "not_available". |

# Element definition: **phy-state-info**

[top]

Adapter PHY state information.

| Name | Range | Type | Description |
|---|---|---|---|
| **phy** | **[0..3]** | integer | A PHY is a transceiver; it is the object in a device that electrically interfaces to a physical link. |
| **phy-state** | | string | Adapter PHY state info. Possible values: "sas_phy_state_enabled_rate_unknown", "sas_phy_state_disabled", "sas_phy_state_speed_neg_failed", "sas_phy_state_SATA_OOB_failed", "sas_phy_state_enabled_15gbs", "sas_phy_state_enabled_30gbs", "sas_phy_state_enabled_60gbs", "sas_phy_state_enabled_120gbs", "unknown". |
| **phy-wwn** | | string optional | Adapter PHY's world-wide name. |

# Element definition: **sas-adapter-expander-phy-state-info**

[top]

Adapter PHY and list of connected expander PHYs.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-phy** | **[0..3]** | integer | Adapter PHY connected to a list of expander PHYs. |
| **expander-phy-states** | | expander-phy-state-info[] | List of all expanders connected to an adapter's PHY. |

# Element definition: **sas-qsfp-cable-info**

[top]

QSPF Cable information.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | Serial number of the attached cable as assigned by the cable |

| | | | |
|---|---|---|---|
| **attached-serial-number** | | string optional | manufacturer. This field will not be present if the information is not available, or if a cable is not connected at this connector. Note that depending on the cable, the serial number at the two ends of the cable may or may not match. An example of this is SAS optical cables that do not have integrated QSFP's, which will show different attached serial numbers at the ends of cable. Cables with integrated QSFP's will have matching serial numbers at both ends. |
| **cable-end-identifier** | | string optional | Each cable has two ends. This field shows which end of the cable is connected to the shelf. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector. Possible values: "end_0", "end_1". |
| **cable-length** | | string optional | Length of the cable. Will be missing if data not available or not present. |
| **cable-manufacturer** | | string optional | Manufacturer of the cable. Will be missing if data not available or not present. |
| **cable-part-number** | | string optional | Cable part number as assigned by the manufacturer. Will be missing if data not available or not present. |
| **cable-serial-number** | | string optional | This is actually not serial number, but rather cable identifier. For backwards compatibility this is reported as cable-serial-number. For the actual serial number see attached-serial-number. The connectors at both ends of the same cable will report the same value for this field. This field can be used to generate topology. This field will not be present if a cable is not connected to the connector or if the cable is not connected to a functioning device. |
| **cable-technology** | | string optional | Cable technology. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector. Possible values: "active_copper", "passive_copper", "copper", "optical". |

# Element definition: **expander-phy-state-info**

[top]

Expander PHY state information.

| Name | Range | Type | Description |
|---|---|---|---|
| **expander-phy** | **[0..70]** | integer | A PHY is a transceiver; it is the object in a device that electrically interfaces to a physical link. |
| **expander-phy-attached-device-type** | | string | Device type attached to an adapter PHY. Possible values:<br>• "initiator" - A device type that can initiate a SAS communication,<br>• "expander" - A device type that facilitates communication between multiple SAS devices,<br>• "sas_end_device" - A SAS device that is not contained within an expander device,<br>• "sata_end_device" - A SATA end device,<br>• "unknown" - An unknown device type. |
| | | | Expander PHY state info. Possible values:<br>• "sas_phy_state_enabled_rate_unknown" - PHY is enabled but data transfer rate is unknown,<br>• "sas_phy_state_disabled" - PHY is disabled,<br>• "sas_phy_state_speed_neg_failed" - Data tranfer rate negotiation failed,<br>• "sas_phy_state_sata_oob_failed" - SATA OOB(Out Of |

| | | | |
|---|---|---|---|
| **expander-phy-state** | | string | Band) signaling failed,<br>• "sas_phy_state_enabled_15gbs" - 1.5 Gb/s data transfer rate,<br>• "sas_phy_state_enabled_30gbs" - 3.0 Gb/s data transfer rate,<br>• "sas_phy_state_enabled_60gbs" - 6.0 Gb/s data transfer rate,<br>• "sas_phy_state_enabled_120gbs" - 12.0 Gb/s data transfer rate,<br>• "unknown" - Unknown PHY state. |
| **expander-phy-wwn** | | string | Expander PHY's world-wide name. |

# APIs in Category: **storage-array**


storage-array-get-config-summary
storage-array-list-info
storage-array-modify
storage-array-port-modify
storage-array-ports-list-info
storage-array-rename


Storage arrays are external units that supply storage to NetApp systems. These APIs allow us to define, manipulate and map the storage arrays to the services they provide.

## storage-array-get-config-summary

[top]

Generates a high level summary of array LUN pathing (connectivity) information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | Obtain array LUN pathing information for a specified node. |
| **ownership-type** | | string optional | Option that allows the user to select which array LUNs are displayed. Valid values for ownership-type are 'assigned', 'unassigned' and 'all'. If ownership-type is set to 'assigned' only assigned array LUNs are displayed. If ownership-type is set to 'unassigned' only unassigned array LUNs are displayed. If ownership-type is set to 'all', all array LUNs are displayed. Default: 'all'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **config-summary** | | storage-array-config-summary[] optional | A summary of array LUN connectivity for each attached array. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## storage-array-list-info

[top]

Retrieves a list of all array profiles known to the controller.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string optional | When specified, only the named array profile record will be returned. (28 chars) |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **array-profiles** | | storage-array-profile[] | A list of arrays (and their details) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EARRAYNOTFOUND** | |

# storage-array-modify

[top]

Update an array profile with new or changed information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **all-path-fail-delay** | | integer optional | The time delay (in secs) to hold IO during All Path Failure Event. |
| **array-name** | | string | The name of the array profile to update. (28 chars max) |
| **is-upgrade-pending** | | boolean optional | Used to indicate that the specified array will under go an upgrade in the near future. |
| **lun-queue-depth** | | integer optional | The queue depth assigned to array LUNs from this array. |
| **max-queue-depth** | | integer optional | The target port queue depth for all target ports on this array. |
| **model** | | string optional | The model of the array. (16 chars max) |
| **options** | | string optional | Array profile specific options. (comma separated list of name/value pairs) (127 chars max) |
| **path-failover-time** | | integer optional | The time delay (in secs) before switching the I/O path when the path is deleted. |
| **prefix** | | string optional | A short label used to refer to this array. (7 chars max) |
| **vendor** | | string optional | The name of the array's manufacturer. (8 chars max) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# storage-array-port-modify

[top]

Update an array port with new or changed information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string | The name of the array profile to update. (28 chars max) |
| **max-queue-depth** | | integer optional | The target port queue depth for this target port. |

| | | | |
|---|---|---|---|
| **target-iqn** | | string<br>optional | Target IQN. |
| **tpgt** | | string<br>optional | TPGT |
| **utilization-policy** | | utilizationpolicytypes<br>optional | The policy used while sending I/O to an array target port when it reaches queue depth. |
| **wwnn** | | string<br>optional | World wide node name of array's target port (64 chars). |
| **wwpn** | | string<br>optional | World wide port name of array's target port (64 chars). |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# storage-array-ports-list-info

[top]

generate a list of online array ports and their associated arrays

| Input Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string<br>optional | When supplied, only port records for the named array are returned. (28 chars) |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **array-ports** | | storage-array-port[]<br>optional | A list of all array ports, or just the ports for the named array |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EARRAYNOTFOUND** | |

# storage-array-rename

[top]

Rename an array profile

| Input Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string | The name of the array profile to update. (28 chars max) |
| **new-name** | | string | The new name to assign to this array profile. (28 chars max) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |

| EVSERVER_OPERATION_NOT_PERMITTED | |
|---|---|

# Element definition: **storage-array-config-summary**

[top]

A summary of array LUN connectivity for each attached array.

| Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string | The name assigned to the array this group of array LUNs is exported from. 28 character string, no spaces. |
| **chassis-serial-number** | | string | The serial number assigned to the array. |
| **device-type** | | string optional | Type of LUN device. Describes the type of lun device or tape library. Possible Values are:<br>• "array_lun" - Array LUN type<br>• "tape_mc" - Tape Drive or Media Changer/library type<br>• "unknown" - Unknown device type |
| **group-number** | | integer | A unique number associated with a set of array LUNs that share the exact same pathing/connectivity information. Range: [0..65535] |
| **initiator-port** | | string | Initiator port name, e.g. 0a. |
| **lun-count** | | integer | The number of array LUNs assigned to this group. Range: [0..65535] |
| **switch-port** | | string | Name of switch port connected to the HBA (controller's initiator port), or UNKNOWN if direct attached. |
| **target-iqn** | | string | World wide port name of array's target port (224 chars). |
| **target-side-switch-port** | | string | Name of switch port connected to target array, or UNKNOWN if direct attached. |
| **target-wwpn** | | string | World wide port name of array's target port (64 chars). |

# Element definition: **storage-array-port**

[top]

Maps array definition to target port

| Name | Range | Type | Description |
|---|---|---|---|
| **array-id** | | integer | Primary key (system defined) for the array record. Range: [0..2^64-1] |
| **array-name** | | string | Name of the array in the array record. (28 char max) |
| **connection-type** | | string optional | Describes the type of connection between the controller and the back end storage.<br>Possible values are:<br>• "direct" - Direct Attached<br>• "fabric" - Fabric Attached |
| **max-queue-depth** | | integer optional | The target port queue depth for this target port. Range: [0..2048] |

| | | | |
|---|---|---|---|
| **port-stat-info** | | storage-array-port-stats[] optional | Contains statistics about each array port. |
| **switch-port** | | string optional | For fabric attached connections, the switch port the array target port is connected to. N/A for direct attached. |
| **target-iqn** | | string | The IQN of the iSCSI target. |
| **target-port-speed** | | string optional | The speed that the target port has negotiated with its connected switch port, or initiator port if direct attached. |
| **tpgt** | | integer | The target portal group of the array. Range: [0..2^16-1] |
| **utilization-policy** | | string optional | Describes the behavior of Data ONTAP when an array target port reaches its queue depth and is being forced to wait before sending additional I/O.<br><br>Possible values are:<br><br>• "normal" - This policy aggressively competes for target port resources, in effect competing with other hosts. (default)<br>• "defer" - This policy does not aggressively compete for target port resources, in effect deferring to other hosts. |
| **wwnn** | | string | World wide node name of array's target port (64 chars). |
| **wwpn** | | string | World wide port name of array's target port (64 chars). |

# Element definition: **storage-array-profile**

[top]

data describing characteristics/parameters of/about a storage array

| Name | Range | Type | Description |
|---|---|---|---|
| **affinity** | | string | Describes the affinity model supported by the array.<br><br>Possible values are:<br><br>• "none" - None<br>• "aaa" - Active/Active Asymmettric<br>• "ap" - Active/Passive<br>• "mixed" - This array is presenting different affinity models to different controllers within the cluster. |
| **all-path-fail-delay** | | integer | Extend All Path Failure Event (secs). Range: [0\|30..90] |
| **array-id** | | integer | primary key (system defined) for the array record. Range: [0..2^64-1] |
| **errors** | | storage-array-error-info[] optional | A list of all errors for the requested array. |
| **firmware** | | string | The firmware revision of the array. (64 chars max) |
| **is-upgrade-pending** | | boolean | The is-upgrade-pending status for the array. |
| **lun-queue-depth** | | integer | The default queue depths assigned to array LUNs from this array. Range: [3..32] |
| **max-queue-depth** | | integer | The target port queue depth for all target ports on this array. Range: [8..2048] |

| | | | |
|---|---|---|---|
| **model** | | string | The model name of the array. (16 chars max) |
| **name** | | string | A unique node-level user supplied name for the array. (28 char max) |
| **network-address** | | string | IP address/node name of the array's SNMP management port. (1024 char max) |
| **optimization-policy** | | string | Describes the I/O optimization policy used by this array.<br><br>Possible values are:<br><br>• "ialua" - The array supports iALUA.<br>• "ealua" - The array supports eALUA.<br>• "symmetric" - All ports on the array will be treated equally.<br>• "proprietary" - A vendor specific optimization is supported for this array.<br>• "mixed" - This array supports multiple optimization policies, one per node.<br>• "unknown" - No known optimization method is supported for this array (will be treated as if Symmetric) |
| **options** | | string | A comma separated list of name value pairs of array specific settings. (128 chars max) |
| **path-failover-time** | | integer | Path Failover Timeout (sec). Range: [0..32] |
| **port-failover-type** | | string | The pathing failover supported by the array, either ACTIVE-ACTIVE or ACTIVE-PASSIVE. |
| **prefix** | | string | A unique character code used to refer to this array. (7 chars max) |
| **serial-number** | | string | The serial number of the array. (17 char max) |
| **vendor** | | string | The name of the array's vendor, e.g. NetApp. (8 chars max) |

# Element definition: **utilizationpolicytypes**

[top]

normal|defer Possible values:

- "normal" - This policy aggressively competes for target port resources, in effect competing with other hosts. (default),
- "defer" - This policy does not aggressively compete for target port resources, in effect deferring to other hosts.

[none]

# Element definition: **storage-array-error-info**

[top]

Contains error messages associated with array.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-id** | | integer | A unique ID for each error returned. ID is unique on a per API call basis only. Range: [0..2^32-1] |
| **error-** | | | |

| | | | |
|---|---|---|---|
| **text** | | string | A description of the error being reported. |
| **error-type** | | string | Enum describing type of error. ARRAY_INCONSISTENT_LUN_ADDRESSING_METHOD - 1. Array is using inconsistent LUN addressing schemes. ARRAY_DEVTYPE_ERROR - 2. Array has encountered a device class error. ARRAY_PATH_HIGH_ERROR - 3. Array has exceeded an error rate threshold on a given path. ARRAY_NON_OPTIMIZED_TP - 4. Array is experiencing service times greater than the threshold on the given target port. ARRAY_EXCESSIVE_TP_LATENCY - 5. Array is experiencing latency times greater than the threshold on the given target port. |

# Element definition: **storage-array-port-stats**

[top]

Contains statistics about an array port.

| Name | Range | Type | Description |
|---|---|---|---|
| **average-dynamic-queue-depth** | | integer | The average value of the dynamic target port queue depth. Range: [0..2^32-1] |
| **average-latency-per-iop** | | integer | The average latency for I/O operations performed by this controller on this target port. Range: [0..2^32-1] |
| **average-pending** | | integer | An average over time of how many commands are on the outstanding queue. Range: [0..2^32-1] |
| **average-waiting** | | integer | An average over time of how many commands are on the waiting queue. Range: [0..2^32-1] |
| **dynamic-queue-depth** | | integer | Current dynamic target port queue depth, the maximum number of commands allowed outstanding. Range: [0..2^32-1] |
| **initiator-port** | | string | Initiator port name, e.g. 0a. |
| **max-pending** | | integer | The largest number of commands observed on the outstanding queue. Range: [0..2^32-1] |
| **max-waiting** | | integer | The largest number of commands observed on the waiting queue. Range: [0..2^32-1] |
| **node** | | string | Node name of array's target port. |
| **path-link-errors** | | integer | Number of link errors reported on the path. Range: [0..2^32-1] |
| **percent-busy** | | integer | The percentage of time I/Os are outstanding on the port. Range: [0..100] |
| **percent-waiting** | | integer | The percentage of time there are I/Os waiting on the waiting queue on the target port. Range: [0..100] |
| **target-io-kbps** | | integer | Rolling average of kilobytes per second read and written to this target port. Range: [0..2^64-1] |
| **target-iops** | | integer | Rolling average of I/O operations per second read and written to this target port. Range: [0..2^64-1] |
| **target-lun-in-use-count** | | integer | Number of disks in the IN-USE state on this target port. Range: [0..2^64-1] |

# APIs in Category: **storage-bridge**


storage-bridge-config-dump-collect
storage-bridge-config-dump-delete
storage-bridge-config-dump-get-iter
storage-bridge-coredump-collect
storage-bridge-coredump-delete
storage-bridge-coredump-get-iter
storage-bridge-firmware-firmware-update
storage-bridge-get
storage-bridge-get-iter


These APIs enable the retrieval of values associated with system bridges that have been added for monitoring. These are read-only APIs and hence require pre-addition of the bridges to be used for monitoring before these can be used. A system bridge is identified by its name (set by the administrator and fetched over SNMP) and the information about the same is broadly categorized into following areas:

1. Profile Information: It includes information like bridge's WWN, model, vendor etc. 2. Cooling Information: It includes information about the bridge's temperature sensors. 3. Connectivity Information: It includes information about the paths to the bridge from nodes via switch. 4. Interface Information: It includes information about the bridge's ports, their statistics and Small Form-factor Pluggable (SFP) connectors. 5. Error Information: It includes information about the errors logged in the bridge.

## storage-bridge-config-dump-collect

[top]

Retrieve the dumpconfiguration file from the bridge.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **bridge** | | string | Bridge Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer optional | Job ID |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## storage-bridge-config-dump-delete

[top]

Delete a saved dumpconfiguration file.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **file** | | string | The name of the dumpconfiguration file. The file name has the following format: dsbridge_config.serial_no.timestamp.txt. |
| **node** | | node-name | The node where the dumpconfiguration file is located. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# storage-bridge-config-dump-get-iter

[top]

Get a list of available bridge dumpconfiguration files.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-bridge-config-dump-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | storage-bridge-config-dump-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-bridge object. All storage-bridge objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | storage-bridge-config-dump-info[] optional | The list of attributes of storage-bridge objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more storage-bridge objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# storage-bridge-coredump-collect

[top]

Collect the coredump file from the bridge.

| Input Name | Range | Type | Description |
|---|---|---|---|
| name | | string | Bridge Name |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer optional | Job ID |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# storage-bridge-coredump-delete

[top]

Delete a saved coredump file

| Input Name | Range | Type | Description |
|---|---|---|---|
| **corename** | | string | Coredump Filename |
| **name** | | string | Bridge Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# storage-bridge-coredump-get-iter

[top]

Return a list of coredumps available.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-bridge-coredump-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-bridge-coredump-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-bridge-coredump object. All storage-bridge-coredump objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-bridge-coredump-info[] optional | The list of attributes of storage-bridge-coredump objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-bridge-coredump objects to return. |

| num-records | [0..2^32-1] | integer | The number of records returned in this call. |
|---|---|---|---|

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# storage-bridge-firmware-firmware-update

[top]

Download firmware to the specified bridge. The bridge needs to be rebooted for the firmware to be updated successfully.

| Input Name | Range | Type | Description |
|---|---|---|---|
| bridge | | string | The bridge to be updated. |
| force | | boolean optional | Force a firmware download to the bridge. |
| skip | | boolean optional | Skip checking for port path = 2. |
| uri | | string | The URI location of the firmware file. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# storage-bridge-get

[top]

Get the attributes of the storage-bridge.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-bridge-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| name | | string | Name of the bridge. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | storage-bridge-info | The attributes of the storage-bridge. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# storage-bridge-get-iter

[top]

Iterate over a list of storage-bridge objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-bridge-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-bridge-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-bridge object. All storage-bridge objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-bridge-info[] optional | The list of attributes of storage-bridge objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-bridge objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **storage-bridge-config-dump-info**

[top]

System bridge config-dump file When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **bridge** | | string optional | The Bridge name of the bridge that generated the dumpconfiguration file. Attributes: non-creatable, non-modifiable |
| **file** | | string optional | The name of the dumpconfiguration file. The file name has the following format: dsbridge_config.serial_no.timestamp.txt. Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | The node where the dumpconfiguration file is located. Attributes: key, non-creatable, non-modifiable |
| **serial-number** | | string optional | Serial number of the bridge that generated the dumpconfiguration file. Attributes: non-creatable, non-modifiable |
| **timestamp** | | datetime optional | Time when the dumpconfiguration file was collected. This is expressed in seconds since the Epoch. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-bridge-coredump-info**

[top]

Information about a bridge coredump When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **corename** | | string optional | The name of the coredump file. The coredump filename has the following format: core....mem Attributes: key, non-creatable, non-modifiable |
| **name** | | string optional | The Bridge name of the bridge that generated the coredump. Attributes: non-creatable, non-modifiable |
| **node** | | filer-id optional | The node where the coredump file is located. Attributes: non-creatable, non-modifiable |
| **panic-string** | | string optional | Panic string for the panic that generate the coredump. Attributes: non-creatable, non-modifiable |
| **panic-time** | | datetime optional | Time when the panic occurred. This is expressed in seconds since the Epoch. Attributes: non-creatable, non-modifiable |
| **serial-number** | | string optional | Serial number of the bridge that generated the coredump. Attributes: key, non-creatable, non-modifiable |

# Element definition: **storage-bridge-info**

[top]

Storage Bridge When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | IP Address of the bridge. Attributes: required-for-create, modifiable |
| **chassis-throughput-status** | | storage-bridge-throughput-status optional | Chassis throughput status. Attributes: non-creatable, non-modifiable Possible values:<br>• "normal" ,<br>• "warning" |
| **dram-single-bit-error-count** | **[0..2^32-1]** | integer optional | Number of DRAM single-bit errors since reboot. Attributes: non-creatable, non-modifiable |
| **firmware-version** | | string optional | Firmware version of the bridge. Attributes: non-creatable, non-modifiable |
| **is-being-monitored** | | boolean optional | Is bridge being monitored under Fabric Health Monitor? Attributes: non-creatable, non-modifiable |
| **is-bridge-secure** | | boolean optional | Is bridge secured? Attributes: non-creatable, non-modifiable |
| **last-reboot-reason** | | string optional | Reason for last reboot. Attributes: non-creatable, non-modifiable |
| **last-reboot-time** | | datetime optional | Last time bridge was rebooted. Attributes: non-creatable, non-modifiable |
| **managed-by** | | storage-bridge-mgmt-method optional | Monitoring method used by the bridge. Attributes: required-for-create, modifiable Possible values:<br>• "snmp" ,<br>• "in_band" |
| **model** | | string optional | Model of the bridge. Attributes: non-creatable, non-modifiable |
| **name** | | string optional | Name of the bridge. Attributes: key, required-for-create, non-modifiable |
| **serial-number** | | string optional | Serial Number of the bridge. Attributes: non-creatable, non-modifiable |
| **status** | | storage-device-status optional | Status of the bridge. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Device Status Unknown,<br>• "ok" - Device Status Ok,<br>• "error" - Device Status Erroneous |
| **storage-bridge-connectivity-list** | | storage-bridge-connectivity-info[] optional | Information about the individual storage path to the bridge. |
| **storage-bridge-cooling-info** | | storage-bridge-cooling-info optional | Information about the storage bridge cooling environment. |
| **storage-bridge-error-list** | | storage-bridge-error-info[] optional | Information about the invidual error. |
| **storage-bridge-fc-** | | storage-brige-fc-port-info[] | Information about the individual fibre channel |

| | | | |
|---|---|---|---|
| **port-list** | | optional | port. |
| **storage-bridge-fc-port-sfp-list** | | storage-bridge-fc-port-sfp-info[] optional | Information about the individual sfp. |
| **storage-bridge-fc-port-statistics-list** | | storage-bridge-fc-port-statistics-info[] optional | Statistics information about the individual fibre channel port. |
| **storage-bridge-mini-sas-hd-list** | | storage-bridge-mini-sas-hd-info[] optional | Information about the individual Mini-SAS HD. |
| **storage-bridge-power-supply-list** | | storage-bridge-power-supply-info[] optional | Information about the bridge power supplies. |
| **storage-bridge-sas-port-list** | | storage-bridge-sas-port-info[] optional | Information about the individual SAS port. |
| **storage-bridge-sas-port-qsfp-list** | | storage-bridge-sas-port-qsfp-info[] optional | Information about the individual sfp. |
| **storage-bridge-sas-port-statistics-list** | | storage-bridge-sas-port-statistics-info[] optional | Statistics information about the individual SAS port. |
| **symbolic-name** | | string optional | If set, symbolic name of the bridge, 'Not Set' otherwise. Attributes: non-creatable, non-modifiable |
| **vendor** | | storage-bridge-vendor optional | Vendor of the bridge. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "atto" |
| **wwn** | | string optional | World Wide Name of the bridge. Attributes: non-creatable, non-modifiable |

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **filer-id**

[top]

Filer UUID

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **storage-bridge-connectivity-info**

[top]

Information about the individual storage path to the bridge.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-name** | | string optional | Name of the adapter in the node to which the bridge is connected. Attributes: non-creatable, non-modifiable |
| **initiator-side-switch-port-id** | | string optional | WWN of the port and switch to which the adapter in the node is directly connected. Attributes: non-creatable, non-modifiable |
| **initiator-side-switch-port-name** | | string optional | Name of the port and switch to which the adapter in the node is directly connected. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | Name of the node to which the bridge is connected. Attributes: non-creatable, non-modifiable |
| **node-uuid** | | uuid optional | UUID of the node to which the bridge is connected. Attributes: non-creatable, non-modifiable |
| **target-port-wwn** | | string optional | World wide name of the port in the bridge to which the node is connected. Attributes: non-creatable, non-modifiable |
| **target-side-switch-port-id** | | string optional | WWN of the port and switch to which the bridge is directly connected. Attributes: non-creatable, non-modifiable |
| **target-side-switch-port-name** | | string optional | Name of the port and switch to which the bridge is directly connected. Attributes: non-creatable, non-modifiable |

## Element definition: **storage-bridge-cooling-info**

[top]

Information about the storage bridge cooling environment.

| Name | Range | Type | Description |
|---|---|---|---|
| **maximum-safe-operating-temperature** | **[0..2^32-1]** | integer optional | Maximum safe operating temperature (in degree cesius) reported by the sensor. Attributes: non-creatable, non-modifiable |
| **minimum-safe-operating-temperature** | **[-2^31..2^31-1]** | integer optional | Minimum safe operating temperature (in degree celsius) reported by the sensor. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **temperature-sensor-name** | | string optional | Name of the temperature sensor in the bridge. Attributes: non-creatable, non-modifiable |
| **temperature-sensor-operational-status** | | storage-bridge-chassis-temp-status optional | Operational Status of the Temperature Sensor. Attributes: non-creatable, non-modifiable Possible values:<br>• "normal" ,<br>• "warning" ,<br>• "critical" |
| **temperature-sensor-reading** | **[-2^31..2^31-1]** | integer optional | Temperature Sensor reading in degree celsius. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-bridge-error-info**

[top]

Information about the invidual error.

| Name | Range | Type | Description |
|---|---|---|---|
| **bridge-component-id** | **[0..2^32-1]** | integer optional | SNMP identifier for the bridge component with error. Attributes: non-creatable, non-modifiable |
| **bridge-component-name** | | string optional | Name of the bridge component with error. Attributes: non-creatable, non-modifiable |
| **bridge-component-unique-id** | | string optional | Unique textual identifier for the bridge component with error. It refers to World Wide Name of the component if available, SNMP identifier otherwise. Attributes: non-creatable, non-modifiable |
| **error-message** | | string optional | Text describing the error occurred in the bridge. Attributes: non-creatable, non-modifiable |
| **error-type** | | storage-bridge-error-type optional | Type of the error occurred in the bridge. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "bridge_unreachable" - Bridge is Unreachable over Management Network,<br>• "temp_above_critical_level" - Bridge Temperature Above Critical Level,<br>• "temp_below_critical_level" - Bridge Temperature Below Critical Level,<br>• "temp_sensor_status_critical" - Temperature Sensor Status is Critical,<br>• "temp_sensor_status_unavailable" - Temperature Sensor Status is Unavailable,<br>• "invalid_configuration" - Bridge FC Ports are not correctly configured,<br>• "sas_port_offline" - Bridge SAS Port is Offline,<br>• "link_failure" - Link to Bridge has Failed,<br>• "fc_port_offline" - Bridge FC Port is Offline,<br>• "sas_port_online" - Bridge SAS Port is Online,<br>• "power_supply_offline" - Bridge Power Supply is Offline |
| **severity** | | storage-bridge-error- | Severity of the error occurred in the bridge. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Severity Unknown, |

| | | | |
|---|---|---|---|
| | | severity optional | • "notice" - Notice,<br>• "warning" - Warning,<br>• "error" - Error |

## Element definition: **storage-bridge-fc-port-sfp-info**

[top]

Information about the individual sfp.

| Name | Range | Type | Description |
|---|---|---|---|
| **data-rate-capability** | | storage-bridge-fc-sfp-data-rate-capability optional | Data Rate capability of the small form-factor pluggable. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "2gbps" - 2 gigabits/second.,<br>• "4gbps" - 4 gigabits/second.,<br>• "8gbps" - 8 gigabits/second.,<br>• "16gbps" - 16 gigabits/second.,<br>• "32gbps" - 32 gigabits/second. |
| **fc-port-index** | **[0..2^32-1]** | integer optional | Index of FC port. Attributes: non-creatable, non-modifiable |
| **part-number** | | string optional | Part number of the small form-factor pluggable. Attributes: non-creatable, non-modifiable |
| **serial-number** | | string optional | Serial number of the small form-factor pluggable. Attributes: non-creatable, non-modifiable |
| **vendor** | | string optional | Vendor of the small form-factor pluggable. Attributes: non-creatable, non-modifiable |

## Element definition: **storage-bridge-fc-port-statistics-info**

[top]

Statistics information about the individual fibre channel port.

| Name | Range | Type | Description |
|---|---|---|---|
| **index** | **[0..2^32-1]** | integer optional | Index of FC port. Attributes: non-creatable, non-modifiable |
| **invalid-crc-count** | **[0..2^32-1]** | integer optional | Invalid CRC count for the FC port. Attributes: non-creatable, non-modifiable |
| **invalid-primitive-count** | **[0..2^32-1]** | integer optional | Bridge FC Port Error Primitive Count List Attributes: non-creatable, non-modifiable |
| **invalid-txword-count** | **[0..2^32-1]** | integer optional | Bridge FC Port Invalid TX Words List Attributes: non-creatable, non-modifiable |
| **link-failures-count** | **[0..2^32-1]** | integer optional | Link Failure count for the FC port. Attributes: non-creatable, non-modifiable |
| **lip-count** | **[0..2^32-1]** | integer optional | LIP count for the FC port. Attributes: non-creatable, non-modifiable |
| **nos-count** | **[0..2^32-1]** | integer optional | NOS count for the FC port. Attributes: non-creatable, non-modifiable |
| **rx-words-count** | **[0..2^32-** | integer | Number of words received by the FC port. Attributes: non- |

| | | | |
|---|---|---|---|
| | **1]** | optional | creatable, non-modifiable |
| **signal-loss-count** | **[0..2^32-1]** | integer optional | Signal Loss count for the FC port. Attributes: non-creatable, non-modifiable |
| **sync-losses-count** | **[0..2^32-1]** | integer optional | Sync Loss count for the FC port. Attributes: non-creatable, non-modifiable |
| **time-since-reset** | **[0..2^32-1]** | integer optional | Bridge FC Port Time Since Statistics Reset List Attributes: non-creatable, non-modifiable |
| **tx-words-count** | **[0..2^32-1]** | integer optional | Number of words transmitted by the FC port. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-bridge-mgmt-method**

[top]

SNMP|in-band Possible values:

- "snmp" ,
- "in_band"

[none]

# Element definition: **storage-bridge-mini-sas-hd-info**

[top]

Information about the individual Mini-SAS HD.

| Name | Range | Type | Description |
|---|---|---|---|
| **mini-sas-hd-index-list** | **[0..2^32-1]** | integer optional | Index of Mini-SAS HD. Attributes: non-creatable, non-modifiable |
| **mini-sas-hd-part-number-list** | | string optional | Part number of the Mini-SAS HD. Attributes: non-creatable, non-modifiable |
| **mini-sas-hd-serial-number-list** | | string optional | Serial Number of the Mini-SAS HD. Attributes: non-creatable, non-modifiable |
| **mini-sas-hd-type-list** | | string optional | Type of the Mini-SAS HD. Attributes: non-creatable, non-modifiable |
| **mini-sas-hd-vendor-list** | | string optional | Vendor of the Mini-SAS HD. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-bridge-power-supply-info**

[top]

Information about the bridge power supplies.

| Name | Range | Type | Description |
|---|---|---|---|
| **power-supply-index-list** | **[0..2^32-1]** | integer optional | Bridge Power Supply Index List Attributes: non-creatable, non-modifiable |
| **power-supply-name-list** | | string optional | Name of the bridge power supply. Attributes: non-creatable, non-modifiable |
| | | | Status of the bridge power supply. Attributes: non- |

| | | | |
|---|---|---|---|
| **power-supply-status-list** | | storage-bridge-power-supply-status optional | creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "down" ,<br>• "up" |

# Element definition: **storage-bridge-sas-port-info**

[top]

Information about the individual SAS port.

| Name | Range | Type | Description |
|---|---|---|---|
| **administrative-state** | | storage-bridge-sas-port-admin-state optional | Administrative state of the SAS port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "disabled" ,<br>• "enabled" |
| **data-rate-capability** | | storage-bridge-sas-port-data-rate-capability optional | Data Rate capability of the SAS port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown data rate.,<br>• "1_5gbps" - 1.5 gigabits per second.,<br>• "3gbps" - 3 gigabits per second.,<br>• "6gbps" - 6 gigabits per second.,<br>• "12gbps" - 12 gigabits per second. |
| **index** | **[0..2^32-1]** | integer optional | Index of SAS port. Attributes: non-creatable, non-modifiable |
| **negotiated-data-rate** | | storage-bridge-negotiated-sas-port-data-rate optional | Negotiated Data Rate of the SAS port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown data rate.,<br>• "1_5gbps" - 1.5 gigabits.,<br>• "3gbps" - 3 gigabits.,<br>• "6gbps" - 6 gigabits.,<br>• "12gbps" - 12 gigabits. |
| **operational-state** | | storage-bridge-sas-port-oper-state optional | Operational status of the SAS port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "online" ,<br>• "offline" ,<br>• "degraded" |
| **phy1-operational-state** | | storage-bridge-sas-port-phy-oper-state optional | Operational state of 1st physical link in SAS port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "online" ,<br>• "offline" |
| | | | Operational state of 2nd physical link in SAS port. Attributes: non-creatable, non-modifiable Possible |

| | | | |
|---|---|---|---|
| **phy2-operational-state** | | storage-bridge-sas-port-phy-oper-state optional | values:<br>• "unknown" ,<br>• "online" ,<br>• "offline" |
| **phy3-operational-state** | | storage-bridge-sas-port-phy-oper-state optional | Operatinal state of 3rd physical link in SAS port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "online" ,<br>• "offline" |
| **phy4-operational-state** | | storage-bridge-sas-port-phy-oper-state optional | Operational state of 4th physical link in SAS port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "online" ,<br>• "offline" |
| **sas-port-wwn** | | string optional | World Wide Name of the SAS port. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-bridge-sas-port-qsfp-info**

[top]

Information about the individual sfp.

| Name | Range | Type | Description |
|---|---|---|---|
| **part-number** | | string optional | Part Number of the quad small form-factor pluggable. Attributes: non-creatable, non-modifiable |
| **qsfp-type** | | storage-bridge-qsfp-type optional | Type of quad small form-factor pluggable. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown type.,<br>• "optical" - Optical quad small form factor pluggable.,<br>• "active_copper" - Active copper quad small form factor pluggable.,<br>• "passive_copper" - Passive copper quad small form factor pluggable. |
| **sas-port-index** | **[0..2^32-1]** | integer optional | Index of SAS port. Attributes: non-creatable, non-modifiable |
| **serial-number** | | string optional | Serial Number of the quad small form-factor pluggable. Attributes: non-creatable, non-modifiable |
| **vendor** | | string optional | Vendor of the quad small form-factor pluggable. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-bridge-sas-port-statistics-info**

[top]

Statistics information about the individual SAS port.

| Name | Range | Type | Description |
|---|---|---|---|
| **phy-disparity-count** | **[0..2^32-1]** | integer optional | Disparity count for the physical link in SAS port. Attributes: non-creatable, non-modifiable |
| **phy-index** | **[0..2^32-1]** | integer optional | Index of physical link in SAS port. Attributes: non-creatable, non-modifiable |
| **phy-invalid-crc-count** | **[0..2^32-1]** | integer optional | Invalid CRC count for the physical link in SAS port. Attributes: non-creatable, non-modifiable |
| **phy-invalid-dword-count** | **[0..2^32-1]** | integer optional | Invalid DWORD coung for the physical link in SAS port. Attributes: non-creatable, non-modifiable |
| **phy-link-changed-count** | **[0..2^32-1]** | integer optional | Link changed count for the physical link in SAS port. Attributes: non-creatable, non-modifiable |
| **phy-reset-count** | **[0..2^32-1]** | integer optional | physical link reset count. Attributes: non-creatable, non-modifiable |
| **phy-sync-losses-count** | **[0..2^32-1]** | integer optional | Sync Loss count for the physical link in SAS port. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-bridge-throughput-status**

[top]

normal|warning Possible values:

- "normal" ,
- "warning"

[none]

# Element definition: **storage-bridge-vendor**

[top]

unknown|Atto Possible values:

- "unknown" ,
- "atto"

[none]

# Element definition: **storage-brige-fc-port-info**

[top]

Information about the individual fibre channel port.

| Name | Range | Type | Description |
|---|---|---|---|
| **administrative-state** | | storage-bridge-fc-port-admin-state optional | Administrative status of the FC port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "disabled" , |

| | | | |
|---|---|---|---|
| | | | "enabled" |
| **configured-connection-mode** | | storage-bridge-configured-fc-port-connection-mode | Configured connection mode for the FC port. Attributes: non-creatable, non-modifiable Possible values:<br>• "loop" - Arbitrated loop.,<br>• "ptp" - Point to point.,<br>• "loop_preferred" - Arbitrated loop preferred.,<br>• "ptp_preferred" - Point to point preferred. |
| **configured-data-rate** | | storage-bridge-configured-fc-port-data-rate<br>optional | Configured Data Rate of the FC port. Attributes: non-creatable, non-modifiable Possible values:<br>• "auto" - auto,<br>• "2gbps" - 2 gigabits/second.,<br>• "4gbps" - 4 gigabits/second.,<br>• "8gbps" - 8 gigabits/second.,<br>• "16gbps" - 16 gigabits/second. |
| **data-rate-capability** | | storage-bridge-fc-port-data-rate-capability<br>optional | Data Rate capability of the FC port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "2gbps" - 2 gigabits per second.,<br>• "4gbps" - 4 gigabits per second.,<br>• "8gbps" - 8 gigabits per second.,<br>• "16gbps" - 16 gigabits per second.,<br>• "32gbps" - 32 gigabits per second. |
| **fc-port-wwn** | | string<br>optional | World Wide Name of the FC port. Attributes: non-creatable, non-modifiable |
| **index** | **[0..2^32-1]** | integer<br>optional | Index of FC port. Attributes: non-creatable, non-modifiable |
| **negotiated-data-rate** | | storage-bridge-negotiated-fc-port-data-rate<br>optional | Negotiated Data Rate of the FC port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "2gb" ,<br>• "4gb" ,<br>• "8gb" ,<br>• "16gb" ,<br>• "32gb" |
| **operational-state** | | storage-bridge-fc-port-oper-state<br>optional | Operational status of the FC port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "online" ,<br>• "offline" |
| **peer-port-name** | | string<br>optional | FC port's peer port name. Attributes: non-creatable, non-modifiable |

## Element definition: **storage-device-status**

[top]

unknown|ok|error Possible values:

- "unknown" - Device Status Unknown,
- "ok" - Device Status Ok,
- "error" - Device Status Erroneous

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **storage-bridge-chassis-temp-status**

[top]

normal|warning|critical Possible values:

- "normal" ,
- "warning" ,
- "critical"

[none]

## Element definition: **storage-bridge-configured-fc-port-connection-mode**

[top]

loop|ptp|loop-preferred|ptp-preferred Possible values:

- "loop" - Arbitrated loop.,
- "ptp" - Point to point.,
- "loop_preferred" - Arbitrated loop preferred.,
- "ptp_preferred" - Point to point preferred.

[none]

## Element definition: **storage-bridge-configured-fc-port-data-rate**

[top]

auto|2Gb|4Gb|8Gb|16Gb Possible values:

- "auto" - auto,
- "2gbps" - 2 gigabits/second.,
- "4gbps" - 4 gigabits/second.,
- "8gbps" - 8 gigabits/second.,

"16gbps" - 16 gigabits/second.

[none]

## Element definition: **storage-bridge-error-severity** [top]

unknown|notice|warning|error Possible values:

- "unknown" - Severity Unknown,
- "notice" - Notice,
- "warning" - Warning,
- "error" - Error

[none]

## Element definition: **storage-bridge-error-type** [top]

unknown|bridge-unreachable|temp-above-critical-level|temp-below-critical-level|temp-sensor-status-critical|temp-sensor-status-unavailable|invalid-configuration|sas-port-offline|link-failure|sas-port-online|power-supply-offline Possible values:

- "unknown" - Unknown,
- "bridge_unreachable" - Bridge is Unreachable over Management Network,
- "temp_above_critical_level" - Bridge Temperature Above Critical Level,
- "temp_below_critical_level" - Bridge Temperature Below Critical Level,
- "temp_sensor_status_critical" - Temperature Sensor Status is Critical,
- "temp_sensor_status_unavailable" - Temperature Sensor Status is Unavailable,
- "invalid_configuration" - Bridge FC Ports are not correctly configured,
- "sas_port_offline" - Bridge SAS Port is Offline,
- "link_failure" - Link to Bridge has Failed,
- "fc_port_offline" - Bridge FC Port is Offline,
- "sas_port_online" - Bridge SAS Port is Online,
- "power_supply_offline" - Bridge Power Supply is Offline

[none]

## Element definition: **storage-bridge-fc-port-admin-state** [top]

unknown|disabled|enabled Possible values:

- "unknown" ,
- "disabled" ,
- "enabled"

[none]

## Element definition: **storage-bridge-fc-port-data-rate-capability** [top]

2Gbps|4Gbps|8Gbps|16Gbps|32Gbps Possible values:

- "unknown" ,
- "2gbps" - 2 gigabits per second.,
- "4gbps" - 4 gigabits per second.,
- "8gbps" - 8 gigabits per second.,
- "16gbps" - 16 gigabits per second.,
- "32gbps" - 32 gigabits per second.

[none]

## Element definition: **storage-bridge-fc-port-oper-state** [top]

unknown|online|offline Possible values:

- "unknown" ,
- "online" ,
- "offline"

[none]

## Element definition: **storage-bridge-fc-sfp-data-rate-capability** [top]

2Gb|4Gb|8Gb|16Gb|32Gb Possible values:

- "unknown" ,
- "2gbps" - 2 gigabits/second.,
- "4gbps" - 4 gigabits/second.,
- "8gbps" - 8 gigabits/second.,
- "16gbps" - 16 gigabits/second.,
- "32gbps" - 32 gigabits/second.

[none]

## Element definition: **storage-bridge-negotiated-fc-port-data-rate** [top]

unknown|2|4|8|16 Possible values:

- "unknown" ,
- "2gb" ,
- "4gb" ,
- "8gb" ,

- "16gb" ,
- "32gb"

[none]

## Element definition: **storage-bridge-negotiated-sas-port-data-rate**

[top]

unknown|1.5Gbps|3Gbps|6Gbps|12Gbps Possible values:

- "unknown" - Unknown data rate.,
- "1_5gbps" - 1.5 gigabits.,
- "3gbps" - 3 gigabits.,
- "6gbps" - 6 gigabits.,
- "12gbps" - 12 gigabits.

[none]

## Element definition: **storage-bridge-power-supply-status**

[top]

unknown|down|up Possible values:

- "unknown" ,
- "down" ,
- "up"

[none]

## Element definition: **storage-bridge-qsfp-type**

[top]

unknown|optical|active-copper|passive-copper Possible values:

- "unknown" - Unknown type.,
- "optical" - Optical quad small form factor pluggable.,
- "active_copper" - Active copper quad small form factor pluggable.,
- "passive_copper" - Passive copper quad small form factor pluggable.

[none]

## Element definition: **storage-bridge-sas-port-admin-state**

[top]

unknown|disabled|enabled Possible values:

- "unknown" ,

- "disabled" ,
- "enabled"

[none]

## Element definition: **storage-bridge-sas-port-data-rate-capability**

[top]

unknown|1.5Gbps|3Gbps|6Gbps|12Gbps Possible values:

- "unknown" - Unknown data rate.,
- "1_5gbps" - 1.5 gigabits per second.,
- "3gbps" - 3 gigabits per second.,
- "6gbps" - 6 gigabits per second.,
- "12gbps" - 12 gigabits per second.

[none]

## Element definition: **storage-bridge-sas-port-oper-state**

[top]

unknown|online|offline|degraded Possible values:

- "unknown" ,
- "online" ,
- "offline" ,
- "degraded"

[none]

## Element definition: **storage-bridge-sas-port-phy-oper-state**

[top]

unknown|online|offline Possible values:

- "unknown" ,
- "online" ,
- "offline"

[none]

## Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# APIs in Category: **storage-disk**


storage-disk-fw-status
storage-disk-get-iter
storage-disk-set-foreign-lun


## storage-disk-fw-status

[top]

Based on input, displays: The number of disks waiting for firmware update, Average firmware update duration per disk in seconds, Estimate for background firmware download completion in minutes, or Name of disk that cannot be updated.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **status-type** | | string required | Possible values: 1. time-estimate 2. waiting-disks 3. average-time 4. pending-disks |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fw-update-status** | | fw-update-status-info[] | Firmware Update status. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## storage-disk-get-iter

[top]

Disk enumeration ZAPI. Get disk information about one or more disks, from the Storage Subsystem. Clustered ONTAP iterator APIs support filtering of output, to constrain the disks that are included in the return list, and/or what information is returned about each disk. The default is to return all information about all disks in the cluster. That list may be reduced using the 'query' input element. For example, the return list may include only (1) Disks visible to a particular cluster node "nodeA", e.g., "query.storage-disk-info.disk-paths.disk-path-info.disk-name=nodeA:*" (2) A particular disk visible to a particular node, e.g., "query.storage-disk-info.disk-paths.disk-path-info.disk-name=nodeA:6a.01". (3) A disk with a particular unique id, e.g., "query.storage-disk-info.disk-uid=20000000:87A9652B:00000000:00000000:00000000:00000000:00000000:00000000:00000000:00000000" (4) Disks with a name that matches a certain wildcard pattern, e.g., "query.storage-disk-info.disk-name=1.*" or "query.storage-disk-info.disk-name=NET-1.*" for virtual disks. (5) Disks assigned to a particular node. e.g., "query.storage-disk-info.disk-ownership-info.home-node-id=1252487" or "query.storage-disk-info.disk-ownership-info.home-node-name=nodeA". (6) Some subset of disks in the cluster or visible to a particular node in the cluster. If 'desired-attributes' is included, then only those data specified by in 'desired-attributes' are returned for each disk. If there is badly formed input or an invalid input value is specified, then EINVALIDINPUTERROR is returned. If there is some internal error which prevents processing of this request, then EINTERNALERROR is returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-disk-info optional | May be used to express which data are returned for each disk. If omitted, then all available data are returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return to the caller per iteration. The default is 2000 for clustered ONTAP. It's 200 for D-blade calls. If the total number of records exceeds either the 'max-records' supplied, or the number the system is capable of returning at one time, then storage-disk-get-iter must be called multiple times to get all the records. The 'num-records' output field informs the caller how many records are returned by a single iterative call to storage-disk-get-iter. |
| **query** | | storage-disk-info optional | May be used to express which disks to include in the return list. If omitted, then all disks are returned. If the input query is badly formed, then EINVALIDINPUTERROR is returned. If there are no disks which match the input query, then there is no error. However, no disk records are returned. |
| **tag** | | string optional | This indicates where to continue iteration. A first invocation would normally omit this, to indicate to start iteration with the first disk. If multiple invocations are required to fetch all disk records, then each successive call would set 'tag' to the 'next-tag' value from the prior invocation. If an invalid value is specified, then EINVAIDINPUTERROR is returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-disk-info[] optional | List of disk records. |
| | | | |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | An opaque string indicating that there are more records to fetch. If this field is returned, then the API must be called again with the 'tag' parameter set to this 'next-tag' value, to continue fetching additional records from this point. Omitted if there are no more records to fetch. |
| **num-records** | **[0..2000]** | integer | The number of records returned in this call. This is guaranteed to be less than or equal to the minimum of 'max-records' and 2000. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

## storage-disk-set-foreign-lun

[top]

Sets or Unsets an array LUN as foreign

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk** | | string | Disk Name |
| **is-foreign-lun** | | boolean | Is Foreign LUN |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## Element definition: **fw-update-status-info**

[top]

List of disks that are pending updates, but not able to be updated.

| Name | Range | Type | Description |
|---|---|---|---|
| **avg-duration** | | integer optional | Average firmware update duration per disk in seconds. |
| **update-completion** | | integer optional | Estimate for background firmware download completion in minutes. |
| **update-unable** | | string optional | Name of disk that cannot be updated. |
| **waiting-disks** | | integer optional | The number of disks waiting for firmware update. |

## Element definition: **storage-disk-info**

[top]

Disk record.

| Name | Range | Type | Description |
|---|---|---|---|
| **disk-inventory-info** | | disk-inventory-info optional | Device driver information. Omitted if excluded by 'desired-attributes'. |
| **disk-metrocluster-info** | | disk-metrocluster-info optional | Disk metrocluster related information. Ommitted if excluded by 'desired-attributes'. |
| **disk-name** | | string optional | Name of disk, e.g. "1.1.2" or "NET-1.1" for a virtual disk. Omitted if excluded by 'desired-attributes'. |
| **disk-ownership-info** | | disk-ownership-info optional | Disk ownership information. Omitted if excluded by 'desired-attributes'. |
| **disk-paths** | | disk-path-info[] | List of all known paths associated with this disk. Omitted if no paths to report, or if excluded by 'desired-attributes'. |

| | | | |
|---|---|---|---|
| | | optional | |
| **disk-raid-info** | | disk-raid-info optional | RAID disk information. Omitted if disk is not visible to RAID, or if this information is excluded by 'desired-attributes'. |
| **disk-stats-info** | | disk-stats-info optional | Statistics about disk. Omitted if no stats to report, or if excluded by 'desired-attributes'. |
| **disk-uid** | | string optional | Disk unique identifier. Maximum length of 90 characters. Example of output format is: 20000000:87A9652B:00000000:00000000:00000000:00000000:00000000:00000000:00000000:00000000 Omitted if excluded by 'desired-attributes'. |
| **node-name** | | string optional | Name of the node supplying this disk record. Omitted if excluded by 'desired-attributes'. |

# Element definition: **disk-inventory-info**

[top]

Disk inventory info.

| Name | Range | Type | Description |
|---|---|---|---|
| **bytes-per-sector** | **[0..2^16-1]** | integer optional | Number of bytes per disk sector. A sector count element, such as 'capacity-sectors' and 'right-size-sectors', may be multiplied by this value to convert to a byte count. Omitted if excluded by 'desired-attributes'. |
| **capacity-sectors** | **[0..2^64-1]** | integer optional | Total number of disk sectors on this disk, given in units of 'bytes-per-sector'. Omitted if excluded by 'desired-attributes'. |
| **carrier-id** | | string optional | Unique identifier of the disk carrier. Maximum length of 34 characters. It is not returned if is-multidisk-carrier is set to false. Omitted if excluded by 'desired-attributes'. |
| **carrier-serialno** | | string optional | Unique serial number of the disk carrier. Maximum length of 17 characters. It is not returned if is-multidisk-carrier is set to false. Omitted if excluded by 'desired-attributes'. |
| **checksum-compatibility** | | string optional | An indication of the checksum types that this disk is capable of supporting. Each possible return value represents one or more checksum types. Omitted if not available or if excluded by 'desired-attributes'.<br><br>Starting in Data ONTAP 8.1, "zoned/block" is no longer supported.<br><br>Possible values:<br><br>• "advanced_zoned" - Supports advanced zoned checksum.<br>• "block" - Supports block checksum.<br>• "none" - No checksum support.<br>• "zoned/advanced_zoned" - Supports zoned and advanced zoned checksum (this value is no longer supported). |
| **disk-class** | | string optional | Disk class of this disk. Disks are grouped into classes based on their performance characteristics. Disks with the same 'disk-class' value are compatible for use in the same aggregate. Omitted if excluded by 'desired attributes'.<br><br>Possible values:<br><br>• "unknown" - Unknown disk class.<br>• "capacity" - Capacity-oriented, near-line disk types. Includes disk types FSAS, BSAS and ATA.<br>• "performance" - Performance-oriented, enterprise class disk types. Includes disk types FCAL and SAS.<br>• "archive" - Archive class SATA disks in multi-disk carrier storage shelves. Includes disk type MSATA.<br>• "solid_state" - Solid-state drives. Includes disk type SSD.<br>• "array" - Logical storage devices backed by storage arrays and used by Data ONTAP as disks. Includes disk type LUN<br>• "virtual" - Virtual disks that are formatted and managed by the hypervisor. Includes disk type VMDISK. |
| **disk-cluster-name** | | string optional | A cluster unique name for a disk. Disks take the form 'stack-id'.'shelf'.'bay'. Disks on multi-disk carriers take the form 'stack-id'.'shelf'.'bay'.'lun'.<br><br>Virtual disks take the form 'prefix'.'number' where prefix is the storage array's prefix and number is a unique ascending number.<br><br>Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'. |
| | | | Disk interface type. Omitted if excluded by 'desired-attributes'.<br><br>Possible values:<br><br>• "ATA"<br>• "BSAS" |

| | | | |
|---|---|---|---|
| **disk-type** | | string optional | • "FCAL"<br>• "LUN"<br>• "MSATA"<br>• "SAS"<br>• "SSD"<br>• "SSD_NVM"<br>• "FSAS"<br>• "VMDISK"<br>• "unknown" |
| **disk-uid** | | string optional | Disk unique identifier. Maximum length of 90 characters. Omitted if excluded by desired-attributes'. |
| **drawer** | | integer optional | Used for shelves with drawers. Identifies the physical drawer where this disk is located. |
| **drawer-slot** | | integer optional | Used for shelves with drawers. Identifies which slot in the drawer this disk is located. |
| **firmware-revision** | | string optional | Firmware revision of disk. The format of the firmware revision will vary depending on the type of disk and its vendor. Omitted if excluded by 'desired-attributes'. |
| **grown-defect-list-count** | **[0..2^64-1]** | integer optional | Number of entries in the drive's grown defect list. Omitted if excluded by 'desired-attributes'. |
| **health-monitor-time-interval** | **[0..2^63-1]** | integer optional | Number of seconds we have been keeping track of errors from storage health monitor (SHM). Omitted if excluded by 'desired-attributes'. |
| **hw-minimum-os** | | string optional | Hardware minimum supported Data ONTAP version for the disk. Omitted if not available or if excluded by 'desired-attributes'. |
| **import-in-progress** | | boolean optional | For array LUNs marked with container-type of foreign, this value indicates when data is actively being imported from this disk. Omitted if excluded by 'desired-attributes'. |
| **is-dynamically-qualified** | | boolean optional | True if the drive was dynamically qualified. Omitted if excluded by 'desired-attributes'. |
| **is-foreign** | | boolean optional | Indicates an array LUN has been designated as a foreign LUN and cannot be assigned. Omitted if excluded by 'desired-attributes'. |
| **is-internal-disk** | | boolean optional | True if the disk is located within an internal shelf. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'. |
| **is-multidisk-carrier** | | boolean optional | True if the disk is in a carrier which contains more than one disk. Omitted if excluded by 'desired-attributes'. |
| **is-shareable** | | boolean optional | True if the disk supports sharing. Omitted if excluded by 'desired-attributes'. |
| **is-shared** | | boolean optional | True if the disk is a shared disk. Omitted if excluded by 'desired-attributes'. |
| **location** | | string optional | Name of the node to which this disk is attached. Only Only available on virtual machines. Omitted if excluded by 'desired-attributes'. |
| **location-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of node to which this disk is attached. Only available on virtual machines. Omitted if excluded by 'desired-attributes'. |
| **media-scrub-count** | **[0..2^64-1]** | integer optional | Number of times media has been scrubbed since controller last powered on. Omitted if not available. |
| **media-scrub-last-done-time-interval** | **[0..2^63-1]** | integer optional | Number of seconds since a media scrub last completed. Omitted if not available. |
| **model** | | string optional | Disk model string. Omitted if excluded by 'desired-attributes'. |
| **reservation-key** | | string optional | Reservation key identifies which initiator target nexus holds the persistent reservation on this disk, 0x0 if there is none(range: 0x0 .. 0xffffffffffffffff). Omitted if excluded by 'desired-attributes'. |
| **reservation-type** | | string optional | Describes the persistent disk reservation type. Omitted if excluded by 'desired-attributes'.<br><br>Possible values:<br><br>• "rs" - Read Shared Reservation.<br>• "we" - Write Exclusive Reservation.<br>• "re" - Read Exclusive Reservation.<br>• "ea" - Exclusive Access Reservation.<br>• "sa" - Shared Access Reservation.<br>• "wero" - Write Exclusive Registrants Only Reservation.<br>• "earo" - Exclusive Access Registrants Only Reservation.<br>• "wear" - Write Exclusive All Registrants Reservation.<br>• "eaar" - Exclusive Access All Registrants Reservation.<br>• "none" - No Reservation. |
| **right-size-sectors** | **[0..2^64-1]** | integer optional | Number of usable disk sectors that remain after subtracting the right-size adjustment for this disk. Given in units of 'bytes-per-sector'. Omitted if information is unavailable, or if excluded by 'desired-attributes'. |
| **rpm** | | integer optional | Rotational speed in revolutions per minute. Possible values are: 5400, 7200, 10000, and 15000. Omitted if information is unavailable, if rpm does not apply to this 'disk-type', or if excluded by 'desired-attributes'. |

| | | | |
|---|---|---|---|
| **serial-number** | | string optional | Disk serial number. Maximum length of 129 characters. Omitted if excluded by 'desired-attributes'. |
| **shelf** | | string optional | Disk shelf, if it can be determined. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'. |
| **shelf-bay** | | string optional | Disk shelf bay, if it can be determined. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'. |
| **shelf-uid** | | string optional | Unique identifier for a shelf as reported by SES. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'. |
| **stack-id** | **[0..2^32-1].** | integer optional | A cluster unique id for a collection of one or more interconnected shelves. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'. |
| **storage-sed-info** | | storage-sed-info optional | Self-encrypting disk info Omitted if disk is not a Self-Encrypting Disk (SED), or if excluded by "desired-attributes'. |
| **storage-ssd-info** | | storage-ssd-info optional | solid state device specific lifecycle data Omitted if 'disk-type' is not "SSD", or if excluded by 'desired-attributes'. |
| **vendor** | | string optional | Vendor of this disk. Omitted if excluded by 'desired-attributes'. |
| **virtual-machine-disk-info** | | virtual-machine-disk-info optional | A typedef containing the attributes for virtual machine disks. Such attributes are the hypervisor VM file name, the backing store and the adapter to name a few. |
| **vmdisk-backing-info** | | vmdisk-backing-info optional | Backing info block for virtual machine disks. |
| **vmdisk-target-address** | | string optional | Target address of the VM Disk. |

## Element definition: **disk-metrocluster-info**

[top]

Disk Metrocluster Info.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-local-attach** | | boolean optional | Indicates if a disk is locally attached, vs remotely attached. A locally attached disk resides in the same proximity as the host cluster vs. attached to the remote cluster. |

## Element definition: **disk-ownership-info**

[top]

Disk sanown information.

| Name | Range | Type | Description |
|---|---|---|---|
| **age** | **[0..2^64-1]** | integer optional | Elapsed time in milli seconds since the last time the ownership was read from disk |
| **data-home** | | string optional | Name of the home owner of the data partition (in case of a root-data partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'. |
| **data-home-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of the home owner of the data partition (in case of root-data partitioned disk) of this disk. Omitted if excluded by 'desired-attributes'. |
| **data-owner** | | string optional | Name of node that currently owns the data partition (in case of a root-data partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'. |
| **data-owner-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of node to which the data partition (in case of root-data partitioned disk) of this disk is assigned. Omitted if excluded by 'desired-attributes'. |
| **data1-home** | | string optional | Name of the home owner of the data1 partition (in case of root-data1-data2 partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'. |
| **data1-home-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of the home owner of the data1 partition (in case of root-data1-data2 partitioned disk) of this disk. Omitted if excluded by 'desired-attributes'. |
| **data1-owner** | | string optional | Name of node that currently owns the data1 partition (in case of root-data1-data2 partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'. |
| **data1-owner-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of node to which the data1 partition (in case of root-data1-data2 partitioned disk) of this disk is assigned. Omitted if excluded by 'desired-attributes'. |
| **data2-home** | | string optional | Name of the home owner of the data2 partition (in case of root-data1-data2 partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'. |
| **data2-** | **[0..2^32-** | integer | ID (NVRAM ID) of the home owner of the data2 partition (in case of root-data1-data2 partitioned disk) of |

| | | | |
|---|---|---|---|
| **home-id** | **1]** | optional | this disk. Omitted if excluded by 'desired-attributes'. |
| **data2-owner** | | string optional | Name of node that currently owns the data2 partition (in case of root-data1-data2 partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'. |
| **data2-owner-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of node to which the data2 partition (in case of root-data1-data2 partitioned disk) of this disk is assigned. Omitted if excluded by 'desired-attributes'. |
| **disk-pool-list-info** | | disk-pool-info[] optional | List of node-suggested pool pair for every disk. |
| **disk-uid** | | string optional | Disk unique identifier. Maximum length of 90 characters. Example of output format is: 20000000:87A9652B:00000000:00000000:00000000:00000000:00000000:00000000:00000000:00000000 Omitted if excluded by 'desired-attributes'. |
| **dr-home-node-id** | **[0..2^32-1].** | integer optional | ID (NVRAM ID) of home owner of a disk in switchover state when there is a disaster. Before disaster switchover, the value of this field is zero. At the time of switchover, it would be changed so as to keep track of whom to give the disks to, at the time of switchback. Omitted if disk has no dr home id. |
| **dr-home-node-name** | | string optional | This is the name of home owner of a disk in switchover state when there is a disaster. Before disaster switchover, the value of this field is a NULL string. At the time of switchover, it would be changed so as to keep track of whom to give the disks to, at the time of switchback. Omitted if disk has no dr home owner. |
| **home-node-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of home node to which this disk is assigned. Omitted if disk is unassigned, or if excluded by 'desired-attributes'. |
| **home-node-name** | | string optional | Name of the home node to which this disk is assigned. Omitted if disk is unassigned, or if excluded by 'desired-attributes'. |
| **is-failed** | | boolean optional | 'true' if the disk is failed such that its ownership cannot be determined. Omitted if excluded by 'desired-attributes'. |
| **owner-node-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of node that currently owns this disk. Normally 'owner-node-id' matches 'home-node-id'. However, SFO style HA changes 'owner-node-id' when it localizes partner storage on takeover; and restores it to 'home-node-id' on giveback. Omitted if disk is unassigned, or if excluded by 'desired-attributes'. |
| **owner-node-name** | | string optional | Name of node that currently owns this disk. Normally 'owner-node-name' matches 'home-node-name'. However, SFO style HA changes 'owner-node-name' when it localizes partner storage on takeover; and restores it to 'home-node-name' on giveback. Omitted if disk is unassigned, or if excluded by 'desired-attributes'. |
| **owner-update-count** | **[0..2^32-1]** | integer optional | Number of times ownership changed since disk was unowned. |
| **pool** | **[0..2^32-1]** | integer optional | Pool to which disk is assigned. Omitted if disk is unassigned, or if excluded by 'desired-attributes'. |
| **reserved-by-node-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of node which currently holds the persistent reservation on this disk, 0 if there is none. Omitted if excluded by 'desired-attributes'. |
| **root-home** | | string optional | Name of the home owner of the root partition on this disk. Omitted if excluded by 'desired-attributes'. |
| **root-home-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of the home owner of the root partition of this disk. Omitted if excluded by 'desired-attributes'. |
| **root-owner** | | string optional | Name of node that currently owns the root partition on this disk. Omitted if excluded by 'desired-attributes'. |
| **root-owner-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of node to which the root partition of this disk is assigned. Omitted if excluded by 'desired-attributes'. |

# Element definition: **disk-path-info**

[top]

Contains per path statistics, errors and other related data.

| Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string | The name of the array providing the lun. |
| **disk-name** | | string | The name of the disk this path information is for |
| **disk-port** | | string optional | Disk port associated with this path. Possible values are "A" or "B". Omitted for non-disk target. |
| **disk-port-name** | | string optional | Disk port name associated with this path. This has the form <attachment-style>:<disk-port>, where <attachment-style> is either "FC" for FibreChannel, "SA" for SAS, or "NV" for NVMe, and <disk-port> is either "A" or "B". Omitted for non-disk target.<br><br>Possible values:<br>• "FC:A"<br>• "FC:B"<br>• "SA:A"<br>• "SA:B" |

| | | | |
|---|---|---|---|
| | | | • "NV:A"<br>• "NV:B" |
| **disk-uid** | | string | Disk's UID, as supplied by the hardware, used to uniquely identify this disk. |
| **initiator-io-kbps** | | integer | Rolling average of kilobytes per second read and written over this initiator port. Range: [0..2^64-1] |
| **initiator-iops** | | integer | Rolling average of I/O operations per second read and written over this initiator port. Range: [0..2^64-1] |
| **initiator-lun-in-use-count** | | integer | Number of LUNs in the IN-USE state on this initiator. Range: [0..2^64-1] |
| **initiator-port** | | string | Initiator port name, e.g. 0a. |
| **initiator-port-speed** | | string | The speed that the initiator port has negotiated with its connected switch, or target port if direct attached. |
| **initiator-side-switch-port** | | string | The name of the switch connected to the controller's initiator port, or N/A when using direct attach |
| **lun-io-kbps** | | integer | Rolling average of kilobytes per second read and written to this LUN. Range: [0..2^64-1] |
| **lun-iops** | | integer | Rolling average of I/O operations per second read and written to this LUN. Range: [0..2^64-1] |
| **lun-number** | | integer | LU number. Range: [0..65535] |
| **lun-path-use-state** | | string | ONTAP's use of this path INU - (In Use) This path is currently used for I/O. RDY - (Ready) This path is not being used for I/O currently, but might transition to INU if storge errors or load balancing cause it to transition to INU. QED - (Quiesced) : The disk is quiesced on this path. MCF - (Misconfigured) : The disk is misconfigured on this path. The path is not available for I/O. Refer to storage_initiator_errors_list_info for details. FAL - (Failed) The connectivity to this path is lost. INI - (Initializing) The disk/LUN on this path is currently being readied for I/O operations (MPIO disks/LUNs only). PRE - (Persistent Reserve Register Error) An error occurred during the persistent reserve register operation of the disk/LUN on this path. This may be a transient condition and registration may successfully complete at a later time. |
| **node** | | string | Controller with the initiator port for this path. |
| **path-io-kbps** | | integer | Rolling average of kilobytes per second read and written to this path. Range: [0..2^64-1] |
| **path-iops** | | integer | Rolling average of I/O operations per second read and written to this path. Range: [0..2^64-1] |
| **path-link-errors** | | integer | Number of link errors reported on the path. Range: [0..2^32-1] |
| **path-lun-in-use-count** | | integer | Number of LUNs in the IN-USE state on this path. Range: [0..2^64-1] |
| **path-quality** | | integer | The percentage of the error threshold. 0% NO ERROR 1-20% LOW ERROR, available to load balancing and error retry code. 21-99% MEDIUM ERROR, load balancing and error retry code will not switch to this path. 100-? HIGH_ERROR, Excessive errors EMS event will be logged Range: [0..2^32-1] |
| **preferred-target-port** | | boolean optional | For a logical unit which reports asymmetric access, preferred-target-port indicates that a path, regardless of the current access state, routes to a preferred target port group. Possible values are:<br>• true: This path routes to a preferred target port group for this array LUN.<br>• false: This path does not route to a preferred target port group or the array LUN reports that there is no preferred target port group. |
| **target-io-kbps** | | integer | Rolling average of kilobytes per second read and written to this target port. Range: [0..2^64-1] |
| **target-iops** | | integer | Rolling average of I/O operations per second read and written to this target port. Range: [0..2^64-1] |
| **target-iqn** | | string optional | Target IQN of target port providing the disk. |
| **target-lun-in-use-count** | | integer | Number of LUNs in the IN-USE state on this target port. Range: [0..2^64-1] |
| **target-port-access-state** | | string | failover optimization type |
| **target-side-switch-port** | | string | Name of the switch port connected to the target array, or UNKNOWN if direct attached. |
| **target-wwnn** | | string | World Wide Node Name of the target device. |
| **target-wwpn** | | string | World Wide Port Name of target port providing the disk. |
| **tpgn** | | integer | The Target Port Group Number of the array's target port. Range: [0..2^64-1] |
| **vmdisk-device-id** | | integer optional | The device id used for the virtual device (also used by the hypervisor) Range: [0..2^32-1] |
| | | | |

| | | | |
|---|---|---|---|
| **vmdisk-hypervisor-area-name** | | string optional | The name of the storage area where the vmdisk is physically located. For ESX this is the name of a datastore. |
| **vmdisk-hypervisor-file-name** | | string optional | The file name of the virtual disk used by the hypervisor. For ESX this is the name of the disk's vmdk file. Example is "myvm/myvm_1.vmdk" |

## Element definition: **disk-raid-info**

[top]

RAID specific information about a disk, including RAID specific disk properties, and the disk's overlying container.

| Name | Range | Type | Description |
|---|---|---|---|
| **active-node-name** | | string optional | Name of the node that is the active RAID controller for this disk, if any. Omitted if unavailable, or excluded by 'desired-attrributes'. |
| **container-type** | | string optional | Type of overlying disk container. Omitted if information is unavailable, or excluded by 'desired-attributes'.<br><br>Possible values:<br><br>• "aggregate" - Container is an aggregate.<br>• "broken" - Container is broken pool.<br>• "foreign" - Array LUN has been marked foreign.<br>• "labelmaint" - Container is online label maintenance list.<br>• "maintenance" - Container is disk maintenance center.<br>• "mediator" - Container is a mediator disk.<br>• "remote" - Disk belongs to the remote cluster.<br>• "shared" - Container is storage pool.<br>• "spare" - Container is spare pool.<br>• "unassigned" - Disk ownership has not been assigned.<br>• "unknown" - Container is currently unknown. This is the default setting.<br>• "volume" - Container is a traditional volume.<br>• "unsupported" - Container is not supported. |
| **disk-aggregate-info** | | disk-aggregate-info optional | Information giving disk's basic disposition within its overlying aggregate or traditional volume. Omitted if container-type is not "aggregate" or "volume", or if excluded by 'desired-attributes'. |
| **disk-outage-info** | | disk-outage-info optional | Information about a disk that is not in service. Omitted if container-type is not "broken", "maintenance", "labelmaint", or "unassigned", or if excluded by 'desired-attributes'. |
| **disk-shared-info** | | disk-shared-info optional | Information giving disk's basic disposition within its overlying storage pool. Omitted if container-type is not "shared", or if excluded by 'desired-attributes'. |
| **disk-spare-info** | | disk-spare-info optional | Information giving disk's basic disposition within its overlying spare pool. Omitted if container-type is not "spare", or if excluded by 'desired-attributes'. |
| **disk-state** | | disk-state-info[] optional | Information giving RAID specific state of the disk. Omitted if information is unavailable. |
| **disk-uid** | | string optional | Disk unique identifier. Maximum length of 90 characters. Omitted if excluded by 'desired-attributes'. |
| **effective-disk-type** | | string optional | Effective disk interface type. Disks can report different physical 'disk-type', but the same 'effective-disk-type'. Disks with the same 'effective-disk-type' are compatible for use within the same aggregate or traditional volume. Omitted if information is unavailable, or excluded by 'desired-attributes'.<br><br>Possible values:<br><br>• "ATA"<br>• "FCAL"<br>• "LUN"<br>• "MSATA"<br>• "SAS"<br>• "BSAS"<br>• "SSD"<br>• "SSD_NVM"<br>• "FSAS"<br>• "VMDISK"<br>• "unknown" |
| **effective-rpm** | | integer optional | Effective rotational speed in revolutions per minute. Disks can report different actual 'rpm', but have the same 'effective-rpm'. Disks with the same 'effective- rpm' are compatible for use within the same aggregate or traditional volume. Omitted if information is unavailable, or excluded by 'desired-attributes'. |

| | | | |
|---|---|---|---|
| **physical-blocks** | **[0..2^64-1]** | integer<br>optional | RAID recorded disk capacity expressed in units of 4096-byte blocks. Typically this is the disk capacity reported by disk driver, but rounded down to the nearest 4096-byte block. Omitted if information is unavailable, or if excluded by 'desired-attributes'. |
| **position** | | string<br>optional | Position of disk relative to its container-type. Omitted if excluded by 'desired-attributes'.<br><br>Possible values:<br><br>• "copy" - RAID group copy destination disk.<br>• "data" - RAID group data disk.<br>• "tparity" - RAID group third (anti-diagonal) parity disk.<br>• "dparity" - RAID group diagonal parity disk.<br>• "orphan" - Disk is orphan of an aggregate or traditional volume.<br>• "parity" - RAID group parity disk.<br>• "pending" - Disk is pending addition to an aggregate or traditional volume.<br>• "present" - Disk is present in system. This is the default setting. |
| **spare-pool** | | string<br>optional | Name of RAID managed spare pool with which this disk is associated. Omitted if unavailable. Generally determined both by whether ownership has been assigned for this disk, and whether SyncMirror feature is supported on the reporting node. This disk may not currently be contained within this spare-pool, such as if it's been allocated to an aggregate or removed from service. This is the spare pool with which disk would be contained if/when it is initialized or released as a spare. Omitted if excluded by 'desired-attributes'.<br><br>Possible values:<br><br>• "Pool0" - Disk is associated with spare Pool0.<br>• "Pool1" - Disk is associated with spare Pool1.<br>• "spare" - Disk is associated with the general spare pool.<br>• "unknown" - Cannot determine spare pool associativity for this disk. |
| **standard-disk-type** | | standarddisktype<br>optional | Industry standard disk type. Note suggested display strings for each value. Possible values:<br><br>• "sata" - SATA, Serial Advanced Technology Attachment,<br>• "fc" - FC, Fibre Channel,<br>• "nl_sas" - NL-SAS, Near Line SAS<br>• "lun" - LUN, SCSI Logical Unit Number (e.g. Array),<br>• "sas" - SAS, Serial Attached SCSI,<br>• "scsi" - SCSI, Small Computer System Interface,<br>• "ssd" - SSD, Solid-State Disk,<br>• "vm_disk" - VM Disk, Hypervisor Virtual Disk,<br>• "unknown" - Unknown Disk Type,<br>• "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk<br><br>Attributes: non-creatable, non-modifiable |
| **used-blocks** | **[0..2^64-1]** | integer<br>optional | RAID recorded size of file system region on this disk, given in units of 4096-byte blocks. Typically based upon the disk's right-size capacity, but it may be smaller if RAID has downsized this disk, such as due to reconstruct replacing a smaller with a larger disk. This is distinct from WAFL usage of file system space. Omitted if information is unavailable, or if excluded by 'desired-attributes'. |

# Element definition: **disk-stats-info**

[top]

Contains disk statistics.

| Name | Range | Type | Description |
|---|---|---|---|
| **average-latency** | **[0..2^32-1]** | integer<br>optional | Access time to disk in milliseconds. Omitted if excluded by 'desired-attributes'. |
| **bytes-per-sector** | **[0..2^16-1]** | integer<br>optional | Number of bytes per disk sector. A sector count element, such as 'sectors-read' and 'sectors-written', may be multipled by this value to convert to a byte count. Omitted if excluded by 'desired-attributes'. |
| **disk-io-kbps** | **[0..2^64-1]** | integer<br>optional | Rolling average of kilobytes per second read and written to this disk. Omitted if excluded by 'desired-attributes'. |
| **disk-iops** | **[0..2^64-1]** | integer<br>optional | Rolling average of I/O operations per second read and written to this disk. Omitted if excluded by 'desired-attributes'. |
| **disk-uid** | | string<br>optional | Unique identifier of disk for this disk. Maximum length of 90 characters. Omitted if excluded by 'desired-attributes'. |
| **import-in-progress** | | boolean<br>optional | For disks marked with container-type = foreign, this value is true when data is actively being imported from this disk. |
| **path-error-count** | **[0..2^32-1]** | integer<br>optional | The number of errors on this disk. Omitted if excluded by 'desired-attributes'. |
| **power-on-time-interval** | **[0..2^63-1]** | integer<br>optional | Number of seconds the drive has been powered on. Omitted if excluded by 'desired-attributes'. |

| | | | |
|---|---|---|---|
| **sectors-read** | **[0..2^64-1]** | integer optional | Number of disk sectors read since system last booted, given in units of 'bytes-per-sector'. Omitted if excluded by 'desired-attributes'. |
| **sectors-written** | **[0..2^64-1]** | integer optional | Number of disk sectors written since system last booted, given in units of 'bytes-per-sector'. Omitted if excluded by 'desired-attributes'. |

## Element definition: **disk-aggregate-info**

[top]

Details giving disk's basic disposition within its overlying aggregate or traditional volume. Information that is specific to a disk contained within an aggregate or traditional volume is returned here. Returned only if 'container-type' is "aggregate" or "volume".

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-name** | | string optional | Name of aggregate or traditional volume with which this disk is associated. Omitted if excluded by 'desired-attributes'. |
| **checksum-type** | | string optional | The checksum type that has been assigned to this disk. Omitted if information is unavailable, or if excluded by 'desired-attributes'.<br><br>Possible values:<br><br>• "advanced_zoned" - Advanced zoned checksum.<br>• "block" - Block checksum.<br>• "none" - No checksum type assigned.<br>• "wafl" - WAFL checksum.<br>• "zoned" - Zoned checksum (this value is no longer supported). |
| **copy-destination-cluster-name** | | string optional | cluster unique name of the copy destination disk. 'stack-id'.'shelf'.'bay'. Disks on multi-disk carriers take the form 'stack-id'.'shelf'.'bay'.'lun'.<br><br>Virtual disks take the form 'prefix'.'number' where prefix is the storage array's prefix and number is a unique ascending number.<br><br>Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'.<br><br>Omitted if both 'is-prefailed' and 'is-replacing' are false, or if excluded by 'desired-attributes'. |
| **copy-destination-name** | | string optional | name of copy destination. Omitted if both 'is-prefailed' and 'is-replacing' are false, or if excluded by 'desired-attributes'. |
| **copy-percent-complete** | **[0..100]** | integer optional | Percent completion of disk copy. Omitted if no copy operation involving this disk is in progress. So omitted if neither 'is-prefailed' nor 'is-replacing' is true, and if position is not "copy". |
| **copy-reason** | | string optional | The reason this disk has been marked for a disk copy operation. Possible values include:<br><br>• "evacuation" - Disk is marked for evacuation.<br>• "layout_optimization" - Disk is marked for layout optimization.<br>• "shared_disk_replacement"- Disk is marked for replacement.<br><br>Omitted if disk copy is not in progress or excluded by 'desired-attributes'. |
| **is-evacuating** | | boolean optional | True if Data ONTAP is copying the disk that is housed in the same carrier with a failed disk. This flag is expected to remain true until the system has copied the contents of this disk to the replacement disk. At that time this disk is expected to be failed with the reason "evacuated". Omitted if excluded by 'desired-attributes'. |
| **is-in-root-aggr** | | boolean optional | True only if this disk is in a root aggregate. |
| **is-media-scrubbing** | | boolean optional | True if media scrub is currently active for this disk. Omitted if excluded by 'desired-attributes'. |
| **is-offline** | | boolean optional | True if disk is offline. Omitted if excluded by 'desired-attributes'. |
| **is-prefailed** | | boolean optional | True if the admin issued a 'disk fail' or if the the system marked this disk for Rapid RAID Recovery. This flag is expected to remain set until the system has copied the contents of this disk to a system-selected replacement disk. At that point, this disk is expected to be removed from service and placed in in the broken pool. Omitted if excluded by 'desired-attributes'. |
| **is-reconstructing** | | boolean optional | True if disk is in process of being reconstructed. Omitted if excluded by 'desired-attributes'. |
| **is-replacing** | | boolean optional | True if the admin issued 'disk replace' to replace this disk with a specified replacement disk. This flag is expected to remain true until the system has copied the contents of this disk to the admin-specified replacement disk. At that point this disk is expected to be released to the spare pool. Omitted if excluded by 'desired-attributes'. |
| **is-zeroed** | | boolean optional | True if disk is in pre-zeroed state. Omitted if excluded by 'desired-attributes'. |
| **is-zeroing** | | boolean optional | True only if disk position is 'pending' and disk is in process of being zeroed. Omitted if excluded by 'desired-attributes'. |
| | | string | Name of plex with which this disk is associated. Omitted if disk is not associated with a plex, or if |

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|---|---|---|---|
| **plex-name** | | optional | excluded by 'desired-attributes'. |
| **raid-group-name** | | string optional | Name of RAID group to which this disk belongs. Omitted if disk does not belong to a RAID group, or if excluded by 'desired-attributes'. |
| **reconstruct-percent-complete** | **[0..100]** | integer optional | Percent completion of disk reconstruction. Omitted if 'is-reconstructing' is not true, if reconstruct is stalled, or if excluded by 'desired-attributes'. |
| **zeroing-percent-complete** | **[0..100]** | integer optional | Percent completion of disk zeroing. Omitted if is-zeroing' is not true, or if excluded by 'desired-attributes'. |

# Element definition: **disk-outage-info**

[top]

Information about a disk that is not in service.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-in-fdr** | | boolean optional | True if disk has entry in the persistent Failed Disk Registry. Omitted if excluded by 'desired-attributes'. |
| **reason** | | string | Reason disk is not in service. Omitted if excluded by 'desired-attributes'.<br><br>Possible values:<br><br>• "admin failed" - Admin has persistently failed disk.<br>• "admin removed" - Admin requested spare disk to be removed from system.<br>• "admin testing" - Admin isolated disk for maintenance testing.<br>• "bad label" - Disk has bad RAID label.<br>• "bypassed" - Disk has been bypassed.<br>• "failed" - Disk is persistently failed.<br>• "init failed" - Disk failed initialization.<br>• "label version" - Disk has invalid RAID label version.<br>• "labeled broken" - Disk was persistently failed in a prior Data ONTAP release.<br>• "labelmaint" - Disk is isolated for online label maintenance.<br>• "LUN resized" - Array LUN was inappropriately resized.<br>• "missing" - Disk has gone missing.<br>• "not responding" - Disk is non-responsive.<br>• "predict failure" - Disk failure is predicted. capacity than previously.<br>• "rawsize shrank" - Disk reporting smaller<br>• "recovering" - Disk is underoing recovery.<br>• "sanitizing" - Disk is in process of being sanitized.<br>• "sanitized" - Disk sanitization complete, but admin has not yet released disk back to the spare pool. in this release.<br>• "trad_vol_disk" - Traditional Volume Disk, not supported on clustered data ONTAP systems.<br>• "SnapLock Disk" - SnapLock disk, not supported.<br>• "testing" - System isolated disk for maintenance testing.<br>• "unassigned" - Disk ownership has not been assigned.<br>• "unknown" - Don't know reason disk is not in service. |

# Element definition: **disk-pool-info**

[top]

node-suggested pool pair for every disk.

| Name | Range | Type | Description |
|---|---|---|---|
| **node-for-pool** | | string optional | Name of node for which the pool suggestion corresponds to. |
| **pool-suggestion** | **[0..2^32-1]** | integer optional | Pool to which partitions in the disk may be assigned. If the disk is part of a loop that does not have any disks assigned to the specific node or has disks of mutiple pools assigned to the specific node, the pool will be 255. |

# Element definition: **disk-shared-info**

[top]

Details giving disk's basic disposition within its overlying storage pool. Information that is specific to a disk that is contained within a storage pool belongs here.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **aggregate-list** | | shared-aggregate-info[] optional | List of aggregates sharing this disk. Omitted if not available or excluded by 'desired attributes'. |
| **checksum-type** | | string optional | The checksum type that has been assigned to this disk. Omitted if information is unavailable, or if excluded by 'desired-attributes'.<br><br>Possible values:<br><br>• "advanced_zoned" - Advanced zoned checksum.<br>• "block" - Block checksum.<br>• "zoned" - Zoned checksum (this value is no longer supported). |
| **copy-destination-cluster-name** | | string optional | disk cluster name of copy destination. Omitted if both 'is-prefailed' and 'is-replacing' are false, or if excluded by 'desired-attributes'. |
| **copy-destination-name** | | string optional | name of copy destination. Omitted if both 'is-prefailed' and 'is-replacing' are false, or if excluded by 'desired-attributes'. |
| **copy-percent-complete** | **[0..100]** | integer optional | Percent completion of disk copy. Omitted if no copy operation involving this disk is in progress. So omitted if neither 'is-prefailed' nor 'is-replacing' is true. |
| **copy-progress** | **[0..2^64-1]** | integer optional | Progress of disk copy in blocks. Omitted if no copy operation involving this disk is in progress. So omitted if neither 'is-prefailed' nor 'is-replacing' is true. |
| **copy-reason** | | string optional | The reason this disk has been marked for a disk copy operation. Possible values include:<br><br>• "evacuation" - Disk is marked for evacuation.<br>• "layout_optimization" - Disk is marked for layout optimization.<br><br>Omitted if disk copy is not in progress or excluded by 'desired-attributes'. |
| **copy-size** | **[0..2^64-1]** | integer optional | total size of disk copy in blocks. If N partitions of disk are under disk copy, copy-size will refer to cumulative size of those N partitions. Omitted if no copy operation involving this disk is in progress. So omitted if neither 'is-prefailed' nor 'is-replacing' is true. |
| **is-evacuating** | | boolean optional | True if Data ONTAP is copying the disk that is housed in the same carrier with a failed disk. This flag is expected to remain true until the system has copied the contents of this disk to the replacement disk. At that time this disk is expected to be failed with the reason "evacuated". Omitted if excluded by 'desired-attributes'. |
| **is-in-root-aggr** | | boolean optional | True only if this disk has in a partition in a root aggregate. |
| **is-media-scrubbing** | | boolean optional | True if media scrub is currently active for this disk. Omitted if excluded by 'desired-attributes'. |
| **is-offline** | | boolean optional | True if disk is offline. Omitted if excluded by 'desired-attributes'. |
| **is-prefailed** | | boolean optional | True if the admin issued a 'disk fail' or if the the system marked this disk for Rapid RAID Recovery. This flag is expected to remain set until the system has copied the contents of this disk to a system-selected replacement disk. At that point, this disk is expected to be removed from service and placed in in the broken pool. Omitted if excluded by 'desired-attributes'. |
| **is-reconstructing** | | boolean optional | True if disk is in process of being reconstructed. Omitted if excluded by 'desired-attributes'. |
| **is-replacing** | | boolean optional | True if the admin issued 'disk replace' to replace this disk with a specified replacement disk. This flag is expected to remain true until the system has copied the contents of this disk to the admin-specified replacement disk. At that point this disk is expected to be released to the spare pool. Omitted if excluded by 'desired-attributes'. |
| **is-sparecore** | | boolean optional | True if disk is sparecore disk. Omitted if excluded by 'desired-attributes'. |
| **is-zeroed** | | boolean optional | True if disk is in pre-zeroed state. Omitted if excluded by 'desired-attributes'. |
| **is-zeroing** | | boolean optional | True only if disk position is 'pending' and disk is in process of being zeroed. Omitted if excluded by 'desired-attributes'. |
| **num-data-partitions** | **[0..100]** | integer optional | This field indicates the number of data partitions on this disk if it's a shared disk. |
| **num-root-partitions** | **[0..100]** | integer optional | This field indicates the number of root partitions on this disk if it's a shared disk. |
| **num-total-partitions** | **[0..100]** | integer optional | This field indicates the total number of partitions on this disk if it's a shared disk. |
| **partial-record** | | boolean optional | True if record for this disk is sent by only one node. From D-blade it will always be set as true. At cluster level we set it to false if we received record from both nodes. |
| **partitioning-type** | | string optional | This field indicates whether disk is partitioned or storage pool disk. This field is available only if 'container-type' is "shared". Possible values include:<br><br>• "root_data" - Disk is root-data partitioned disk.<br>• "root_data1_data2" - Disk is root-data1-data2 partitioned disk.<br>• "storage_pool" - Disk is storage pool disk.<br><br>Omitted if excluded by 'desired attributes'. |

| | | | |
|---|---|---|---|
| **reconstruct-percent-complete** | **[0..100]** | integer optional | Percent completion of disk reconstruction. Omitted if 'is-reconstructing' is not true, if reconstruct is stalled, or if excluded by 'desired-attributes'. |
| **reconstruct-progress** | **[0..2^64-1]** | integer optional | Completion of disk reconstruction in blocks. Omitted if 'is-reconstructing' is not true. |
| **reconstruct-size** | **[0..2^64-1]** | integer optional | Total size of disk reconstruction in blocks. Omitted if 'is-reconstructing' is not true. |
| **sparecore-eligible-nodes** | | node-name[] optional | List of nodes to which disk is eligible to be sparecore disk. Omitted if excluded by 'desired-attributes'. |
| **static-part-method** | | boolean optional | This field indicates if the partitioning method corresponding to this disk is a static (init-time) partitioning method. |
| **storage-pool** | | string optional | Cluster wide unique name of RAID managed storage pool with which this disk is associated. |
| **storage-pool-uuid** | | string optional | Unique identifier of RAID managed storage pool with which this disk is associated. |
| **zeroing-percent-complete** | **[0..100]** | integer optional | Percent completion of disk zeroing. Omitted if is-zeroing' is not true, or if excluded by 'desired-attributes'. |
| **zeroing-progress** | **[0..2^64-1]** | integer optional | Completion of disk zeroing in blocks. Omitted if is-zeroing' is not true. |
| **zeroing-size** | **[0..2^64-1]** | integer optional | Total size of disk zeroing in blocks. Omitted if is-zeroing' is not true. |

## Element definition: **disk-spare-info**

[top]

Details giving disk's basic disposition within its overlying spare pool. Information that is specific to a disk that is contained within a spare pool belongs here.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-media-scrubbing** | | boolean optional | True if media scrub is currently active for this disk. Omitted if excluded by 'desired-attributes'. |
| **is-offline** | | boolean optional | True if disk is offline. Omitted if excluded by 'desired-attributes'. |
| **is-sparecore** | | boolean optional | True if disk is sparecore disk. Omitted if excluded by 'desired-attributes'. |
| **is-zeroed** | | boolean optional | True if disk has been pre-zeroed. Omitted if excluded by 'desired-attributes'. |
| **is-zeroing** | | boolean optional | True if disk is in process of being zeroed. Omitted if excluded by 'desired-attributes'. |
| **sparecore-eligible-nodes** | | node-name[] optional | List of nodes to which disk is eligible to be sparecore disk. Omitted if excluded by 'desired-attributes'. |
| **zeroing-percent-complete** | **[0..100]** | integer optional | Percent completion of disk zeroing. Omitted if is-zeroing' is not true, or if excluded by 'desired-attributes'. |

## Element definition: **disk-state-info**

[top]

Details giving disk's RAID specific state information. For disks that are shared between both nodes this will give states as seen by both nodes.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | RAID specific state of the disk.<br><br>Possible values:<br><br>• "invalid"<br>• "notzeroed"<br>• "zeroing"<br>• "zeroed"<br>• "inuse"<br>• "notpresent"<br>• "failing"<br>• "failed"<br>• "unfailing"<br>• "uninited" |

| | | | |
|---|---|---|---|
| **disk-fsm-state** | | string optional | • "orphaned"<br>• "unknown"<br>• "sparing"<br>• "fakezeroed"<br>• "sdc"<br>• "offline"<br>• "online"<br>• "partitioning"<br>• "partitioned"<br>• "unpartitioning"<br>• "unpartitioned"<br>• "present"<br>• "replacing"<br>• "offlining"<br>• "prefailing" |
| **node-name** | | string optional | Name of the node reporting disk state. |

## Element definition: **standarddisktype**

[top]

SATA | FC | NL-SAS | LUN | SAS | SCSI | SSD | VM-DISK | NVMe-SSD | SSD-CAP | SSD-ZNS | VM-LUN | VM-LUN-SSDS Possible values:

- "sata" - SATA, Serial Advanced Technology Attachment,
- "fc" - FC, Fibre Channel,
- "nl_sas" - NL-SAS, Near Line SAS,
- "lun" - LUN, SCSI Logical Unit Number (e.g. Array),
- "sas" - SAS, Serial Attached SCSI,
- "scsi" - SCSI, Small Computer System Interface,
- "ssd" - SSD, Solid-State Disk,
- "vm_disk" - VM Disk, Hypervisor Virtual Disk,
- "unknown" - Unknown Disk Type,
- "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk,
- "ssd_dc" - DC SSD, Data Center Non-Volatile Memory Express Solid-State Disk,
- "ssd_cap" - CAP SSD, High Capacity Solid-State Disk,
- "vm_lun" - VM LUN, Hypervisor Virtual LUN,
- "vm_lun_ssd" - VM SSD LUN, Hypervisor Virtual SSD LUN,
- "ssd_zns" - SDF SSD, Non-Volatile Memory Express Solid-State Disk

[none]

## Element definition: **storage-sed-info**

[top]

Self-encrypting disk (SED) info. Available from the disk-encrypt cluster ZAPI.

| Name | Range | Type | Description |
|---|---|---|---|
| **data-key-id** | | string optional | Key ID of the authentication key that the SED currently requires for authorization to modify the data protection controls. Omitted if disk is not a SED, or if excluded by 'desired-attributes'. |
| **fips-key-id** | | string optional | Key ID of the authentication key that the SED currently requires for authorization to modify the FIPS-compliance controls. Omitted if disk is not a SED, or if excluded by 'desired-attributes'. |
| **is-fips-sed** | | boolean | True if the disk is a FIPS-certified SED. Omitted if disk is not a SED, or if excluded by 'desired-attributes'. |
| **is-non-fips-sed** | | boolean | True if the disk is a SED that is not FIPS-certified. Omitted if disk is not a SED, or if excluded by 'desired-attributes'. |
| **is-power-on-lock-enabled** | | boolean optional | State of SED power-lock-enable control that determines whether authentication is required after subsequent SED power-cycles before I/O is allowed. True will require authentication; false indicates no authentication is needed to allow I/O. Omitted if disk is not a SED, or if excluded by 'desired-attributes'. |
| **is-sed** | | boolean | True if the disk is a SED with or without FIPS certification. Omitted if disk is not a SED, or if excluded by 'desired-attributes'. |
| **protection-mode** | | string optional | The summary of the data protection and FIPS compliance states. Omitted if disk is not a SED, or if excluded by 'desired-attributes'. |

## Element definition: **storage-ssd-info**

[top]

Storage info block for solid-state storage devices.

| Name | Range | Type | Description |
|---|---|---|---|
| **percent-rated-life-used** | **[0..255]** | integer optional | An estimate of the percentage of device life that has been used, based on the actual device usage and the manufacturer's prediction of device life. A value greater than 99 indicates that the estimated endurance has been consumed, but may not indicate a device failure. Omitted if value is unknown. |
| **percent-spares-consumed** | **[0..100]** | integer optional | Percentage of device spare blocks that have been used. Each device has a number of spare blocks that will be used when a data block can no longer be used to store data. This value reports what percentage of the spares have already been consumed. Omitted if value is unknown. |
| **percent-spares-consumed-limit** | **[0..100]** | integer optional | Spares consumed percentage limit reported by the device. Omitted if value is unknown. |

## Element definition: **virtual-machine-disk-info**

[top]

A typedef containing the attributes for virtual machine disks. Such attributes are the hypervisor VM file name, the backing store and the adapter to name a few.

| Name | Range | Type | Description |
|---|---|---|---|
| **vmdisk-adapter-device** | | string optional | Backing adapter device name. Example is "vmhba32". |
| **vmdisk-adapter-driver** | | string optional | Backing adapter driver name. For example, "mptsas". For iSCSI connections, this element represents name of the iSCSI initiator. Example is "iqn.1998-01.com.vmware:esxhostname-5d1555b6". |
| **vmdisk-adapter-model** | | string optional | Backing adapter model type. Example is "LSI1064E", "iSCSI Software Adapter". |
| **vmdisk-adapter-pci** | | string optional | Backing adapter PCI device ID for the virtual disk. For iSCSI connections, this element is empty. Example is "50:00.0". |
| **vmdisk-container-name** | | string optional | Container associated with the VM Disk. Example is "container1" |
| **vmdisk-lun-canonical-name** | | string optional | Hypervisor-assigned unique ID of the backing device (disk or LUN). Example is "naa.75hsfe523hnsfhf46323". |
| **vmdisk-lun-capacity** | **[0..2^64-1]** | integer optional | Size of the backing device (disk or LUN) in bytes. Example is "4294967296". |
| **vmdisk-lun-model** | | string optional | Backing device (disk or lun) model. Example is "LUN", "MBE2073RC". |
| **vmdisk-lun-partition** | | integer optional | Backing disk partition number where the corresponding VM disk file resides. Example is "3". |
| **vmdisk-lun-vendor-name** | | string optional | Name of the backing device manufacturer. Example is "FUJITSU". |
| **vmdisk-object-name** | | string optional | Page blob associated with the VM Disk. Example is "blob1" |
| **vmdisk-storage-account** | | string optional | Storage account associated with the VM Disk. Example is "storageaccount1" |
| **vmdisk-store-capacity** | **[0..2^64-1]** | integer optional | The size of the disk backing store in bytes. Example is "4294967296". |
| **vmdisk-store-nas-path** | | string optional | Full path to the backing store. This field is valid only for NAS connections. Example is "myvm.domain.com:/backingStoreName". |
| **vmdisk-store-type** | | string optional | Type of the disk backing store. It can be a VMFS volume, a directory on network-attached storage, or a local file system path. Possible values are "NFS", "VMFS". |
| **vmdisk-target-iscsi-address** | | string optional | The iSCSI IP address (IPv4 or IPv6) of the disk backing target. This field is valid only for iSCSI connections. Examples are "192.168.0.1", "2001:0db8:85a3:0000:0000:8a2e:0370:7334". |
| **vmdisk-target-iscsi-name** | | string optional | The iSCSI name of the disk backing target. This field is valid only for iSCSI connections. Example is "iSCSI-targ.com.optional-string". |
| **vmdisk-target-lun-id** | | string optional | SCSI device name for the backing disk. It takes the form target-id:lun-id. Example is "3:1". |
| **vmhost-error** | | string optional | Error (if any) while retrieving the virtual disk details. Example is "vSphere server is missing". |

## Element definition: **vmdisk-backing-info**

[top]

Backing info block for virtual machine disks.

| Name | Range | Type | Description |
|---|---|---|---|
| **vmdisk-backing-device-id** | | string | Device id of the underlying disk. |
| **vmdisk-backing-disk-model** | | string | Product id of the underlying disk. |
| **vmdisk-backing-serial-number** | | string | Serial number of the underlying disk. |
| **vmdisk-backing-vendor-id** | | string | Vendor of the underlying disk. |

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **shared-aggregate-info**

[top]

Name of desired aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-name** | | string optional | String representing name of the aggregate. |

# APIs in Category: **storage-disk-firmware**

| | |
|---|---|
| storage-disk-firmware-file-get-iter | This is an auto generated category. |

## storage-disk-firmware-file-get-iter

[top]

return the firmware file list

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-disk-firmware-file optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-disk-firmware-file optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-acp-firmware object. All storage-acp-firmware objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-disk-firmware-file[] optional | The list of attributes of storage-acp-firmware objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-acp-firmware objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **storage-disk-firmware-file**

[top]

Show firmware files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **filename** | | string optional | Storage Firmware File Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# APIs in Category: **storage-initiator**


storage-initiator-balance
storage-initiator-disk-path-list-info
storage-initiator-errors-list-info
storage-initiator-get-load
storage-initiator-path-list-info
storage-initiator-path-quiesce
storage-initiator-path-resume


These APIs are used to get information on initiator ports as related to their role as a gateway to back end storage.

## storage-initiator-balance

[top]

Balances primary/secondary array LUN paths across available initiator ports based on I/O load. This API is deprecated in Clustered Data ONTAP 8.3.0 and later.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | node to balance initiator ports on |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## storage-initiator-disk-path-list-info

[top]

Returns path information and statistics for a given disk or all disks. We use the word disk to refer to an array lun, real disk, or Solid State Device This API is deprecated in Clustered Data ONTAP 8.3.0 and later.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk-name** | | string optional | The name of the disk to list path information for. If not supplied all paths to all attached targets are returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **disk-path-info** | | disk-path-info[] | A table of per path statistics, errors and other related data for this disk |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDISKNOTFOUND** | |

# storage-initiator-errors-list-info

[top]

Lists all known disk/configuration errors associated with an array or shelves acting like array.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string optional | The name of the array to list error information for. (28 chars) |
| **disk-name** | | string optional | The name of the disk or array lun to list error information for. If not specified, all errors for all disks/array LUNs will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **errors** | | storage-error-info[] optional | A list of all errors for the requested array/shelf or disks/luns. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EARRAYNOTFOUND** | |
| **EDISKNOTFOUND** | |

# storage-initiator-get-load

[top]

Gets disk I/O rates for a given fibre channel initiator port or for all initiator ports if no port is specified. The term disk refers to an array LUN, actual disk, or solid state device. This API is deprecated in Clustered Data ONTAP 8.3.0 and later.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | Obtain disk I/O rates for initiator ports on the specified node. |
| **port** | | string optional | Port to show load on, e.g. 0a. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **load-info** | | storage-initiator-load-info[] optional | A table of per disk load related information for the named port. Omitted if no array LUNs are visible, or some other internal error occurs. |

# storage-initiator-path-list-info

[top]

Returns information and statistics on all known paths to back end storage.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string<br>optional | Obtain back end storage path statistics for this node. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **path-info** | | storage-initiator-path-info[]<br>optional | A table of back end path statistics, errors and other related data. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# storage-initiator-path-quiesce

[top]

Quiesces an array LUN on a path. A quiesced array LUN will not be sent I/O on the specified path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string | The initiator port of the path that I/O will be quiesced on. |
| **lun-number** | | integer<br>optional | LU number. If this value is not specified then the command applies for the specified path. Range: [0..65535] |
| **node** | | string | The node name on which the quiesce is issued |
| **path-failure-threshold** | | integer<br>optional | The path failure count, exceeding the specified value within wait duration will quiesce the path. This value is mutually exclusive with lun-number. If this value is not specified to quiesce path, path will be quiesed immediately. wait-duration must be specified along with path-failure-threshold. Range: [1..100] |
| **target-wwpn** | | string | The array target port of the path that I/O will be quiesced on. World wide port number has to be specified without colons. |
| **wait-duration** | | integer<br>optional | The time duration in which path is monitored for path failures. This value is mutually exclusive with lun-number. If this value is not specified to quiesce path, path will be quiesed immediately. path-failure-threshold must be specified along with wait-duration. Range: [1..1440] |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDPATH** | |
| **ECANTQUIESCELASTPATH** | |
| **EDISKNOTFOUND** | |
| **EINVALIDTARGET** | |
| **EQUIESCEFAILED** | |
| **ELUNQUIESCING** | |
| **EQUIESCENOTSUPPORTED** | |
| **ETHRESHOLDWAIT** | |
| **ENOLUNQUIESCEONPATHQ** | |

# storage-initiator-path-resume

[top]

Resumes I/O to array LUN on a path that was previously quiesced. Resuming I/O to a non-quiesced array LUN is a no-op and not an error.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string | The initiator port of the path that I/O will be resumed to. |
| **lun-number** | | integer optional | LU number. If this value is not specified then the specified path will be resumed. Range: [0..65535] |
| **node** | | string | The node name on which the resume is issued |
| **target-wwpn** | | string | The array target port of the path that I/O will be resumed to. World wide port number has to be specified without colons. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDPATH** | |
| **EDISKNOTFOUND** | |
| **EINVALIDTARGET** | |
| **ERESUMEFAILED** | |
| **ENOLUNRESUMEONPATHQ** | |

# Element definition: **disk-path-info**

[top]

Contains per path statistics, errors and other related data.

| Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string | The name of the array providing the lun. |
| **disk-name** | | string | The name of the disk this path information is for |
| **disk-port** | | string optional | Disk port associated with this path. Possible values are "A" or "B". Omitted for non-disk target. |
| **disk-port-name** | | string optional | Disk port name associated with this path. This has the form <attachment-style>:<disk-port>, where <attachment-style> is either "FC" for FibreChannel, "SA" for SAS, or "NV" for NVMe, and <disk-port> is either "A" or "B". Omitted for non-disk target.<br><br>Possible values:<br>• "FC:A"<br>• "FC:B"<br>• "SA:A"<br>• "SA:B"<br>• "NV:A"<br>• "NV:B" |
| **disk-uid** | | string | Disk's UID, as supplied by the hardware, used to uniquely identify this disk. |
| **initiator-io-kbps** | | integer | Rolling average of kilobytes per second read and written over this initiator port. Range: [0..2^64-1] |
| **initiator-iops** | | integer | Rolling average of I/O operations per second read and written over this initiator port. Range: [0..2^64-1] |
| **initiator-lun-in-use-** | | integer | Number of LUNs in the IN-USE state on this initiator. Range: [0..2^64-1] |

| | | | |
|---|---|---|---|
| **count** | | | |
| **initiator-port** | | string | Initiator port name, e.g. 0a. |
| **initiator-port-speed** | | string | The speed that the initiator port has negotiated with its connected switch, or target port if direct attached. |
| **initiator-side-switch-port** | | string | The name of the switch connected to the controller's initiator port, or N/A when using direct attach |
| **lun-io-kbps** | | integer | Rolling average of kilobytes per second read and written to this LUN. Range: [0..2^64-1] |
| **lun-iops** | | integer | Rolling average of I/O operations per second read and written to this LUN. Range: [0..2^64-1] |
| **lun-number** | | integer | LU number. Range: [0..65535] |
| **lun-path-use-state** | | string | ONTAP's use of this path INU - (In Use) This path is currently used for I/O. RDY - (Ready) This path is not being used for I/O currently, but might transition to INU if storge errors or load balancing cause it to transition to INU. QED - (Quiesced) : The disk is quiesced on this path. MCF - (Misconfigured) : The disk is misconfigured on this path. The path is not available for I/O. Refer to storage_initiator_errors_list_info for details. FAL - (Failed) The connectivity to this path is lost. INI - (Initializing) The disk/LUN on this path is currently being readied for I/O operations (MPIO disks/LUNs only). PRE - (Persistent Reserve Register Error) An error occurred during the persistent reserve register operation of the disk/LUN on this path. This may be a transient condition and registration may successfully complete at a later time. |
| **node** | | string | Controller with the initiator port for this path. |
| **path-io-kbps** | | integer | Rolling average of kilobytes per second read and written to this path. Range: [0..2^64-1] |
| **path-iops** | | integer | Rolling average of I/O operations per second read and written to this path. Range: [0..2^64-1] |
| **path-link-errors** | | integer | Number of link errors reported on the path. Range: [0..2^32-1] |
| **path-lun-in-use-count** | | integer | Number of LUNs in the IN-USE state on this path. Range: [0..2^64-1] |
| **path-quality** | | integer | The percentage of the error threshold. 0% NO ERROR 1-20% LOW ERROR, available to load balancing and error retry code. 21-99% MEDIUM ERROR, load balancing and error retry code will not switch to this path. 100-? HIGH_ERROR, Excessive errors EMS event will be logged Range: [0..2^32-1] |
| **preferred-target-port** | | boolean optional | For a logical unit which reports asymmetric access, preferred-target-port indicates that a path, regardless of the current access state, routes to a preferred target port group. Possible values are:<br>• true: This path routes to a preferred target port group for this array LUN.<br>• false: This path does not route to a preferred target port group or the array LUN reports that there is no preferred target port group. |
| **target-io-kbps** | | integer | Rolling average of kilobytes per second read and written to this target port. Range: [0..2^64-1] |
| **target-iops** | | integer | Rolling average of I/O operations per second read and written to this target port. Range: [0..2^64-1] |
| **target-iqn** | | string optional | Target IQN of target port providing the disk. |
| | | | |

| | | | |
|---|---|---|---|
| **target-lun-in-use-count** | | integer | Number of LUNs in the IN-USE state on this target port. Range: [0..2^64-1] |
| **target-port-access-state** | | string | failover optimization type |
| **target-side-switch-port** | | string | Name of the switch port connected to the target array, or UNKNOWN if direct attached. |
| **target-wwnn** | | string | World Wide Node Name of the target device. |
| **target-wwpn** | | string | World Wide Port Name of target port providing the disk. |
| **tpgn** | | integer | The Target Port Group Number of the array's target port. Range: [0..2^64-1] |
| **vmdisk-device-id** | | integer optional | The device id used for the virtual device (also used by the hypervisor) Range: [0..2^32-1] |
| **vmdisk-hypervisor-area-name** | | string optional | The name of the storage area where the vmdisk is physically located. For ESX this is the name of a datastore. |
| **vmdisk-hypervisor-file-name** | | string optional | The file name of the virtual disk used by the hypervisor. For ESX this is the name of the disk's vmdk file. Example is "myvm/myvm_1.vmdk" |

# Element definition: **storage-error-info**

[top]

Contains error messages associated with back end array/shelf/LUNs.

| Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string | Name of the array/shelf with the configuration error. |
| **disk-name** | | string | The name of the disk or array lun this error information is for. |
| **disk-uid** | | string | Disk's UID, as supplied by the hardware, used to uniquely identify this disk. |
| **error-id** | | integer | A unique ID for each error returned. ID is unique on a per API call basis only. Range: [0..2^32-1] |
| **error-text** | | string | A description of the error being reported. |
| **error-type** | **[1..16]** | integer | Enum describing type of error.<br>Possible values:<br>• 1 -Redundancy error, less than two paths to a disk.<br>• 2 -Redundancy error, device is only accessible via a single fault domain, all paths go into the same target port group.<br>• 3 -Device is a control LUN.<br>• 4 -This foreign LUN has a reservation.<br>• 5 -LUN too large; a LUN has been detected that is larger than the maximum size supported.<br>• 6 -LUN too small; a LUN has been detected that is smaller than the minimum size supported.<br>• 7 -Invalid Block Size; a LUN has been detected that has an unsupported block size.<br>• 8 -A target port is accessible via multiple HBAs but the device to |

| | | | |
|---|---|---|---|
| | | | LUN id mappings aren't the same.<br>• 9 -A device is presented at different LUN ids on different ports.<br>• 10 -Multiple failover mode policies detected.<br>• 11 -Unknown array LUN.<br>• 12 -Data ONTAP(R) LUN.<br>• 13 -Disk firmware is downrev.<br>• 14 -Disk is not supported.<br>• 15 -This disk is in a failed state.<br>• 16 -This disk does not match the All-Flash Optimized personality of the system. |
| **lun-serial-number** | | string | The serial number of the lun the error occurs on, blank if the error is not lun related. |
| **node** | | string | The nodename reporting the disk or array lun with the error. |

# Element definition: **storage-initiator-load-info**

[top]

Contains per port per disk load information.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-port** | | string | Initiator port name, e.g. 0a. If port is not specified, data for all ports is returned. |
| **io-count** | | integer | Megabytes of data sent to this disk over this port. Range: [0..2^32-1] |
| **lun-number** | | integer | Logical Unit Number. Range: [0..65535] |
| **nodename** | | string | IP address of the node serving the port in dotted-decimal format (for example, "192.168.11.12"). |
| **percent-io** | | string | Percentage of all I/O on this port sent to this disk. Range: [0..100] |
| **serial-number** | | string | Disk/LUN serial number. Maximum length of 129 characters. |
| **switch-name** | | string | The name of the switch connected to the controller's initiator port, or N/A when using direct attach. |
| **target-side-switch-port** | | string | Name of the switch port connected to the target array, or UNKNOWN if direct attached. |
| **target-wwpn** | | string | World Wide Port Name of array's target port. |

# Element definition: **storage-initiator-path-info**

[top]

Contains per path statistics, errors and other related data.

| Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string | The name of the array providing this path is connected to. |
| **device-type** | | string optional | Type of LUN device. Describes the type of lun device or tape library. Possible Values are:<br>• "array_lun" - Array LUN type<br>• "tape_mc" - Tape Drive or Media Changer/library type<br>• "unknown" - Unknown device type |

| | | | |
|---|---|---|---|
| **initiator-io-kbps** | | integer | Rolling average of kilobytes per second read and written over this initiator port Range: [0..2^64-1] |
| **initiator-iops** | | integer | Rolling average of I/O operations per second over this initiator port Range: [0..2^64-1] |
| **initiator-lun-in-use-count** | | integer | Number of LUNs in the IN-USE state on this initiator. Range: [0..2^64-1] |
| **initiator-port** | | string | Initiator port name, e.g. 0a. |
| **initiator-port-speed** | | string | The speed that the initiator port has negotiated with its connected switch port, or target port if direct attached. |
| **initiator-side-switch-port** | | string | The name of the switch connected to the controller's initiator port, or N/A when using direct attach. |
| **node** | | string | The name of the node providing this path information. |
| **path-failure-threshold** | | integer | The path failure count, exceeding this value within wait duration will quiesce the path. Range: [0..2^32-1] |
| **path-io-kbps** | | integer | Rolling average of kilobytes per second read and written to this path. Range: [0..2^64-1] |
| **path-iops** | | integer | Rolling average of I/O operations per second read and written to this path. Range: [0..2^64-1] |
| **path-link-errors** | | integer | Number link errors reported on the path. Range: [0..2^32-1] |
| **path-lun-in-use-count** | | integer | Number of disks in the IN-USE state on this path. Range: [0..2^64-1] |
| **path-quality** | | integer | The percentage of the error threshold. 0% NO ERROR 1-20% LOW ERROR, available to load balancing and error retry code. 21-99% MEDIUM ERROR, load balancing and error retry code will not switch to this path. 100-? HIGH_ERROR, Excessive errors EMS event will be logged Range: [0..2^32-1] |
| **target-io-kbps** | | integer | Rolling average of kilobytes per second read and written to this target port. Range: [0..2^64-1] |
| **target-iops** | | integer | Rolling average of I/O operations per second read and written to this target port. Range: [0..2^64-1] |
| **target-iqn** | | string optional | World wide unique identification of iSCSI target. |
| **target-lun-in-use-count** | | integer | Number of disks in the IN-USE state on this target port. Range: [0..2^64-1] |
| **target-side-switch-port** | | string | Name of the switch port connected to the target array, or UNKNOWN if direct attached. |
| **target-wwpn** | | string | World Wide Port Name of target port providing the disk. |
| **tpgn** | | integer | The Target Port Group Number of the array's target port. Range: [0..2^64-1] |
| **vmdisk-** | | integer | The device id used for the virtual device (also used by the hypervisor) |

| | | | |
|---|---|---|---|
| **device-id** | | optional | Range: [0..2^32-1] |
| **wait-duration** | | integer | The time duration in which path is monitored for path failure. Range: [0..2^32-1] |

# APIs in Category: **storage-iscsi-initiator**


storage-iscsi-initiator-add-target
storage-iscsi-initiator-connect
storage-iscsi-initiator-disconnect
storage-iscsi-initiator-get-iter
storage-iscsi-initiator-remove-target


## storage-iscsi-initiator-add-target

[top]

Add an iSCSI target.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **administrative-status** | | service-state optional | Specifies the initial administrative status of the connection. The default setting is up. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the connection from functioning, the operational status remains as down. Possible values:<br>• "down" ,<br>• "up" |
| **label** | | string | The user defined identifier for the iSCSI target. |
| **node** | | node-name | The name of the node. |
| **target-name** | | string | The target name. Example: iqn.2012-06.com.bsdctl:target0 |
| **target-portal** | | string | The target's IP address. Example: 10.7.125.10 |
| **target-type** | | iscsi-initiator-target-type | The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Possible values:<br>• "external" - External iSCSI session target has external disks,<br>• "mailbox" - Mailbox iSCSI session target has mailbox disks,<br>• "partner" - Partner iSCSI session target has partner disks,<br>• "partner2" - Partner2 iSCSI session target has partner disks,<br>• "partner3" - Partner3 iSCSI session target has partner disks,<br>• "partner4" - Partner4 iSCSI session target has partner disks,<br>• "partner5" - Partner5 iSCSI session target has partner disks,<br>• "partner6" - Partner6 iSCSI session target has partner disks,<br>• "partner7" - Partner7 iSCSI session target has partner disks,<br>• "partner8" - Partner8 iSCSI session target has partner disks,<br>• "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP,<br>• "dr_partner" - Target has DR partner disks for MetroCluster over IP |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# storage-iscsi-initiator-connect

[top]

Connect to an iSCSI target.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **label** | | string | The user defined identifier for the iSCSI target. |
| **node** | | node-name | The name of the node. |
| **target-type** | | iscsi-initiator-target-type optional | The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Possible values:<br>• "external" - External iSCSI session target has external disks,<br>• "mailbox" - Mailbox iSCSI session target has mailbox disks,<br>• "partner" - Partner iSCSI session target has partner disks,<br>• "partner2" - Partner2 iSCSI session target has partner disks,<br>• "partner3" - Partner3 iSCSI session target has partner disks,<br>• "partner4" - Partner4 iSCSI session target has partner disks,<br>• "partner5" - Partner5 iSCSI session target has partner disks,<br>• "partner6" - Partner6 iSCSI session target has partner disks,<br>• "partner7" - Partner7 iSCSI session target has partner disks,<br>• "partner8" - Partner8 iSCSI session target has partner disks,<br>• "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP,<br>• "dr_partner" - Target has DR partner disks for MetroCluster over IP |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# storage-iscsi-initiator-disconnect

[top]

Disconnect from an iSCSI target.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **label** | | string | The user defined identifier for the iSCSI target. |
| **node** | | node-name | The name of the node. |
| **target-type** | | iscsi-initiator-target- | The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Possible values:<br>• "external" - External iSCSI session target has external disks,<br>• "mailbox" - Mailbox iSCSI session target has mailbox disks,<br>• "partner" - Partner iSCSI session target has partner disks,<br>• "partner2" - Partner2 iSCSI session target has partner disks,<br>• "partner3" - Partner3 iSCSI session target has partner disks,<br>• "partner4" - Partner4 iSCSI session target has partner disks, |

| | | | |
|---|---|---|---|
| | | type optional | • "partner5" - Partner5 iSCSI session target has partner disks,<br>• "partner6" - Partner6 iSCSI session target has partner disks,<br>• "partner7" - Partner7 iSCSI session target has partner disks,<br>• "partner8" - Partner8 iSCSI session target has partner disks,<br>• "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP,<br>• "dr_partner" - Target has DR partner disks for MetroCluster over IP |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# storage-iscsi-initiator-get-iter

[top]

Iterate over a list of iSCSI targets.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-iscsi-initiator-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | storage-iscsi-initiator-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-iscsi-initiator object. All storage-iscsi-initiator objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | storage-iscsi-initiator-info[] optional | The list of attributes of storage-iscsi-initiator objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more storage-iscsi-initiator objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

[top]

# storage-iscsi-initiator-remove-target

Remove an iSCSI target.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **label** | | string | The user defined identifier for the iSCSI target. |
| **node** | | node-name | The name of the node. |
| **target-type** | | iscsi-initiator-target-type optional | The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Possible values:<br>• "external" - External iSCSI session target has external disks,<br>• "mailbox" - Mailbox iSCSI session target has mailbox disks,<br>• "partner" - Partner iSCSI session target has partner disks,<br>• "partner2" - Partner2 iSCSI session target has partner disks,<br>• "partner3" - Partner3 iSCSI session target has partner disks,<br>• "partner4" - Partner4 iSCSI session target has partner disks,<br>• "partner5" - Partner5 iSCSI session target has partner disks,<br>• "partner6" - Partner6 iSCSI session target has partner disks,<br>• "partner7" - Partner7 iSCSI session target has partner disks,<br>• "partner8" - Partner8 iSCSI session target has partner disks,<br>• "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP,<br>• "dr_partner" - Target has DR partner disks for MetroCluster over IP |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **iscsi-initiator-target-type**

[top]

external|mailbox|partner|partner2|dr_auxiliary|dr_partner Possible values:

- "external" - External iSCSI session target has external disks,
- "mailbox" - Mailbox iSCSI session target has mailbox disks,
- "partner" - Partner iSCSI session target has partner disks,
- "partner2" - Partner2 iSCSI session target has partner disks,
- "partner3" - Partner3 iSCSI session target has partner disks,
- "partner4" - Partner4 iSCSI session target has partner disks,
- "partner5" - Partner5 iSCSI session target has partner disks,
- "partner6" - Partner6 iSCSI session target has partner disks,
- "partner7" - Partner7 iSCSI session target has partner disks,
- "partner8" - Partner8 iSCSI session target has partner disks,
- "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP,
- "dr_partner" - Target has DR partner disks for MetroCluster over IP

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **service-state**

[top]

down|up Possible values:

- "down" ,
- "up"

[none]

# Element definition: **storage-iscsi-initiator-info**

[top]

iSCSI Initiator Information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **administrative-status** | | service-state optional | Specifies the administrative status of the connection. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the connection from functioning, the operational status remains as down. Attributes: non-creatable, non-modifiable Possible values:<br>• "down" ,<br>• "up" |
| **failure-reason** | | string optional | The reason for a failure. The possible reasons include internal errors, networking errors, and user errors. Attributes: non-creatable, non-modifiable |
| **label** | | string optional | The user defined identifier for the iSCSI target. Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | The name of the node. Attributes: key, non-creatable, non-modifiable |
| **operational-** | | service-state | Specifies the operational status of the connection. Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **status** | | optional | • "down" ,<br>• "up" |
| **target-name** | | string optional | The target name. Example: iqn.2012-06.com.bsdctl:target0 Attributes: non-creatable, non-modifiable |
| **target-portal** | | string optional | The target's IP address. Example: 10.7.125.10 Attributes: non-creatable, non-modifiable |
| **target-type** | | iscsi-initiator-target-type optional | The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Attributes: key, non-creatable, non-modifiable Possible values:<br>• "external" - External iSCSI session target has external disks,<br>• "mailbox" - Mailbox iSCSI session target has mailbox disks,<br>• "partner" - Partner iSCSI session target has partner disks,<br>• "partner2" - Partner2 iSCSI session target has partner disks,<br>• "partner3" - Partner3 iSCSI session target has partner disks,<br>• "partner4" - Partner4 iSCSI session target has partner disks,<br>• "partner5" - Partner5 iSCSI session target has partner disks,<br>• "partner6" - Partner6 iSCSI session target has partner disks,<br>• "partner7" - Partner7 iSCSI session target has partner disks,<br>• "partner8" - Partner8 iSCSI session target has partner disks,<br>• "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP,<br>• "dr_partner" - Target has DR partner disks for MetroCluster over IP |

# Element definition: **iscsi-initiator-target-type**

[top]

external|mailbox|partner|partner2|dr_auxiliary|dr_partner Possible values:

- "external" - External iSCSI session target has external disks,
- "mailbox" - Mailbox iSCSI session target has mailbox disks,
- "partner" - Partner iSCSI session target has partner disks,
- "partner2" - Partner2 iSCSI session target has partner disks,
- "partner3" - Partner3 iSCSI session target has partner disks,
- "partner4" - Partner4 iSCSI session target has partner disks,
- "partner5" - Partner5 iSCSI session target has partner disks,
- "partner6" - Partner6 iSCSI session target has partner disks,
- "partner7" - Partner7 iSCSI session target has partner disks,
- "partner8" - Partner8 iSCSI session target has partner disks,
- "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP,
- "dr_partner" - Target has DR partner disks for MetroCluster over IP

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **service-state**

[top]

down|up Possible values:

- "down" ,
- "up"

[none]

# APIs in Category: **storage-pool**


storage-pool-add
storage-pool-aggregate-get-iter
storage-pool-available-capacity-get-iter
storage-pool-create
storage-pool-delete
storage-pool-disk-get-iter
storage-pool-get-iter
storage-pool-reassign
storage-pool-rename


This set of ZAPIs allows managing the storage pools in the cluster. Storage Pools are managed using storage pool names which are unique across the cluster.

## storage-pool-add

[top]

Add disks to a storage pool A job will be spawned to operate on the storage-pool and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **auto-grow-aggregates** | | boolean optional | Automatically grow the existing aggregates that are eligible for growing. |
| **disk-count** | | integer optional | The number of disks that should be added to the storage pool. This option cannot be used with disk-list. |
| **disk-list** | | disk-name[] optional | List of spare disks that need to be added to the storage pool. They should be of the same size as the existing disks in the storage pool. |
| **nodes** | | node-name[] optional | List of nodes from which the spare disks that need to be added to storage pool can be selected. |
| **simulate** | | boolean optional | Simulates the addition of disks to the given storage pool. If set to \"true\", addition of disks won't happen but returns a list of aggregates that would auto-grow and the size of the aggregate prior to grow and also after the auto-grow. |
| **storage-pool** | | string | Name of the Storage Pool to which the spare disks will be added. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **aggregates-autogrow-list** | | aggregate-autogrow-info optional | Information of aggregates that will auto-grow |
| **available-capacity** | | size | The current available capacity in the pool in bytes. |
| **new-available-capacity** | | size | The new available capacity in the pool in bytes after adding the disks to storage pool. |
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |

| | | | |
|---|---|---|---|
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |
| **selected-disks** | | disk-name[] optional | List of spare disks that would have been added to the storage pool. |

| Errno | Description |
|---|---|
| **E_CFT_PRECOMMIT_PHASE** | |
| **E_CFT_QUERY_FAIL** | |

# storage-pool-aggregate-get-iter

[top]

This is a ZAPI used to iterate over a list of aggregates provisioned from storage pool.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-pool-aggregate-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-pool-aggregate-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-pool object. All storage-pool objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-pool-aggregate-info[] optional | The list of attributes of storage-pool objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-pool objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# storage-pool-available-capacity-get-iter

[top]

This is a ZAPI used to iterate over all available capacities available on each node in the cluster. These available capacities are listed per storage pool on each node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-pool-available-capacity-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-pool-available-capacity-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-pool object. All storage-pool objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-pool-available-capacity-info[] optional | The list of attributes of storage-pool objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-pool objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# storage-pool-create

[top]

Create a storage pool. Capacity can be allocated to aggregates from these storage pools using 'aggr-add'.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk-count** | | integer optional | The number of disks that are part of the storage pool. |
| **disk-list** | | disk-name[] optional | List of spare disks that should be used to create the storage pool. |
| | | | Usable size of the disk in bytes. Disks that are within 5% of the |

| | | | |
|---|---|---|---|
| **disk-size** | | size optional | specified size will be selected for use in the storage pool. If it is not specified smallest disks are selected first. This option cannot be used with \"disk-list\". |
| **nodes** | | node-name[] optional | The list of nodes in which the storage pool resides. |
| **simulate** | | boolean optional | Simulate the creation of storage pool. If set to \"true\", new storage pool won't be created but returns the minimum allocation unit size of the storage pool that would have been created. Selected disk list would also be returned for the disk-count option. By default, simulate option is set to false. |
| **storage-pool** | | string | Name of the storage pool to be created. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | The ID of the job that was spawned to create this storage-pool. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed. |
| **selected-allocation-unit-size** | | size optional | Minimum allocation unit size of the storage pool that would have been created. |
| **selected-disks** | | disk-name[] optional | List of spare disks selected for the storage pool that would have been created. |

| Errno | Description |
|---|---|
| **E_CFT_PRECOMMIT_PHASE** | |
| **E_CFT_QUERY_FAIL** | |

# storage-pool-delete

[top]

Delete the specified storage pool. A job will be spawned to operate on the storage-pool and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **storage-pool** | | string | Name of the storage pool to be deleted. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# storage-pool-disk-get-iter

[top]

This is a ZAPI used to iterate over all disks in storage pool. These disks are listed per Storage Pool

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-pool-disk-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | storage-pool-disk-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-pool object. All storage-pool objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | storage-pool-disk-info[] optional | The list of attributes of storage-pool objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more storage-pool objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# storage-pool-get-iter

[top]

This is a ZAPI used to iterate over all the storage pools in the cluster and retrieve attributes of individual storage pool.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired- | | storage-pool- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | info optional | present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-pool-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-pool object. All storage-pool objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-pool-info[] optional | The list of attributes of storage-pool objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-pool objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# storage-pool-reassign

[top]

Reassign capacity from one node to another node in storage pool A job will be spawned to operate on the storage-pool and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allocation-units** | **[1..4]** | integer | The available capacity to be assigned in the form of count that is multiple of 'allocation-unit-size'. Available capacity can be found through API 'storage-pool-available-capacity-get-iter' where allocation unit size and total number of allocation units will be specified. |
| **from-node** | | node-name | The node that owns the available capacity which needs to be re-assigned. The amount of available capacity owned by a Node can be determined using the fields 'allocation-units' and 'allocation-unit-size' from the 'storage-pool-available-capacity-get-iter' API. Capacity can be re-assigned only in multiples of 'allocation-unit-size' |
| **storage-pool** | | string | The cluster-wide unique name of the storage pool. |
| **to-node** | | node-name | The node to which the capacity will be assigned. To view the existing free space in the node, use 'storage-pool-available-capacity-get-iter' |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |

| | | | |
|---|---|---|---|
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## storage-pool-rename

[top]

Rename storage pool

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-name** | | storage-pool-name | New name of the storage pool. |
| **storage-pool** | | string | The cluster-wide unique name of the storage pool. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## Element definition: **aggregate-autogrow-info**

[top]

Information of aggregates that will auto-grow

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-names** | | aggr-name[] optional | The name of the aggregates that would auto-grow. Attributes: non-creatable, modifiable |
| **aggregate-new-sizes** | | size[] optional | The new size of the aggregates in bytes after adding the disks to storage pool. Attributes: non-creatable, modifiable |
| **aggregate-sizes** | | size[] optional | The current size of the aggregates in bytes. Attributes: non-creatable, modifiable |

## Element definition: **disk-name**

[top]

Disk path name

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **storage-pool-aggregate-info** [top]

Storage Pool Aggregate Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of aggregate which has provisioned capacity from the storage pool. Attributes: key, non-creatable, non-modifiable |
| **allocated-unit-count** | **[0..2^32-1]** | integer optional | Number of Allocation Units assigned to the Aggregate. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node which is hosting the provisioned aggregate. Attributes: non-creatable, non-modifiable |
| **original-owner** | | string optional | Node which is original owner of the provisioned Aggregate. Attributes: non-creatable, non-modifiable |
| **storage-pool** | | string optional | The cluster-wide unique name of the storage pool. Attributes: key, non-creatable, non-modifiable |
| **used-capacity** | | size optional | Capacity provisioned by aggregate from storage pool. Attributes: non-creatable, non-modifiable |

## Element definition: **storage-pool-available-capacity-info** [top]

Storage Pool Available Capacity Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **allocation-unit-count** | **[0..2^32-1]** | integer optional | The total number of units which can be allocated as spare capacity for aggregates. Size of these units are defined by field 'allocation-unit-size' Attributes: non-creatable, non-modifiable |
| **allocation-unit-size** | | size optional | Minimum size that can be allocated from the storage pool. Attributes: non-creatable, non-modifiable |
| **available-size** | | size optional | The total available capacity in bytes available on a given node in the storage pool. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | The name of the node which has available capacity. Attributes: key, non-creatable, non-modifiable |
| **storage-pool** | | string optional | The cluster-wide unique name of the storage pool. Attributes: key, non-creatable, non-modifiable |
| **storage-type** | | string optional | The type of the disks that constitute the storage pool. Attributes: non-creatable, non-modifiable Possible values:<br>• "ssd" - Solid-State Disk |
| **syncmirror-pool** | | string optional | The name of the SyncMirror pool. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-pool-disk-info**

[top]

Information of disk in Storage Pool When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **disk** | | disk-name optional | Name of the disk Attributes: key, non-creatable, non-modifiable |
| **disk-total-size** | | size optional | Total raw capacity of this disk in bytes Attributes: non-creatable, non-modifiable |
| **disk-type** | | string | Disk interface type Attributes: non-creatable, non-modifiable Possible values:<br>• "ata" - Advanced Technology Attachment,<br>• "bsas" - Bridged Serial Attached SCSI (bridged from SATA),<br>• "fcal" - Fibre Channel Arbitrated Loop,<br>• "fsas" - High-Capacity (Fat) Serial Attached SCSI,<br>• "lun" - SCSI Logical Unit Number (e.g. Array),<br>• "sas" - Serial Attached SCSI,<br>• "msata" - Multiple bridged SATA disks in a single carrier,<br>• "ssd" - Solid-State Disk, |

| | | | |
|---|---|---|---|
| | | optional | • "vmdisk" - Hypervisor Virtual Disk,<br>• "unknown" - unknown,<br>• "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_dc" - Data Center Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_cap" - High Capacity Solid-State Disk,<br>• "vmlun" - Hypervisor Virtual LUN,<br>• "vmlun_ssd" - Hypervisor Virtual SSD LUN,<br>• "ssd_zns" - Zoned Namespaces Solid-State Disk |
| **disk-usable-size** | | size optional | Total usable capacity of this disk in bytes Attributes: non-creatable, non-modifiable |
| **storage-pool** | | string optional | The cluster-wide unique name of the storage pool. Attributes: key, non-creatable, non-modifiable |

# Element definition: **storage-pool-info**

[top]

Storage Pool Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **allocation-unit-data-size-raid-dp** | | size optional | Data size that will be available after allocation unit is used for RAID-DP group. Attributes: non-creatable, non-modifiable |
| **allocation-unit-data-size-raid-tec** | | size optional | Data size that will be available after allocation unit is used for RAID-TEC group. Attributes: non-creatable, non-modifiable |
| **allocation-unit-data-size-raid4** | | size optional | Data size that will be available after allocation unit is used for RAID4 or RAID-EP group. Attributes: non-creatable, non-modifiable |
| **allocation-unit-size** | | size optional | Minimum size that can be allocated from the storage pool. Attributes: non-creatable, non-modifiable |
| **current-operation-job-id** | **[0..2^64-1]** | integer optional | Job ID of the currently running operation on the storage pool. Attributes: non-creatable, non-modifiable |
| **disk-count** | **[0..2^32-1]** | integer optional | The number of disks that are part of the storage pool. Attributes: optional-for-create, non-modifiable |
| **is-healthy** | | boolean optional | If \"true\", provisioning is allowed from the storage pool. Attributes: non-creatable, non-modifiable |
| **nodes** | | node-name[] optional | The list of nodes in which the storage pool resides. Attributes: optional-for-create, non-modifiable |
| **pool-state** | | storagepoolstate | State of the storage pool. Attributes: non-creatable, non-modifiable Possible values:<br>• "normal" ,<br>• "degraded" , |

| | | | |
|---|---|---|---|
| | | optional | "creating" ,<br>• "deleting" ,<br>• "reassigning" ,<br>• "growing" |
| **pool-total-size** | | size<br>optional | The total size in bytes of the storage pool. Attributes: non-creatable, non-modifiable |
| **pool-usable-size** | | size<br>optional | The amount of usable size in bytes in the storage pool. Attributes: non-creatable, non-modifiable |
| **storage-pool** | | string<br>optional | The cluster-wide unique name of the storage pool. Attributes: key, required-for-create, non-modifiable |
| **storage-type** | | string<br>optional | The type of the disks that constitute the storage pool. Attributes: non-creatable, non-modifiable Possible values:<br>• "ssd" - Solid-State Disk |
| **unhealthy-reason** | | string<br>optional | Specifies the reason why the storage pool is unhealthy. Attributes: non-creatable, non-modifiable |

## Element definition: **storage-pool-name** [top]

Name of the storage pool

[none]

## Element definition: **aggr-name** [top]

Name of the aggregate

[none]

## Element definition: **disk-name** [top]

Disk path name

[none]

## Element definition: **node-name** [top]

The node's name

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **storagepoolstate**

[top]

State of the Storage Pool Possible values:

- "normal" ,
- "degraded" ,
- "creating" ,
- "deleting" ,
- "reassigning" ,
- "growing"

[none]

# APIs in Category: **storage-port**


storage-port-disable
storage-port-enable
storage-port-info-get
storage-port-info-get-iter
storage-port-rescan
storage-port-reset
storage-port-reset-device


This set of ZAPIs allows management of storage ports.

## storage-port-disable

[top]

Disable a storage port

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean | Force |
| **node** | | node-name | Node |
| **port** | | string | Port |

| Errno | Description |
|---|---|
| **ESTORAGEPORTOPFAILED** | |
| **ESTORAGEPORTINVALID** | |
| **ESTORAGEPORTOPNOTALLOWED** | |
| **ESTORAGEPORTSTATUSNOTAVAILABLE** | |
| **ESTORAGEPORTALREADYOFFLINE** | |
| **ESTORAGEPORTDISKCURRENTLYSANITIZING** | |
| **ESTORAGEPORTLASTPATHTODISK** | |
| **ESTORAGEPORTINUSE** | |
| **ESTORAGEPORTNETWORKMODE** | |

## storage-port-enable

[top]

Enable a storage port

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node |
| **port** | | string | Port |

| Errno | Description |
|---|---|
| **ESTORAGEPORTOPFAILED** | |
| **ESTORAGEPORTINVALID** | |
| **ESTORAGEPORTOPNOTALLOWED** | |

| Errno | Description |
|---|---|
| ESTORAGEPORTSTATUSNOTAVAILABLE | |
| ESTORAGEPORTNOTOFFLINE | |
| ESTORAGEPORTNETWORKMODE | |

# storage-port-info-get

[top]

Get information about a specified storage port.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-port-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| node | | node-name | The cluster node where the storage port is located. |
| port | | string | The name of the port. Example: '0a', '1b', etc. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | storage-port-info | The attributes of the storage-port. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# storage-port-info-get-iter

[top]

Get information about one or more storage ports.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-port-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | storage-port-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-port object. All storage-port objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | storage- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | port-info[] optional | The list of attributes of storage-port objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-port objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# storage-port-rescan

[top]

Rescan a storage port

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node |
| **port** | | string | Port |

| Errno | Description |
|---|---|
| **ESTORAGEPORTOPFAILED** | |
| **ESTORAGEPORTINVALID** | |
| **ESTORAGEPORTOPNOTALLOWED** | |

# storage-port-reset

[top]

Reset a storage port

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node |
| **port** | | string | Port |

| Errno | Description |
|---|---|
| **ESTORAGEPORTOPFAILED** | |
| **ESTORAGEPORTINVALID** | |
| **ESTORAGEPORTOPNOTALLOWED** | |

# storage-port-reset-device

[top]

Reset a device behind a storage port

| Input Name | Range | Type | Description |
|---|---|---|---|
| **bay-id** | | integer | Bay ID |

| | | | |
|---|---|---|---|
| | | optional | |
| **loop-id** | | integer optional | Loop ID |
| **node** | | node-name | Node |
| **port** | | string | Port |
| **shelf-name** | | string optional | Shelf Name |

| Errno | Description |
|---|---|
| **ESTORAGEPORTDEVOPFAILED** | |
| **ESTORAGEPORTDEVINVALID** | |
| **ESTORAGEPORTINVALID** | |
| **ESTORAGEPORTOPNOTALLOWED** | |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **storage-port-info**

[top]

Storage port information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **board-name** | | string optional | The board name of the adapter. Attributes: non-creatable, non-modifiable |
| **cable-end-id** | | shelf-cable-end optional | The cable end identifier (end_0/end_1). Attributes: non-creatable, non-modifiable Possible values:<br>• "end_0" - end 0,<br>• "end_1" - end 1 |
| **cable-identifier** | | string optional | The cable identifier. Attributes: non-creatable, non-modifiable |
| **cable-length** | | string optional | The cable length in meters. Attributes: non-creatable, non-modifiable |
| **connection-** | | storage-port-connection- | The connection mode of the port (loop/point-to-point). Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **mode** | | mode optional | "unknown" - The port connection mode is unknown,<br>• "loop" - Loop,<br>• "point_to_point" - Point-to-point |
| **connector-capabilities-array** | | connector-capabilities-info[] optional | Connector Capabilities information. |
| **connector-part-number** | | string optional | The connector part number. Attributes: non-creatable, non-modifiable |
| **connector-serial-number** | | string optional | The connector serial number. Attributes: non-creatable, non-modifiable |
| **connector-technology** | | sas-connector-technology optional | The connector technology (passive-copper/active-copper/optical). Attributes: non-creatable, non-modifiable Possible values:<br>• "active_copper" - Active Copper,<br>• "passive_copper" - Passive Copper,<br>• "optical" - Optical |
| **connector-type** | | connector-type optional | The connector type (qsfp/qsfp-plus/mini-sas-hd/sfp). Attributes: non-creatable, non-modifiable Possible values:<br>• "qsfp" - QSFP,<br>• "qsfp_plus" - QSFP+,<br>• "mini_sas_hd" - Mini-SAS HD,<br>• "sfp" - SFP,<br>• "qsfp28" - QSFP28 |
| **connector-vendor** | | string optional | The connector vendor. Attributes: non-creatable, non-modifiable |
| **corrective-action** | | string optional | The corrective action to perform, in case of a port error. Attributes: non-creatable, non-modifiable |
| **date-code** | | string optional | The date code of the adapter. Attributes: non-creatable, non-modifiable |
| **description** | | string optional | A detailed description of the port. Attributes: non-creatable, non-modifiable |
| **device-type** | | string optional | The device type. Attributes: non-creatable, non-modifiable |
| **error-severity** | | storage-shelf-error-severity optional | The severity of the port error, in case of a port error. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The error severity is unknown,<br>• "notice" - A normal-priority message, does not indicate a fault,<br>• "warning" - A high-priority warning message, does not indicate a fault,<br>• "error" - A fault condition which is not immediately fatal but requires immediate attention,<br>• "critical" - A critical fault condition, typically disruptive |
| **error-text** | | string optional | The error text of the port error, in case of a port error. Attributes: non-creatable, non-modifiable |
| | | storage-port- | The error type of the port error, in case of a port error. Example: 'online-degraded'. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The port status is unknown, |

| | | | |
|---|---|---|---|
| **error-type** | | status optional | • "online" - The port is online,<br>• "online_degraded" - The port is online, but in a degraded state,<br>• "offline" - The port is offline,<br>• "link_down" - The link connected to the port is down |
| **firmware-rev** | | string optional | The firmware revision running on the adapter. Attributes: non-creatable, non-modifiable |
| **is-dedicated** | | boolean optional | Is Dedicated Storage Port? Attributes: non-creatable, non-modifiable |
| **mac-address** | | string optional | The MAC address of the RDMA port. Attributes: non-creatable, non-modifiable |
| **mfg-part-number** | | string optional | The manufacturer part number of the adapter. Attributes: non-creatable, non-modifiable |
| **mode** | | storage-port-mode optional | The mode of the port (storage/network). Attributes: non-creatable, modifiable Possible values:<br>• "storage" ,<br>• "network" |
| **node** | | node-name optional | The cluster node where the storage port is located. Attributes: key, non-creatable, non-modifiable |
| **nvdata-rev** | | string optional | The NVDATA revision running on the adapter. Attributes: non-creatable, non-modifiable |
| **part-number** | | string optional | The part number of the adapter. Attributes: non-creatable, non-modifiable |
| **phys** | | phy-info[] optional | Returns SAS port phy information. |
| **port** | | string optional | The name of the port. Example: '0a', '1b', etc. Attributes: key, non-creatable, non-modifiable |
| **port-speed** | | storage-port-speed optional | The link speed of the port in Gb/s. Attributes: non-creatable, non-modifiable Possible values:<br>• "0" - 0 Gb/s,<br>• "1" - 1 Gb/s,<br>• "1_5" - 1.5 Gb/s,<br>• "2" - 2 Gb/s,<br>• "3" - 3 Gb/s,<br>• "4" - 4 Gb/s,<br>• "6" - 6 Gb/s,<br>• "8" - 8 Gb/s,<br>• "10" - 10 Gb/s,<br>• "12" - 12 Gb/s,<br>• "16" - 16 Gb/s,<br>• "32" - 32 Gb/s,<br>• "2_5" - 2.5 Gb/s,<br>• "5" - 5 Gb/s,<br>• "14" - 14 Gb/s,<br>• "25" - 25 Gb/s,<br>• "40" - 40 Gb/s,<br>• "100" - 100 Gb/s |
| **port-type** | | storage-port-type optional | The type of the port (SAS/FC) Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The port type is unknown,<br>• "sas" - SAS,<br>• "fc" - FC,<br>• "enet" - ENET |

| | | | |
|---|---|---|---|
| **serial-number** | | string optional | The serial number of the adapter. Attributes: non-creatable, non-modifiable |
| **state** | | storage-port-state optional | The configured state of the port (enabled/disabled). Attributes: non-creatable, non-modifiable Possible values:<br>• "enabled" ,<br>• "disabled" ,<br>• "enable_pending" ,<br>• "disable_pending" |
| **status** | | storage-port-status optional | The operational status of the port (online/online-degraded/offline/link-down). Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The port status is unknown,<br>• "online" - The port is online,<br>• "online_degraded" - The port is online, but in a degraded state,<br>• "offline" - The port is offline,<br>• "link_down" - The link connected to the port is down |
| **vlan-id** | **[30..31]** | integer optional | VLAN ID Attributes: non-creatable, non-modifiable |
| **wwn** | | string optional | The World Wide Name of the port. Example: '50:0a:09:80:00:81:04:ee' Attributes: non-creatable, non-modifiable |
| **wwnn** | | string optional | The World Wide Node Name of the port. Example: '50:0a:09:80:00:81:04:ee' Attributes: non-creatable, non-modifiable |
| **wwpn** | | string optional | The World Wide Port Name of the port. Example: '50:0a:09:80:00:81:04:ee' Attributes: non-creatable, non-modifiable |

# Element definition: **connector-capabilities-info**

[top]

Connector Capabilities information.

| Name | Range | Type | Description |
|---|---|---|---|
| **connector-capabilities** | **[0..2^32-1]** | integer optional | The connector capabilities in Gb/s. Attributes: non-creatable, non-modifiable |

# Element definition: **connector-type**

[top]

QSFP|QSFP+|QSFP28|Mini-SAS HD|SFP Possible values:

- "qsfp" - QSFP,
- "qsfp_plus" - QSFP+,
- "mini_sas_hd" - Mini-SAS HD,
- "sfp" - SFP,
- "qsfp28" - QSFP28

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **phy-info**

[top]

Returns SAS port phy information.

| Name | Range | Type | Description |
|---|---|---|---|
| **phy-id** | **[0..2^32-1]** | integer optional | The ID of the phy (0-3). Attributes: non-creatable, non-modifiable |
| **phy-speed** | | storage-port-speed optional | The link speed of the phy in Gb/s. Attributes: non-creatable, non-modifiable Possible values:<br>• "0" - 0 Gb/s,<br>• "1" - 1 Gb/s,<br>• "1_5" - 1.5 Gb/s,<br>• "2" - 2 Gb/s,<br>• "3" - 3 Gb/s,<br>• "4" - 4 Gb/s,<br>• "6" - 6 Gb/s,<br>• "8" - 8 Gb/s,<br>• "10" - 10 Gb/s,<br>• "12" - 12 Gb/s,<br>• "16" - 16 Gb/s,<br>• "32" - 32 Gb/s,<br>• "2_5" - 2.5 Gb/s,<br>• "5" - 5 Gb/s,<br>• "14" - 14 Gb/s,<br>• "25" - 25 Gb/s,<br>• "40" - 40 Gb/s,<br>• "100" - 100 Gb/s |
| **phy-state** | | enable optional | The state of the phy (enabled/disabled). Attributes: non-creatable, non-modifiable |
| **phy-status** | | storage-port-phy-status optional | The operational status of the phy (unknown/online/offline/speed-negotiation-failed/sata-oob-failed). Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The phy status is unknown,<br>• "online" - The phy is online,<br>• "offline" - The phy is offline,<br>• "speed_negotiation_failed" - The speed negotiation on this phy failed,<br>• "sata_oob_failed" - The SATA OOB on this port failed |

## Element definition: **sas-connector-technology** [top]

active-copper|passive-copper|optical Possible values:

- "active_copper" - Active Copper,
- "passive_copper" - Passive Copper,
- "optical" - Optical

[none]

## Element definition: **shelf-cable-end** [top]

end_0|end_1 Possible values:

- "end_0" - end 0,
- "end_1" - end 1

[none]

## Element definition: **storage-port-connection-mode** [top]

Unknown|Loop|Point-to-point Possible values:

- "unknown" - The port connection mode is unknown,
- "loop" - Loop,
- "point_to_point" - Point-to-point

[none]

## Element definition: **storage-port-mode** [top]

storage|network Possible values:

- "storage" ,
- "network"

[none]

## Element definition: **storage-port-speed** [top]

0|1|1.5|2|2.5|3|4|5|6|8|10|12|14|16|25|32|40|100 Possible values:

- "0" - 0 Gb/s,
- "1" - 1 Gb/s,
- "1_5" - 1.5 Gb/s,
- "2" - 2 Gb/s,
- "3" - 3 Gb/s,
- "4" - 4 Gb/s,
- "6" - 6 Gb/s,
- "8" - 8 Gb/s,
- "10" - 10 Gb/s,
- "12" - 12 Gb/s,
- "16" - 16 Gb/s,
- "32" - 32 Gb/s,
- "2_5" - 2.5 Gb/s,
- "5" - 5 Gb/s,
- "14" - 14 Gb/s,
- "25" - 25 Gb/s,
- "40" - 40 Gb/s,
- "100" - 100 Gb/s

[none]

# Element definition: **storage-port-state**

[top]

enabled|disabled|enable-pending|disable-pending Possible values:

- "enabled" ,
- "disabled" ,
- "enable_pending" ,
- "disable_pending"

[none]

# Element definition: **storage-port-status**

[top]

unknown|online|online-degraded|offline|link-down Possible values:

- "unknown" - The port status is unknown,
- "online" - The port is online,
- "online_degraded" - The port is online, but in a degraded state,
- "offline" - The port is offline,
- "link_down" - The link connected to the port is down

[none]

# Element definition: **storage-port-type**

[top]

Unknown|SAS|FC|ENET Possible values:

- "unknown" - The port type is unknown,
- "sas" - SAS,
- "fc" - FC,
- "enet" - ENET

[none]

## Element definition: **storage-shelf-error-severity**

[top]

unknown|notice|warning|error|critical Possible values:

- "unknown" - The error severity is unknown,
- "notice" - A normal-priority message, does not indicate a fault,
- "warning" - A high-priority warning message, does not indicate a fault,
- "error" - A fault condition which is not immediately fatal but requires immediate attention,
- "critical" - A critical fault condition, typically disruptive

[none]

## Element definition: **enable**

[top]

'enabled' or 'disabled'

[none]

## Element definition: **storage-port-phy-status**

[top]

unknown|online|offline|speed-negotiation-failed|sata-oob-failed Possible values:

- "unknown" - The phy status is unknown,
- "online" - The phy is online,
- "offline" - The phy is offline,
- "speed_negotiation_failed" - The speed negotiation on this phy failed,
- "sata_oob_failed" - The SATA OOB on this port failed

[none]

APIs in Category: **storage-shelf**


storage-shelf-acp-configure
storage-shelf-acp-firmware-update
storage-shelf-acp-get
storage-shelf-acp-get-iter
storage-shelf-acp-module-get
storage-shelf-acp-module-get-iter
storage-shelf-drawer-get
storage-shelf-drawer-get-iter
storage-shelf-drawer-phy-get
storage-shelf-drawer-phy-get-iter
storage-shelf-drawer-slot-get
storage-shelf-drawer-slot-get-iter
storage-shelf-firmware-update
storage-shelf-firmware-update-end
storage-shelf-firmware-update-init-abort
storage-shelf-info-get
storage-shelf-port-get
storage-shelf-port-get-iter
storage-shelf-resilver-init
storage-shelf-resilver-list-results
storage-shelf-resilver-list-results-iter
storage-shelf-set-time


This set of ZAPIs allows management of cluster-wide storage shelves.

### storage-shelf-acp-configure

[Back]

Configure connection.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **channel** | | storage-shelf-acp-channel | The channel to which the connection needs to be configured (in-band/out-of-band). Possible values:<br>• "out_of_band" - The connection type is out-of-band,<br>• "in_band" - The connection type is in-band. |
| **is-enabled** | | bool | The state to which the connection needs to be configured (true/false). |
| **netmask** | | ip-address | The netmask that the configuration will use to setup connection (type: IPv4). |
| **subnet** | | ip-address | The subnet that the configuration will use to setup connection (type: IPv4). |

| Errno | Description |
|---|---|
| **ESTORAGEACPBUILDCREATEREPORT** | |
| **ESTORAGEINVALIDENUMBER** | |
| **ESTORAGEINVALIDIDENTIFIER** | |
| **ESTORAGEACPNOSUCHINSTANCE** | |
| **ESTORAGEACPPROPGATEINPROGRESS** | |
| **STORAGEACPACPPBBOOTING** | |
| **STORAGEACPBUILDPOWERDOFF** | |
| **STORAGEACPCHANNELUNSPECIFIED** | |

### storage-shelf-acp-firmware-update

[Back]

Start shelf firmware download process to update firmware on disk shelves. This operation is asynchronous, and therefore returns no errors that might occur during the download process. This operation will only update firmware on shelves that do not have the latest firmware revision.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **module-name** | | string | The module name. Example: 1.10.A |
| **node-name** | | node-name | The node that has alternate control path configured |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

### storage-shelf-acp-get

[Back]

Return the connectivity of the node. A return status of Full-Connectivity means, that the connection is properly configured and fully working. Any other status means that an error is seen.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-shelf-acp-connection | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node that has alternate control path configured. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | storage-shelf-acp-connection | The attributes of the storage-shelf. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

### storage-shelf-acp-module-get

[Back]

return the first module

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-shelf-acp-module | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node that has alternate control path configured |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | storage-shelf-acp-module | The attributes of the storage-shelf. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

### storage-shelf-acp-module-get-iter

[Back]

return the module list

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-shelf-acp-module | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-shelf-acp-module | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned. |
| **tag** | | string | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-shelf-acp-module | The list of attributes of storage-shelf objects. |
| **next-tag** | | string | Tag for the next call. Not present when there are no more storage-shelf objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

### storage-shelf-drawer-get

[Back]

Get drawer information about a specified storage shelf drawer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-shelf-drawer-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **drawer** | [0..2^32-1] | integer | Drawer Number |
| **shelf** | | string | Shelf Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | storage-shelf-drawer-info | The attributes of the storage-shelf. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

### storage-shelf-drawer-get-iter

[Back]

Get drawer information about one or more storage shelf drawers.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-shelf-drawer-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-shelf-drawer-info | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned. |
| **tag** | | string | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-shelf-drawer-info | The list of attributes of storage-shelf objects. |
| **next-tag** | | string | Tag for the next call. Not present when there are no more storage-shelf objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

### storage-shelf-drawer-phy-get

[Back]

Get phy information about a specified storage shelf drawer phy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-shelf-drawer-phy-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **drawer** | [0..2^32-1] | integer | Drawer Number |
| **phy** | [0..2^32-1] | integer | PHY Number |
| **shelf** | | string | Shelf Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | storage-shelf-drawer-phy-info | The attributes of the storage-shelf. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

### storage-shelf-drawer-phy-get-iter

[Back]

Get phy information about one or more storage shelf drawer phys.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-shelf-drawer-phy-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-shelf-drawer-phy-info | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned. |
| **tag** | | string | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-shelf-drawer-phy-info | The list of attributes of storage-shelf objects. |
| **next-tag** | | string | Tag for the next call. Not present when there are no more storage-shelf objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

### storage-shelf-drawer-slot-get

[Back]

Get a map between bay number and drawer/slot number.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **bay** | [0..2^32-1] | integer | Bay Number |
| **desired-attributes** | | storage-shelf-drawer-slot-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **shelf** | | string | Shelf Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | storage-shelf-drawer-slot-info | The attributes of the storage-shelf. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

### storage-shelf-drawer-slot-get-iter

[Back]

Get a map between bay number and drawer/slot number.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-shelf-drawer-slot-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-shelf-drawer-slot-info | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned. |
| **tag** | | string | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-shelf-drawer-slot-info | The list of attributes of storage-shelf objects. |
| **next-tag** | | string | Tag for the next call. Not present when there are no more storage-shelf objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

### storage-shelf-firmware-update

Start shelf firmware download process to update firmware on disk shelves. This operation is asynchronous, and therefore returns no errors that might occur during the download process. This operation will only update firmware on shelves that do not have the latest firmware revision.

| Input Name | Range | Type | Description |
|---|---|---|---|
| module-type | | shelf-module-type enumeration | All the shelves in the cluster with this module type will be updated. Possible values:<br>• "ot_5x" - AT-FC6 Module Type,<br>• "ioh1" - IOM3 Module Type,<br>• "ioh2" - IOM12 Module Type,<br>• "ioh3" - IOM6E Module Type,<br>• "ioxm" - IOM9E Module Type,<br>• "ioxl12" - IOM12 Module Type,<br>• "ioxl24" - IOM12E Module Type,<br>• "ioxl12f" - IOM12F Module Type,<br>• "ioxm200" - NSM100 Module Type,<br>• "ioxm400" - NSM400 Module Type,<br>• "ioxm24" - NSM24 Module Type<br>• "ioxl2g" - IOM12G Module Type |
| shelf | | string enumeration | Shelf Name of the shelf that needs to be updated. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

### storage-shelf-firmware-update-info-get

Storage shelf firmware update status record.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-shelf-firmware-update-info enumeration | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| node | | filer-id | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | storage-shelf-firmware-update-info | The attributes of the storage-shelf-firmware-update. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

### storage-shelf-firmware-update-info-get-iter

Storage shelf firmware update status records.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-shelf-firmware-update-info enumeration | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer | The maximum number of records to return in this call. Default: 20 |
| query | | storage-shelf-firmware-update-info enumeration | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf-firmware-update object. All storage-shelf-firmware-update objects matching this query up to 'max-records' will be returned. |
| tag | | string enumeration | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | storage-shelf-firmware-update-info[] enumeration | The list of attributes of storage-shelf-firmware-update objects. |
| next-tag | | string enumeration | Tag for the next call. Not present when there are no more storage-shelf-firmware-update objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

### storage-shelf-info-get

Get shelf information about a specified storage shelf.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-shelf-info enumeration | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| shelf | | string | Shelf Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | storage-shelf-info | The attributes of the storage-shelf. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

### storage-shelf-info-get-iter

Get shelf information about one or more storage shelves.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-shelf-info enumeration | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer enumeration | The maximum number of records to return in this call. Default: 20 |
| query | | storage-shelf-info enumeration | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned. |
| tag | | string enumeration | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | storage-shelf-info[] enumeration | The list of attributes of storage-shelf objects. |
| next-tag | | string enumeration | Tag for the next call. Not present when there are no more storage-shelf objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

### storage-shelf-location-led-get

Get the Location LED status of a shelf

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-shelf-location-led-info enumeration | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| shelf-name | | string enumeration | Shelf Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | storage-shelf-location-led-info | The attributes of the storage-shelf. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

### storage-shelf-location-led-get-iter

Get the Location LED status of one or more shelves.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-shelf-location-led-info enumeration | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer enumeration | The maximum number of records to return in this call. Default: 20 |
| query | | storage-shelf-location-led-info enumeration | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned. |
| tag | | string enumeration | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | storage-shelf-location-led-info[] enumeration | The list of attributes of storage-shelf objects. |
| next-tag | | string enumeration | Tag for the next call. Not present when there are no more storage-shelf objects to return. |
| num-records | [0..2^32-1] | integer enumeration | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EINVALLIDINPUTERROR | |
| EINTERNALERROR | |

### storage-shelf-location-led-modify

Modify the state of the Location LED

| Input Name | Range | Type | Description |
|---|---|---|---|
| led-status | | storage-shelf-led-status enumeration | Location LED Possible values:<br>• "off",<br>• "on",<br>• "unsupported" |
| shelf-name | | string enumeration | Shelf Name |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINVALLIDINPUTERROR | |
| EINTERNALERROR | |

### storage-shelf-location-led-modify-iter

Modify the state of the Location LED of one or more shelves

| Input Name | Range | Type | Description |
|---|---|---|---|
| attributes | | storage-shelf-location-led-info | Specify at least one modifiable element. Do not specify any other element. |
| continue-on-failure | | boolean | This input element is useful when multiple storage-shelf objects match a given query. If set to true, the API will continue modifying the next matching storage-shelf even when modification of a previous storage-shelf fails. If set to false, the API will return on the first failure. Default: false |
| max-failure-count | [1..2^32-1] | integer enumeration | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching storage-shelf even when the modification of a previous matching storage-shelf fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| max-records | [1..2^32-1] | integer enumeration | The maximum number of objects to be modified in this call. Default: 20 |
| query | | storage-shelf-location-led-info enumeration | If modifying a specific storage-shelf, this input element must specify all keys. If modifying storage-shelf objects based on query, this input element must specify a query. |
| return-failure-list | | boolean enumeration | If set to true, the API will return the list of storage-shelf objects (just keys) that were not modified due to some error. If set to false, the list of storage-shelf objects not modified will not be returned. Default: true |
| return-success-list | | boolean enumeration | If set to true, the API will return the list of storage-shelf objects (just keys) that were successfully updated. If set to false, the list of storage-shelf objects modified will not be returned. Default: true |
| tag | | string enumeration | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| failure-list | | storage-shelf-location-led-modify-iter-info[] enumeration | Information about storage-shelf objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| next-tag | | string enumeration | Tag for the next call. Not present when there are no more matching storage-shelf objects to be modified. |
| num-failed | [0..2^32-1] | integer enumeration | Number of storage-shelf objects that matched the query, but were not modified due to some error. |
| num-succeeded | [0..2^32-1] | integer enumeration | The number of storage-shelf objects that matched the query and were successfully updated. |
| success-list | | storage-shelf-location-led-modify-iter-info[] enumeration | The storage-shelf objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EINVALLIDINPUTERROR | |

### storage-shelf-port-get-iter

Get information about one or more storage shelf ports.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-shelf-port-info enumeration | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer enumeration | The maximum number of records to return in this call. Default: 20 |
| query | | storage-shelf-port-info enumeration | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned. |
| tag | | string enumeration | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | storage-shelf-port-info[] enumeration | The list of attributes of storage-shelf objects. |
| next-tag | | string enumeration | Tag for the next call. Not present when there are no more storage-shelf objects to return. |
| num-records | [0..2^32-1] | integer enumeration | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

Element definition: **channel-config-enum**

out-of-band/in-band Possible values:
- "out_of_band" - The connection type is out-of-band,
- "in_band" - The connection type is in-band

[name]

Element definition: **filer-id**

Filer UUID

[name]

Element definition: **ip-address**

IPv4 and IPv6 address

[name]

Element definition: **node-name**

The node's name

[read]

Element definition: **shelf-module-type**

enfield|ns9-f|ns12|ns48|ns48e|ns4-f12|ns4-f24|ns4-f28|ns4-f30|ns4-f100|ns48e|ns41-2|- Possible values:

- "ns_fc" - ST-FC3 Module Type,
- "ns9sf" - ES6S Module Type,
- "ns9sm" - ES6M Module Type,
- "ns48" - ES9S Module Type,
- "ns48e" - ES9SE Module Type,
- "ns4-f12" - ES9F12 Module Type,
- "ns4-f24" - ES9F24 Module Type,
- "ns4-f28" - ES9F28 Module Type,
- "ns4-f30" - ES9F30 Module Type,
- "ns48e" - NS9SE Module Type,
- "ns4-f2" - ES9F220 Module Type

[read]

Element definition: **storage-shelf-acp-connection**

Show connectivity information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | The IP on which the configuration is done. Attributes: non-creatable, non-modifiable |
| **channel** | | channel-enum optional | The channel to which the connection is configured (in-band/out-of-band). Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The connection type is unknown,<br>• "out_of_band" - The connection type is out of band,<br>• "in_band" - The connection type is in band |
| **connection-status** | | connection-status-enum optional | The current connection status of configuration. Attributes: non-creatable, non-modifiable Possible values:<br>• "no_connectivity" - Error in connectivity. System is unable to see any connectivity,<br>• "partial_connectivity" - Error in connectivity. System is seeing partial connectivity,<br>• "full_connectivity" - No Error in connectivity. System is seeing full connectivity,<br>• "additional_connectivity" - Error in connectivity. System is seeing additional connectivity,<br>• "misconfigured" - Error in connectivity. System is seeing misconfiguration nature of error,<br>• "not_available" - Error in connectivity. System is unable to see connectivity,<br>• "active" - Connection is active. Applicable to in-band only.,<br>• "disabled" - Connection disabled. ACP needs to be configured |
| **corrective-action** | | string optional | The corrective action of the module. Attributes: non-creatable, non-modifiable |
| **error-id** | [0..2^32-1] | integer optional | The error ID, in case of a connection error. Attributes: non-creatable, non-modifiable |
| **error-severity** | | storage-shelf-error-severity optional | The error severity, in case of a connection error. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The error severity is unknown,<br>• "notice" - A normal-priority message, does not indicate a fault,<br>• "warning" - A high-priority warning message, does not indicate a fault,<br>• "error" - A fault condition which is not immediately fatal but requires immediate attention,<br>• "critical" - A critical fault condition, typically disruptive |
| **error-text** | | string optional | The error text. A high-level description of the error seen. Attributes: non-creatable, non-modifiable |
| **error-type** | | acp-error-type-enum optional | The error type, in case of a connection error (No-Error/Connection-Issue/Connection-Activity/Module-Error/Shelf-Error). Attributes: non-creatable, non-modifiable Possible values:<br>• "no_error" - No error found,<br>• "connection_issue" - System is reporting an error with the connection,<br>• "connection_activity" - Connection is active, but not active,<br>• "module_error" - The ACP processor is reporting an error,<br>• "shelf_error" - The shelf is reporting an error |
| **is-enabled** | | true-false optional | Configuration status. This is based on whether the user has configured ACP on clustered ONTAP (enabled/disabled). Attributes: non-creatable, non-modifiable |
| **netmask** | | ip-address optional | The netmask on which the configuration is done. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The node that has alternate control path configured. Attributes: key, non-creatable, non-modifiable |
| **port** | | string optional | The port on which the configuration is setup, usually eth. Attributes: non-creatable, non-modifiable |
| **subnet** | | ip-address optional | The subnet on which the configuration is done. Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-acp-module**

Show module information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **acp-id** | [0..2^32-1] | integer optional | The alternate-control-path-adress ID of the module. Attributes: non-creatable, non-modifiable |
| **adapter-name** | | string optional | Adapter Name Attributes: non-creatable, non-modifiable |
| **corrective-action** | | string optional | The corrective action of the module. Attributes: non-creatable, non-modifiable |
| **error-id** | [0..2^32-1] | integer optional | The error ID of the module, in case of a module error. A device can have multiple errors. Attributes: non-creatable, non-modifiable |
| **error-severity** | | storage-shelf-error-severity optional | The error severity of the module, in case of a module error. A device can have multiple errors, and each error is stored inside an array. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The error severity is unknown,<br>• "notice" - A normal-priority message, does not indicate a fault,<br>• "warning" - A high-priority warning message, does not indicate a fault,<br>• "error" - A fault condition which is not immediately fatal but requires immediate attention,<br>• "critical" - A critical fault condition, typically disruptive |
| **error-text** | | string optional | The error text of the module. Attributes: non-creatable, non-modifiable |
| **error-type** | | acp-error-type-enum optional | The error type of the module, in case of a module error. A device can have multiple errors, and each error is stored inside an array. Attributes: non-creatable, non-modifiable Possible values:<br>• "no_error" - No error found,<br>• "connection_issue" - System is reporting an error with the connection,<br>• "connection_activity" - Connection is active, but not active,<br>• "module_error" - The ACP processor is reporting an error,<br>• "shelf_error" - The shelf is reporting an error |
| **expander-power-cycle-count** | [0..2^32-1] | integer optional | The number of times an expander power cycle has been performed on a module Attributes: non-creatable, non-modifiable |
| **expander-reset-count** | [0..2^32-1] | integer optional | The number of times an expander reset has been performed on a module Attributes: non-creatable, non-modifiable |
| **firmware-version** | | string optional | The firmware version of the module. Attributes: non-creatable, non-modifiable |
| **ioxo-type** | | ioxo-type-enum optional | The IOM type of the module. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The processor is reporting an error, and is unaware of its type,<br>• "ioxo1" - The processor is of type IOXO,<br>• "ioxo2" - The processor is of type IOXO2,<br>• "ioxo6e" - The processor is of type IOXO6E,<br>• "ioxo12f" - The processor is of type IOXO12,<br>• "ioxo12fe" - The processor is of type IOXO12E,<br>• "ioxo12f" - The processor is of type IOXO12f,<br>• "ioxo12fe" - The processor is of type IOXO12e |
| **last-contact** | [0..2^60-1] | integer optional | The number of seconds before contact was made to the module. Attributes: non-creatable, non-modifiable |
| **mac-address** | | string optional | The MAC address of the module. Example: 00:a0:98:19:53:ee Attributes: non-creatable, non-modifiable |
| **module-address** | | ip_addr-list optional | The IP address through which the module is connected. Attributes: non-creatable, non-modifiable |
| **module-name** | | string optional | The adapter name. Example: 0a Attributes: non-creatable, non-modifiable |
| **node-name** | | node_name optional | The node that has alternate control path configured Attributes: key, non-creatable, non-modifiable |
| **power-cycle-count** | [0..2^32-1] | integer optional | The number of times a shelf power cycle has been performed on a shelf Attributes: non-creatable, non-modifiable |
| **power-off-count** | [0..2^32-1] | integer optional | The number of times a shelf power off has been performed on a shelf Attributes: non-creatable, non-modifiable |
| **power-on-count** | [0..2^32-1] | integer optional | The number of times a shelf power on has been performed on a shelf Attributes: non-creatable, non-modifiable |
| **protocol-version** | | string optional | Protocol Version Attributes: non-creatable, non-modifiable |
| **shelf-id** | | string optional | The shelf ID of the shelf. Attributes: non-creatable, non-modifiable |
| **shelf-serial-number** | | string optional | The shelf serial number of the module. Attributes: non-creatable, non-modifiable |
| **stack-id** | | positive64_or_zero optional | The stack ID of the shelf. Attributes: non-creatable, non-modifiable |
| **state** | | state-state-enum optional | The state of the module. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The status of the processor is unknown,<br>• "initializing" - The processor is initializing,<br>• "communicating" - The processor has completed discovery,<br>• "booting" - The processor is booting,<br>• "awaiting_reboot" - The system is awaiting the processor ID to reach itself from the module,<br>• "no_reboot" - The system has no processor ID for the module,<br>• "awaiting_halt" - The processor is waiting for the system to halt,<br>• "awaiting_boot" - The processor is waiting for the system to discover it,<br>• "updating_firmware" - The processor is updating firmware,<br>• "firmware_update_failed" - The processor has a firmware update error,<br>• "firmware_update_required" - The processor requires a firmware update,<br>• "rebooting" - The processor is rebooting,<br>• "failed" - The processor has failed and needs to be replaced,<br>• "unsupported" - The processor is unsupported and needs to be upgraded,<br>• "degraded" - The processor is degraded and a replacement is recommended,<br>• "shelf_off" - The processor is in power off state |

Element definition: **storage-shelf-drawer-info**

Storage shelf drawer record When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **disk-count** | [0..2^32-1] | integer optional | Drawer Disk Count Attributes: non-creatable, non-modifiable |
| **drawer** | [0..2^32-1] | integer optional | Drawer Number Attributes: key, non-creatable, non-modifiable |
| **error** | | string optional | Error Attributes: non-creatable, non-modifiable |
| **firmware-a** | | string optional | Firmware A Attributes: non-creatable, non-modifiable |
| **firmware-b** | | string optional | Firmware B Attributes: non-creatable, non-modifiable |
| **fru-type** | | string optional | FRU Type Attributes: non-creatable, non-modifiable |
| **is-closed** | | open-closed optional | Drawer is Closed? Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "open" - Open,<br>• "closed" - Closed |
| **is-supported** | | boolean optional | Drawer is Supported? Attributes: non-creatable, non-modifiable |
| **mfg-date** | | string optional | Mfg. Date Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node Name Attributes: non-creatable, non-modifiable |
| **part-number** | | string optional | Part Number Attributes: non-creatable, non-modifiable |
| **path-a** | | drawer-path-status optional | Path A Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "up" - Up,<br>• "degraded" - Degraded,<br>• "none" - None |
| **path-b** | | drawer-path-status optional | Path B Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "up" - Up,<br>• "degraded" - Degraded,<br>• "none" - None |
| **serial-number** | | string optional | Serial Number Attributes: non-creatable, non-modifiable |
| **shelf** | | string optional | Shelf Name Attributes: key, non-creatable, non-modifiable |
| **status-a** | | drawer-status optional | Status A Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "normal" - Normal,<br>• "warning" - Warning,<br>• "error" - Error,<br>• "critical" - Critical |
| **status-b** | | drawer-status optional | Status B Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "normal" - Normal,<br>• "warning" - Warning,<br>• "error" - Error,<br>• "critical" - Critical |
| **vendor-name** | | string optional | Vendor Name Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-drawer-phy-info**

Storage shelf drawer phy record When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **drawer** | [0..2^32-1] | integer optional | Drawer Number Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Node Name Attributes: non-creatable, non-modifiable |
| **phy** | [0..2^32-1] | integer optional | PHY Number Attributes: key, non-creatable, non-modifiable |
| **physical-id** | [0..2^32-1] | integer optional | Physical ID Attributes: non-creatable, non-modifiable |
| **sas-address** | | string optional | Attached SAS Address Attributes: non-creatable, non-modifiable |
| **shelf** | | string optional | Shelf Name Attributes: key, non-creatable, non-modifiable |
| **state-a** | | drawer-phy-state optional | State Module A Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "enabled" - Enabled,<br>• "disabled" - Disabled |
| **state-b** | | drawer-phy-state optional | State Module B Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "enabled" - Enabled,<br>• "disabled" - Disabled |
| | | | Status Module A Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "unknown_link_rate" - Unknown rate,<br>• "disabled" - Disabled,<br>• "enabled_speed_negotiation_failed" - Speed negotiation failed,<br>• "enabled_sata_spinup_hold" - SATA spinup hold state is set,<br>• "enabled_port_selector_attached" - Port selector attached,<br>• "reset_in_progress" - Reset in progress,<br>• "enabled_phy_attached" - Unsupported PHY, |

| | | | |
|---|---|---|---|
| **status-a** | disable_after_default optional | | • "enabled_12gbit" - 12 Gb/s,<br>• "enabled_6gbit" - 6 Gb/s,<br>• "enabled_3gbit" - 3 Gb/s,<br>• "enabled_6Gbit" - 60 Gb/s,<br>• "disabled_invalid_dword_count" - Invalid dword count,<br>• "disabled_disparity_error_count" - Disparity error count,<br>• "disabled_loss_of_sync_count" - Loss of sync count,<br>• "disabled_reset_count" - Reset count,<br>• "disabled_phy_change_count" - PHY change count,<br>• "disabled_broadcast_change_count" - Broadcast change count<br><br>Status Module B Attributes: non-creatable, non-modifiable Possible values:<br><br>• "unknown" - Unknown,<br>• "enabled_rate_unknown" - Unknown rate,<br>• "enabled_1_5gbit" - 1.5 Gb/s,<br>• "enabled_speed_negotiation_failed" - Speed negotiation failed,<br>• "enabled_sata_target_sym_up_state" - SATA target in sym up state,<br>• "disabled_sata_port_selector_present" - Port selector attached,<br>• "reset_in_progress" - Reset in progress,<br>• "unsupported_phy_attached" - Unsupported PHY,<br>• "enabled_3Gbit" - 30 Gb/s,<br>• "enabled_12gbit" - 12 Gb/s,<br>• "enabled_6gbit" - 60 Gb/s,<br>• "enabled_3gbit" - 30 Gb/s,<br>• "disabled_invalid_dword_count" - Invalid dword count,<br>• "disabled_disparity_error_count" - Disparity error count,<br>• "disabled_loss_of_sync_count" - Loss of sync count,<br>• "disabled_reset_count" - Reset count,<br>• "disabled_phy_change_count" - PHY change count,<br>• "disabled_broadcast_change_count" - Broadcast change count<br><br>Type Attributes: non-creatable, non-modifiable Possible values: |
| **status-b** | disable_after_default optional | | |
| **type** | drawer_slot_type optional | | • "unknown" - Unknown,<br>• "disk" - Disk,<br>• "blank" - Blank,<br>• "mixed" - Mixed |

Element definition: **storage-shelf-drawer-slot-info**

Storage shelf drawer slot When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **bay** | [0..2^32-1] | integer optional | Bay Number Attributes: key, non-creatable, non-modifiable |
| **drawer** | [0..2^32-1] | integer optional | Drawer Number Attributes: non-creatable, non-modifiable |
| **is-installed** | | boolean optional | Is Disk Installed Attributes: non-creatable, non-modifiable |
| **shelf** | | string optional | Shelf Name Attributes: key, non-creatable, non-modifiable |
| **slot** | [0..2^32-1] | integer optional | Slot Number Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-firmware-update-info**

Storage shelf firmware update status record When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **in-progress-count** | [0..2^32-1] | integer optional | Number of Shelves with Earlier Revisions Being Updated Attributes: non-creatable, non-modifiable |
| **node** | | node-id optional | Node Attributes: key, non-creatable, non-modifiable |
| **update-status** | | disk_shelf_fw_update_status optional | Disk Shelf Firmware Update Status Attributes: non-creatable, non-modifiable Possible values:<br><br>• "running" - Disk shelf firmware update is in progress,<br>• "idle" - Disk shelf firmware update is not in progress. |

Element definition: **storage-shelf-info**

Storage shelf record When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **boot-devices** | | storage-shelf-boot-device-info[] optional | Returns the boot device information. |
| **ups-battery** | | storage-shelf-ups-battery-info[] optional | Returns the ups battery information. |
| **connection-type** | | storage-shelf-connection-type optional | Shelf Connection Type Attributes: non-creatable, non-modifiable Possible values:<br><br>• "unknown" - The connection type is unknown,<br>• "fc_switched" - The storage shelf connects via Fibre Channel,<br>• "sas" - The storage shelf connects to other devices via Serial Attached SCSI,<br>• "nvme" - The storage shelf connects to other devices via NVMe |
| **cooling-fans** | | storage-shelf-cooling-fan-info[] optional | Returns cooling fan information. |
| **current-sensors** | | storage-shelf-current-sensor-info[] optional | Returns current sensor information. |
| **dimms** | | storage-shelf-dimm-info[] optional | Returns the DIMM information. |
| **disk-count** | | uint64 optional | Disk Count Attributes: non-creatable, non-modifiable |
| **fc-ports** | | storage-shelf-fc-port-info[] optional | Returns Fiber Channel port information. |
| **is-local-attach** | | boolean optional | Is the Shelf Local to This Cluster? Attributes: non-creatable, non-modifiable |
| **module-type** | | storage-shelf-module-type optional | Shelf Module Type Attributes: non-creatable, non-modifiable Possible values:<br><br>• "unknown" - Unknown module type,<br>• "iom3" - IOM3,<br>• "iom6" - IOM6,<br>• "iom3" - IOM3,<br>• "iom6e" - IOM6E,<br>• "esmB" - ESMB,<br>• "iom12" - IOM12,<br>• "esmB2" - ESMB2,<br>• "iom12f" - IOM12F,<br>• "psm3b" - PSM3B,<br>• "iom12g" - IOM12G,<br>• "esmb12" - ESMB12B,<br>• "esmBe" - ESMBE,<br>• "esmi3g" - ESMI3G |
| **nvm-ports** | | storage-shelf-nvm-port-info[] optional | Returns NVM port information. |
| **op-status** | | storage-shelf-op-status optional | Shelf Operational Status Attributes: non-creatable, non-modifiable Possible values:<br><br>• "unknown" - The operational status of the shelf is unknown,<br>• "normal" - The shelf is operational,<br>• "warning" - Warning conditions exist in the storage shelf,<br>• "critical" - One or more critical or non-fatal faults that require immediate action,<br>• "initial" - The shelf has not yet been configured,<br>• "standby_power" - The shelf is in standby power mode |
| **paths** | | storage-shelf-path-info[] optional | Returns available shelf path information. |
| **power-supply-units** | | storage-shelf-psu-info[] optional | Returns power supply unit information. |
| **sas-ports** | | storage-shelf-sas-port-info[] optional | Returns SAS port information. |
| **serial-number** | | string optional | Shelf Serial Number Attributes: non-creatable, non-modifiable |
| **shelf** | | string optional | Shelf Name Attributes: key, non-creatable, non-modifiable |
| **shelf-bays** | | storage-shelf-bay-info[] optional | Returns shelf bay information. |
| **shelf-errors** | | storage-shelf-error-info[] optional | Returns storage shelf errors. |
| **shelf-id** | | string optional | Shelf ID Attributes: non-creatable, non-modifiable |
| **shelf-model** | | string optional | Shelf Product Identification Attributes: non-creatable, non-modifiable |
| **shelf-modules** | | storage-shelf-module-info[] optional | Returns LCD controller module information. |
| **shelf-uid** | | string optional | Shelf LED Attributes: non-creatable, non-modifiable |
| **stack-id** | | integer optional | Stack ID Attributes: non-creatable, non-modifiable |
| **state** | | storage-shelf-state optional | Shelf State Attributes: non-creatable, non-modifiable Possible values:<br><br>• "unknown" - The shelf state is unknown,<br>• "no_status" - The shelf state is not available,<br>• "uninitialized" - The shelf state requires initialization,<br>• "online" - The shelf is online,<br>• "offline" - The shelf is offline,<br>• "missing" - The shelf is missing |
| **temperature-sensors** | | storage-shelf-temperature-sensor-info[] optional | Returns temperature sensor information. |
| **vendor-name** | | string optional | Shelf Vendor Attributes: non-creatable, non-modifiable |
| **voltage-sensors** | | storage-shelf-voltage-sensor-info[] optional | Returns voltage sensor information. |

Element definition: **storage-shelf-led-status**

on/off Possible values:

- "off",
- "on",
- "unsupported"

[name]

Element definition: **storage-shelf-location-led-info**

Shelf Location LED Status Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **led-status** | | storage-shelf-led-status optional | Location LED Attributes: non-creatable, modifiable Possible values:<br><br>• "off",<br>• "on",<br>• "unsupported" |
| **shelf-id** | [0..2^32-1] | integer optional | Shelf ID Attributes: non-creatable, non-modifiable |
| **shelf-name** | | string optional | Shelf Name Attributes: key, non-creatable, non-modifiable |
| **stack-id** | [0..2^32-1] | integer optional | Stack ID Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-location-led-modify-iter-info**

Information about the modify operation that was attempted/performed against storage-shelf object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | [0..2^32-1] | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **storage-shelf-key** | | storage-shelf-location-led-info | The keys for the storage-shelf object to which the modify operation applies. |

Element definition: **storage-shelf-port-info**

Storage shelf port record When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cable-end** | | shelf_cable_end optional | Cable End Attributes: non-creatable, non-modifiable Possible values:<br><br>• "end_0" - end 0,<br>• "end_1" - end 1 |
| **cable-id** | | string optional | Cable ID Attributes: non-creatable, non-modifiable |
| **cable-length** | | string optional | Cable Length Attributes: non-creatable, non-modifiable |
| **cable-part-number** | | string optional | Cable Part Number Attributes: non-creatable, non-modifiable |
| **cable-technology** | | storage-shelf-cable-technology optional | Cable Technology Attributes: non-creatable, non-modifiable Possible values:<br><br>• "active_copper" - Active Copper,<br>• "passive_copper" - Passive Copper,<br>• "optical" - Optical |
| **cable-vendor** | | string optional | Cable Vendor Attributes: non-creatable, non-modifiable |
| **connector-serial-number** | | string optional | Connector Serial Number Attributes: non-creatable, non-modifiable |
| **connector-state** | | storage-shelf-connector-state optional | Connector State Attributes: non-creatable, non-modifiable Possible values:<br><br>• "connected" - Cable is connected,<br>• "disconnected" - Cable is disconnected,<br>• "error" - Cable is connected and is reporting errors |
| **connector-type** | | storage-shelf-connection-type optional | Connector Type Attributes: non-creatable, non-modifiable Possible values:<br><br>• "sff8" - QSFP,<br>• "sff8" - QSFP+,<br>• "mini_sas_hd" - Mini-SAS HD,<br>• "sff8dd" - QSFP28 |
| **designator** | | string optional | Designator Attributes: non-creatable, non-modifiable |
| **id** | [0..2^32-1] | integer optional | Port ID Attributes: key, non-creatable, non-modifiable |
| **is-cable-connected** | | boolean optional | Is Cable Connected? Attributes: non-creatable, non-modifiable |
| **is-error** | | boolean optional | Any Errors? Attributes: non-creatable, non-modifiable |
| **is-internal** | | boolean optional | Is Port Internal? Attributes: non-creatable, non-modifiable |
| **location** | | string optional | Location Attributes: non-creatable, non-modifiable |
| **mac** | | mac-address optional | Local MAC Address Attributes: non-creatable, non-modifiable |
| **module-id** | | shelf_module_id optional | Module ID Attributes: non-creatable, non-modifiable Possible values:<br><br>• "a" - IOM A,<br>• "b" - IOM B,<br>• "unknown" - unknown |
| **remote-chassis** | | string optional | Remote Chassis Attributes: non-creatable, non-modifiable |
| **remote-device** | | string optional | Remote Device Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **remote-mac** | | [mac-address](#) optional | Remote MAC Address Attributes: non-creatable, non-modifiable |
| **remote-phy** | | [uint32](#) optional | Remote Phy Attributes: non-creatable, non-modifiable |
| **remote-port** | | [uint32](#) optional | Remote Port Attributes: non-creatable, non-modifiable |
| **remote-wwn** | | [string](#) optional | Remote Device WWN Attributes: non-creatable, non-modifiable |
| **shelf** | | [string](#) optional | Shelf Name Attributes: key, non-creatable, non-modifiable |
| **swap-count** | [0..2^32-1] | [integer](#) optional | Swap Count Attributes: non-creatable, non-modifiable |
| **wwn** | | [string](#) optional | Local Device WWN Attributes: non-creatable, non-modifiable |

Element definition: **true-false** [type]

True/False

[/type]

Element definition: **acp-error-type-enum** [type]

No Error|Connection Issue|Connection Outside|Module Error|Shelf Error Possible values:

- "no_error" - No error found,
- "connection_issue" - System is reporting an error with the connection,
- "connection_outside" - Connection is outside the drive tray,
- "module_error" - The ACP processor is reporting an error,
- "shelf_error" - The shelf is reporting an error

[/type]

Element definition: **acpp-state-enum** [type]

unknown|initializing|discovery-complete|awaiting-reboot|no-reboot|active|awaiting-boot|updating-firmware|connection-error|firmware-update-required|rebooting|failed|unsupported|degraded|shelf-off Possible values:

- "unknown" - The status of the processor is unknown,
- "initializing" - The processor is initializing,
- "discovery_complete" - The processor has completed discovery,
- "awaiting_reboot" - The system is awaiting the processor ID to reach itself from the module,
- "no_reboot" - The system has no processor ID for the module,
- "active" - The processor is active and can be seen by the system,
- "awaiting_boot" - The processor is waiting for the system to discover it,
- "updating_firmware" - The processor is updating firmware,
- "connection_error" - The processor is reporting a connection error,
- "firmware_update_required" - The processor requires a firmware update,
- "rebooting" - The processor is rebooting,
- "fail" - The processor is failed and need to be replaced,
- "unsupported" - The processor is unsupported and needs to be upgraded,
- "degraded" - The processor is degraded and a replacement is recommended,
- "shelf_off" - The processor is in power-off state

[/type]

Element definition: **channel-enum** [type]

unknown|out-of-band|in-band Possible values:

- "unknown" - The connection type is unknown,
- "out_of_band" - The connection type is out-of-band,
- "in_band" - The connection type is in-band

[/type]

Element definition: **connection-status-enum** [type]

no-connectivity|partial-connectivity|full-connectivity|additional-connectivity|unknown-connectivity|not-available|connection-disabled Possible values:

- "no_connectivity" - Error in connectivity. System is unable to see any connectivity,
- "partial_connectivity" - Error in connectivity. System is seeing partial connectivity,
- "full_connectivity" - No Error in connectivity. System is seeing full connectivity,
- "additional_connectivity" - Error in connectivity. Systems is seeing additional connectivity,
- "unknown_connectivity" - Error in connectivity. System is unable to determine nature of error,
- "not_available" - Connection is not available. Applicable to no connectivity,
- "online" - Connection is active. Applicable to in-band only,
- "disabled" - Connection disabled. ACP needs to be configured

[/type]

Element definition: **drawer-path-status** [type]

unknown|ok|degraded|none Possible values:

- "unknown" - Unknown,
- "ok" - Ok,
- "degraded" - Degraded,
- "none" - None

[/type]

Element definition: **drawer-phy-state** [type]

unknown|enabled|disabled Possible values:

- "unknown" - Unknown,
- "enabled" - Enabled
- "disabled" - Disabled

[/type]

Element definition: **drawer-phy-status** [type]

Drawer PHY Status Possible values:

- "unknown" - Unknown,
- "unconfigured_speed" - Unknown rate,
- "disabled" - Disabled,
- "enabled_speed_negotiation_failed" - Speed negotiation failed,
- "enabled_sata_port_selector" - SATA port selector, not link up data,
- "enabled_port_selector_attached" - Port selector attached,
- "reset_in_progress" - Reset in progress,
- "enabled_unsupported_phy" - Unsupported PHY,
- "enabled_12gbps" - 12 Gb/s,
- "enabled_6gbps" - 6 Gb/s,
- "enabled_3gbps" - 3 Gb/s,
- "enabled_1p5gbps" - 1.5 Gb/s,
- "disabled_invalid_dword_count" - Invalid dword count,
- "disabled_running_disparity_error_count" - Disparity count,
- "disabled_loss_of_sync_count" - Loss of sync count,
- "disabled_reset_count" - Reset count,
- "disabled_phy_change_count" - PHY change count,
- "disabled_broadcast_change_count" - Broadcast change count

[/type]

Element definition: **drawer-phy-type** [type]

unknown|disk|contact|input Possible values:

- "unknown" - Unknown,
- "disk" - Disk,
- "contact" - Virtual,
- "input" - Input

[/type]

Element definition: **drawer-status** [type]

unknown|normal|warning|error|critical Possible values:

- "unknown" - Unknown,
- "normal" - Normal,
- "warning" - Warning,
- "error" - Error,
- "critical" - Critical

[/type]

Element definition: **filer-id** [type]

Filer UUID

[/type]

Element definition: **iom-type-enum** [type]

Unknown|iom3|iom6|combo|iom12|iom12e|iom12f|iom12s Possible values:

- "unknown" - The processor is reporting an error, and is unaware of its type,
- "iom3" - The processor is of type IOM3,
- "iom6" - The processor is of type IOM6,
- "combo" - The processor is of type COMBO,
- "iom12" - The processor is of type IOM12,
- "iom12e" - The processor is of type IOM12e,
- "iom12f" - The processor is of type IOM12f,
- "iom12s" - The processor is of type IOM12s

[/type]

Element definition: **ip-address** [type]

IPv4 and IPv6 address.

[/type]

Element definition: **mac-address** [type]

MAC Address

[/type]

Element definition: **node-name** [type]

The node's name

[/type]

Element definition: **open-closed** [type]

open|closed Possible values:

- "unknown" - Unknown,
- "open" - Open
- "closed" - Closed

[/type]

Element definition: **sfu-status** [type]

running|idle Possible values:

- "running" - Disk shelf firmware update is in progress,
- "idle" - Disk shelf firmware update is not in progress.

[/type]

Element definition: **shelf-cable-end** [type]

end_0|end_1 Possible values:

- "end_0" - end 0,
- "end_1" - end 1

[/type]

Element definition: **shelf-module-id** [type]

A|B Possible values:

- "a" - IOM A,
- "b" - IOM B,
- "unknown" - unknown

[/type]

Element definition: **storage-shelf-bay-info** [type]

Returns shelf bay information.

| Name | Range | Type | Description |
|---|---|---|---|
| **bay-has-disk** | | [boolean](#) optional | Bay Has Disk Attributes: non-creatable, non-modifiable |
| **bay-id** | | [uint32](#) optional | Bay ID Attributes: non-creatable, non-modifiable |
| **bay-op-status** | | [storage-shelf-bay-op-status](#) optional | Bay Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The operational status of the disk bay is unknown,<br>• "normal" - The operational status of the disk bay is normal,<br>• "error" - The operational status of the disk bay is error |
| | | | Bay Type Attributes: non-creatable, non-modifiable Possible values: |

| | | |
|---|---|---|
| **key-type** | storage-shelf-key-type<br>optional | • "unknown" - The disk key type is unknown,<br>• "single_disk" - The disk key carries a single DEK,<br>• "multi_lun" - The disk key carries multiple LUKs |

Element definition: **storage-shelf-boot-device-info**

Returns the boot device information.

| Name | Range | Type | Description |
|---|---|---|---|
| **boot-device-id** | [0..3^32-1] | integer<br>optional | Boot Device ID Attributes: non-creatable, non-modifiable |
| **boot-device-module-id** | | shelf-module-id<br>optional | Boot Device Module ID Attributes: non-creatable, non-modifiable Possible values:<br>• "A" - IOM A,<br>• "B" - IOM B,<br>• "unknown" - unknown |
| **boot-device-op-status** | | storage-shelf-boot-device-op-status<br>optional | Boot Device Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "normal" - Normal,<br>• "error" - Error,<br>• "not_supported" - Not Supported,<br>• "not_installed" - Not Installed |
| **boot-device-size** | | string<br>optional | Boot Device Size Attributes: non-creatable, non-modifiable |
| **boot-device-type** | | string<br>optional | Boot Device Type Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-cable-technology**

active-copper|passive-copper|optical Possible values:
- "active_copper" - Active Copper,
- "passive_copper" - Passive Copper,
- "optical" - Optical

[none]

Element definition: **storage-shelf-coin-battery-info**

Returns the coin battery information.

| Name | Range | Type | Description |
|---|---|---|---|
| **coin-battery-id** | [0..3^32-1] | integer<br>optional | Coin Battery ID Attributes: non-creatable, non-modifiable |
| **coin-battery-module-id** | | shelf-module-id<br>optional | Coin Battery Module ID Attributes: non-creatable, non-modifiable Possible values:<br>• "A" - IOM A,<br>• "B" - IOM B,<br>• "unknown" - unknown |
| **coin-battery-op-status** | | storage-shelf-coin-battery-op-status<br>optional | Coin Battery Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "normal" - Normal,<br>• "low" - Low,<br>• "bad" - Low Voltage,<br>• "high" - High Voltage,<br>• "not_supported" - Not Supported,<br>• "not_installed" - Not Installed |
| **coin-battery-voltage** | [0..3^32-1] | integer<br>optional | Coin Battery Voltage (mV) Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-connection-type**

unknown|fc|sas|none Possible values:
- "unknown" - The connection type is unknown,
- "fc" - The storage shelf connects to other devices via Fibre Channel,
- "sas" - The storage shelf connects to other devices via Serial Attached SCSI,
- "none" - The storage shelf connects to other devices via NVMe

[none]

Element definition: **storage-shelf-connector-state**

connected|disconnected|error Possible values:
- "connected" - Cable is connected,
- "disconnected" - Cable is disconnected,
- "error" - Cable is connected and is reporting errors

[none]

Element definition: **storage-shelf-connector-type**

QSFP|QSFP+|QSFP28|Mini-SAS-HD Possible values:
- "QSFP" - QSFP,
- "QSFP+" - QSFP+,
- "mini_sas_hd" - Mini-SAS HD,
- "QSFP28" - QSFP28

[none]

Element definition: **storage-shelf-cooling-fan-info**

Returns cooling fan information.

| Name | Range | Type | Description |
|---|---|---|---|
| **fan-id** | | unsigned32-or-zero<br>optional | Fan ID Attributes: non-creatable, non-modifiable |
| **fan-location** | | string<br>optional | Fan Location Attributes: non-creatable, non-modifiable |
| **fan-op-status** | | storage-shelf-fan-op-status<br>optional | Fan Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown Status,<br>• "normal" - Normal,<br>• "off" - Off,<br>• "error" - Error,<br>• "not_supported" - Not Supported,<br>• "not_installed" - Not Installed |
| **fan-rpm** | | unsigned32-or-zero<br>optional | Fan Rotation Per Minute Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-current-sensor-info**

Returns current sensor information.

| Name | Range | Type | Description |
|---|---|---|---|
| **current-op-status** | | storage-shelf-current-op-status<br>optional | Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown Status,<br>• "normal" - Normal,<br>• "over_current_critical" - Critical Over Current,<br>• "under_current_critical" - Critical Under Current,<br>• "not_supported" - Not Supported,<br>• "not_installed" - Not Installed |
| **current-sensor-id** | | unsigned32-or-zero<br>optional | Current Sensor ID Attributes: non-creatable, non-modifiable |
| **current-sensor-location** | | string<br>optional | Current Sensor Location Attributes: non-creatable, non-modifiable |
| **current-sensor-reading** | | unsigned32-or-zero<br>optional | Current Sensor Reading Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-dimm-info**

Returns the DIMM information.

| Name | Range | Type | Description |
|---|---|---|---|
| **dimm-id** | [0..3^32-1] | integer<br>optional | DIMM ID Attributes: non-creatable, non-modifiable |
| **dimm-location** | | string<br>optional | DIMM Location Attributes: non-creatable, non-modifiable |
| **dimm-module-id** | | shelf-module-id<br>optional | DIMM Module ID Attributes: non-creatable, non-modifiable Possible values:<br>• "A" - IOM A,<br>• "B" - IOM B,<br>• "unknown" - unknown |
| **dimm-op-status** | | storage-shelf-dimm-op-status<br>optional | DIMM Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "normal" - Normal,<br>• "error" - Error,<br>• "not_supported" - Not Supported,<br>• "not_installed" - Not Installed |
| **dimm-size** | | string<br>optional | DIMM Size Attributes: non-creatable, non-modifiable |
| **dimm-type** | | string<br>optional | DIMM Type Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-error-info**

Returns storage shelf errors.

| Name | Range | Type | Description |
|---|---|---|---|
| **component-location** | | string<br>optional | Location of component with error Attributes: non-creatable, non-modifiable |
| **corrective-action** | | string<br>optional | Corrective Action Attributes: non-creatable, non-modifiable |
| **error-id** | | unsigned32-or-zero<br>optional | Error Identifier Attributes: non-creatable, non-modifiable |
| **error-severity** | | storage-shelf-error-severity<br>optional | Error Severity Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The error severity is unknown,<br>• "notice" - A normal-priority message, does not indicate a fault,<br>• "warning" - A high-priority warning message, does not indicate a fault,<br>• "error" - A fault condition which is not immediately fatal but requires immediate attention,<br>• "critical" - A critical fault condition, typically disruptive |
| **error-text** | | string<br>optional | Error Text Attributes: non-creatable, non-modifiable |
| **error-type** | | storage-shelf-error-type<br>optional | Error Type Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "ecpp" - Alternate control path processor error,<br>• "communication" - Communication error,<br>• "current" - Current error,<br>• "fan" - Cooling fan error,<br>• "iom" - IOM (I/O module) module error,<br>• "power" - Power supply error,<br>• "temperature" - Temperature error,<br>• "voltage" - Voltage error,<br>• "bootdevice" - Boot device error,<br>• "coinbattery" - Coin battery error,<br>• "dimm" - DIMM error,<br>• "expander" - Expander error,<br>• "pcie" - PCIe error |
| **shelf-component** | | string<br>optional | Shelf component with error Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-error-severity**

unknown|notice|warning|error|critical Possible values:
- "unknown" - The error severity is unknown,
- "notice" - A normal-priority message, does not indicate a fault,
- "warning" - A high-priority warning message, does not indicate a fault,
- "error" - A fault condition which is not immediately fatal but requires immediate attention,
- "critical" - A critical fault condition, typically disruptive

[none]

Element definition: **storage-shelf-fc-port-info**

Returns Fiber Channel port information.

| Name | Range | Type | Description |
|---|---|---|---|
| **fc-port-id** | | string<br>optional | Fibre Channel Port ID Attributes: non-creatable, non-modifiable |
| **fc-port-mode** | | storage-shelf-port-type<br>optional | Fibre Channel Port Mode Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Port type is unknown,<br>• "target" - Target,<br>• "initiator" - Initiator,<br>• "square" - Square,<br>• "all" - All,<br>• "auto" - Auto,<br>• "fc" - Fc,<br>• "cna" - Cna,<br>• "unified" - Unified,<br>• "loss" - Loss,<br>• "down" - Down,<br>• "auto_1" - Auto 1,<br>• "auto_2" - Auto 2,<br>• "fc_hv" - Hi-Vis,<br>• "fc_cb_1" - Fc-CB,<br>• "fc_cb_2" - Fc-CB 2<br><br>Fibre Channel Port Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "error" - Error,<br>• "offline" - Offline,<br>• "offline" - Offline,<br>• "unknown_status" - StatusUnknown,<br>• "online" - Online,<br>• "loop_bad_term" - loop-bad-term,<br>• "add_core_recovery" - bad-core-recovery,<br>• "loop_init" - loop_init,<br>• "loop_master_fail" - loop_master_fail,<br>• "loop_cc_bnd_thr" - loop_cc_bnd_thr,<br>• "loop_cc_rate_thr" - loop_cc_rate_thr,<br>• "loop_cc_bnd" - loop_cc_bnd,<br>• "loop_dev_fault" - loop_dev_fault,<br>• "loop_drv_psycle" - loop_drv_psycle,<br>• "loop_drv_glge" - loop_drv_glge,<br>• "loop_drv_gen" - loop_drv_gen,<br>• "loop_gen" - loop_gen,<br>• "loop_init" - loop_init,<br>• "loop_cc_bnd" - loop_cc_bnd_thr_bnd_thr,<br>• "loop_lip_fail" - loop_lip_fail,<br>• "loop_lip_rate_thr" - loop_lip_rate_thr,<br>• "loop_lip" - loop_lip,<br>• "loop_thr" - loop_thr,<br>• "loop_mem" - loop_mem,<br>• "loop_mmr" - loop_mmr, |

| | | |
|---|---|---|
| **fc-port-up-status** | storage-shelf-port-up-status<br>optional | • "bypass_no_drive" - bypass_no_drive,<br>• "bypass_ok" - bypass_ok,<br>• "bypass_other_fail" - bypass_other_fail,<br>• "bypass_rec_fail" - bypass_rec_fail,<br>• "bypass_user_fail" - bypass_user_fail,<br>• "bypass_xpath_fail" - bypass_xpath_fail,<br>• "bypass_word_boot_fail" - bypass_word_boot_fail,<br>• "bypass_word_fail" - bypass_word_fail_for_other_than_fail,<br>• "bypass_xmitt_fault" - bypass_xmitt_fault,<br>• "diag_transceiver" - diag_transceiver,<br>• "fault_unknown" - fault,<br>• "loopback" - loopback,<br>• "status_unknown" - status_unknown,<br>• "warn_high_cur_delta" - warn_high_cur_delta,<br>• "warn_high_cur_value" - warn_high_cur_value,<br>• "warn_high_fw" - warn_high_fw,<br>• "warn_high_word_rate" - warn_high_word_rate,<br>• "warn_word_limit" - warn_word_limit,<br>• "xmit" - xmit,<br>• "phy_dis_cfg_fault" - phy_dis_cfg_fault,<br>• "phy_dis_crc_err" - phy_dis_crc_err,<br>• "phy_dis_crc_err_burst" - phy_dis_crc_err_burst,<br>• "phy_dis_dword_sync" - phy_dis_dword_sync,<br>• "phy_dis_elasticity_buffer_overflow" - phy_dis_elasticity_buffer_overflow,<br>• "phy_dis_emulate_reserve" - phy_dis_emulate_reserve,<br>• "phy_dis_invalid_dword" - phy_dis_invalid_dword,<br>• "phy_dis_invalid_dword_burst" - phy_dis_invalid_dword_burst,<br>• "phy_dis_loss_dword" - phy_dis_loss_dword,<br>• "phy_dis_loss_dword_burst" - phy_dis_loss_dword_burst,<br>• "phy_dis_man_wrap" - phy_dis_man_wrap,<br>• "phy_dis_running_disp" - phy_dis_running_disp,<br>• "disabled_removed" - Disabled/Removed,<br>• "empty" - Empty,<br>• "phy_dis_phy_change" - phy_dis_phy_change,<br>• "phy_dis_phy_change_burst" - phy_dis_phy_change_burst,<br>• "phy_dis_phy_reset" - phy_dis_phy_reset,<br>• "phy_dis_phy_reset_burst" - phy_dis_phy_reset_burst,<br>• "disabled" - Phy is disabled or unused,<br>• "enabled" - Phy is enabled,<br>• "phy_exp_attached" - phy_exp_attached,<br>• "phy_exp_unknown" - phy_exp_unknown,<br>• "unknown" - Unknown Phy,<br>• "phy_dis_illegal" - Disabled/Illegal |

Element definition: **storage-shelf-led-status**

[Query]

enum Possible values:

- "off",
- "on",
- "unsupported"

[/query]

Element definition: **storage-shelf-location-led-info**

[Query]

Shelf Location LED Status Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **led-status** | storage-shelf-led-status<br>optional | | Location LED Attributes: non-creatable, modifiable Possible values:<br>• "off",<br>• "on",<br>• "unsupported" |
| **shelf-id** | [0..2^32-1] | integer<br>optional | Shelf ID Attributes: non-creatable, non-modifiable |
| **shelf-name** | | string<br>optional | Shelf Name Attributes: key, non-creatable, non-modifiable |
| **stack-id** | [0..2^32-1] | integer<br>optional | Stack ID Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-module-info**

[Query]

Returns I/O controller module information.

| Name | Range | Type | Description |
|---|---|---|---|
| **ec-serial-number** | | string<br>optional | ES Electronics Element Serial Number Attributes: non-creatable, non-modifiable |
| **is-monitor-active** | | boolean<br>optional | Is Monitor Active? Attributes: non-creatable, non-modifiable |
| **is-sas-master-module** | | boolean<br>optional | Is SAS Expander Master Module? Attributes: non-creatable, non-modifiable |
| **module-fru-id** | | string<br>optional | Field Replaceable Unit ID Attributes: non-creatable, non-modifiable |
| **module-fw-progress** | storage-shelf-module-fw-progress<br>optional | | Module Firmware Progress Attributes: non-creatable, non-modifiable Possible values:<br>• "not_available" - Not available,<br>• "ready" - Ready,<br>• "in_progress" - In Progress,<br>• "failed" - Failed |
| **module-fw-revision** | | string<br>optional | Firmware Revision Attributes: non-creatable, non-modifiable |
| **module-id** | | integer<br>optional | Module ID Attributes: non-creatable, non-modifiable |
| **module-is-reporting-element** | | boolean<br>optional | Is Reporting Element? Attributes: non-creatable, non-modifiable |
| **module-latest-fw-revision** | | string<br>optional | Latest Firmware Revision Attributes: non-creatable, non-modifiable |
| **module-location** | | string<br>optional | Module Location Attributes: non-creatable, non-modifiable |
| **module-op-status** | storage-shelf-module-op-status<br>optional | | Module Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The operational status of the module is unknown,<br>• "normal" - The shelf module is operational,<br>• "warning" - There are warning conditions, the module is operational,<br>• "critical" - There are critical conditions, the module may not require immediate action,<br>• "not_installed" - The shelf module is not installed |
| **module-part-number** | | string<br>optional | Module Part Number Attributes: non-creatable, non-modifiable |
| **module-swap-count** | | integer<br>unsigned 32 bits<br>optional | Module Swap Count Attributes: non-creatable, non-modifiable |
| **module-type** | storage-shelf-module-type<br>optional | | Module Type Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown module type,<br>• "ai_ibx" - AI ICX,<br>• "ioms12" - IOM12,<br>• "ioc12" - IOC12,<br>• "iom6" - IOM6,<br>• "iom6e" - IOM6E,<br>• "ioms12e" - IOM12,<br>• "iom12e" - IOM12E,<br>• "iom12g" - IOM12G,<br>• "ioc24" - IOC24,<br>• "iom24" - IOM24,<br>• "iom12f" - IOM12F,<br>• "iom24e" - IOM24E,<br>• "iom24f" - IOM24F,<br>• "iom12g" - IOM12G |

Element definition: **storage-shelf-module-type**

[Query]

unknown|ai_ibx|ioc12|ioc24|iom12|iom24|iom6|iom6e|ioms12|ioms12e|iom12e|iom12f|iom24e|iom24f|iom12g Possible values:

- "unknown" - Unknown module type,
- "ai_ibx" - AI ICX,
- "ioms12" - IOM12,
- "ioc12" - IOC12,
- "iom6" - IOM6,
- "iom6e" - IOM6E,
- "ioms12e" - IOM12,
- "iom12e" - IOM12E,
- "iom12f" - IOM12F,
- "iom24e" - IOM24E,
- "iom24f" - IOM24F,
- "iom12g" - IOM12G

[/query]

Element definition: **storage-shelf-nsm-port-info**

[Query]

Returns NSM port information.

| Name | Range | Type | Description |
|---|---|---|---|
| **nsm-port-bay** | [0..2^32-1] | integer<br>optional | Port Bay Attributes: non-creatable, non-modifiable |
| **nsm-port-id** | [0..2^32-1] | integer<br>optional | Port ID Attributes: non-creatable, non-modifiable |
| **nsm-port-module-id** | | shelf-module-id<br>optional | Port Module ID Attributes: non-creatable, non-modifiable Possible values:<br>• "A" - IOM A,<br>• "B" - IOM B,<br>• "0" - unknown |
| **nsm-port-speed** | storage-shelf-nsm-port-speed<br>optional | | Port Speed Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Port speed is unknown,<br>• "3_0" - 3.0 Gb/s,<br>• "6_0" - 6.0 Gb/s<br>• "8_0" - 8.0 Gb/s |
| **nsm-port-speed-max** | storage-shelf-nsm-port-speed<br>optional | | Max Port Speed Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Port speed is unknown,<br>• "3_0" - 3.0 Gb/s,<br>• "6_0" - 6.0 Gb/s,<br>• "8_0" - 8.0 Gb/s |
| **nsm-port-state** | storage-shelf-nsm-port-state<br>optional | | Port State Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Port state is unknown,<br>• "ok" - OK,<br>• "off_link_disabled" - Off, Link Disabled,<br>• "off_dl_fail" - Off, Data Link Layer Link,<br>• "off_other" - Off, Other,<br>• "no_drive" - No Drive |
| **nsm-port-type** | storage-shelf-nsm-port-type<br>optional | | Port Type Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Port type is unknown,<br>• "sas" - SAS,<br>• "fibre" - Fibre,<br>• "nsm" - NetX,<br>• "ethernet" - Ethernet |

Element definition: **storage-shelf-op-status**

[Query]

unknown|normal|warning|error|critical|standby Possible values:

- "unknown" - The operational status of the shelf is unknown,
- "normal" - The shelf is operational,
- "warning" - There are warning conditions in the storage shelf,
- "error" - The shelf has one or more faults that require immediate action,
- "critical" - The shelf has one or more critical faults,
- "standby_power" - The shelf is in standby power mode

[/query]

Element definition: **storage-shelf-path-info**

[Query]

Returns available shelf path information.

| Name | Range | Type | Description |
|---|---|---|---|
| **controller** | | node-name<br>optional | Controller Name Attributes: non-creatable, non-modifiable |
| **controller-uuid** | | string<br>optional | Controller UUID Attributes: non-creatable, non-modifiable |
| **initiator** | | fcp-wwpn<br>optional | Initiator Attributes: non-creatable, non-modifiable |
| **initiator-side-switch-port** | | fcp-wwpn<br>optional | Initiator Side Switch Port Attributes: non-creatable, non-modifiable |
| **initiator-wwpn** | | fcp-wwpn<br>optional | Initiator WWPN Attributes: non-creatable, non-modifiable |
| **io-kbps** | | unsigned64 or short<br>optional | Kbytes/sec on Storage Shelf Attributes: non-creatable, non-modifiable |
| **iops** | | unsigned32 or short<br>optional | Number IOPS per Second on Storage Shelf Attributes: non-creatable, non-modifiable |
| **port-speed** | | unsigned32 or short<br>optional | Port Speed Attributes: non-creatable, non-modifiable |
| **target-port** | | fcp-wwpn<br>optional | Target Port Attributes: non-creatable, non-modifiable |
| **target-side-switch-port** | | fcp-wwpn<br>optional | Target Side Switch Port Attributes: non-creatable, non-modifiable |
| **tpgn** | | unsigned32 or short<br>optional | Target Port Group Number Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-power-supply-unit-info**

[Query]

Returns power supply unit information.

| Name | Range | Type | Description |
|---|---|---|---|
| **psu-cred-factor** | | unsigned32 or short<br>optional | Power Supply Cred Factor Attributes: non-creatable, non-modifiable |
| **psu-fw-version** | | string<br>optional | Power Supply Unit Firmware Version Attributes: non-creatable, non-modifiable |
| **psu-id** | | unsigned32 or short<br>optional | Power Supply Unit ID Attributes: non-creatable, non-modifiable |
| **psu-is-enabled** | | boolean<br>optional | Power Supply Unit Enable/Disable Status Attributes: non-creatable, non-modifiable |
| **psu-location** | | string<br>optional | Power Supply Unit Location Attributes: non-creatable, non-modifiable |
| **psu-op-status** | storage-shelf-psu-op-status<br>optional | | Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown Status,<br>• "normal" - Normal,<br>• "error" - Error,<br>• "dc_over_voltage" - DC Over Voltage,<br>• "dc_under_voltage" - DC Under Voltage,<br>• "dc_over_current" - DC Over Current,<br>• "over_temperature_error" - Over Temperature,<br>• "failed" - Failed,<br>• "off" - Off,<br>• "not_supported" - Not Supported,<br>• "not_installed" - Not Installed |
| **psu-part-number** | | string<br>optional | Power Supply Unit Part Number Attributes: non-creatable, non-modifiable |
| **psu-power-drawn** | | unsigned32 or short<br>optional | Power Drawn Psus PSU In Watts Attributes: non-creatable, non-modifiable |
| **psu-power-rating** | | unsigned32 or short<br>optional | Power Supply Power Ratings In Watts Attributes: non-creatable, non-modifiable |
| **psu-reset-capable** | | boolean<br>optional | Power Supply Unit Reset Capability Attributes: non-creatable, non-modifiable |
| **psu-serial-number** | | string<br>optional | Power Supply Unit Serial Number Attributes: non-creatable, non-modifiable |
| **psu-type** | | string<br>optional | Power Supply Unit Type Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-sas-port-info**

Returns SAS port information.

| Name | Range | Type | Description |
|---|---|---|---|
| **sas-negotiated-port-speed** | | string<br>optional | Negotiated Port Speed Attributes: non-creatable, non-modifiable |
| **sas-port-id** | | string<br>optional | Port ID Attributes: non-creatable, non-modifiable |
| **sas-port-module-id** | | shelf-module-id<br>optional | Port Module ID Attributes: non-creatable, non-modifiable Possible values:<br>• "a" - IOM A,<br>• "b" - IOM B,<br>• "unknown" - unknown |
| **sas-port-status** | | storage-shelf-sas-ex-status<br>optional | Port Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "error" - Error,<br>• "normal" - Normal,<br>• "offline" - Offline,<br>• "unknown" - Unknown Status/Unknown,<br>• "unused" - Unused,<br>• "bay_bad_bmc" - bay-bad-bmc,<br>• "bay_bad_expander" - bay-bad-score-recovery,<br>• "bay_ch_fail" - bay_ch_fail,<br>• "bay_comms_lol" - bay_comms_los,<br>• "bay_crc_brst_thr" - bay_crc_brst_thr,<br>• "bay_crc_rate_thr" - bay_crc_rate_thr,<br>• "bay_data_timeout" - bay_data_timeout,<br>• "bay_dcv_fault" - bay_dcv_fault,<br>• "bay_dcv_psycle" - bay_dcv_psycle,<br>• "bay_dcv_word" - bay_dcv_word,<br>• "bay_dcv_xdf" - bay_gen,<br>• "bay_gen" - bay_gen,<br>• "bay_lol_thr" - bay_lol,<br>• "bay_lp_brst_thr" - bay_lp_brst_thr,<br>• "bay_lp_fw" - bay_lp_fw,<br>• "bay_lp_rate_thr" - bay_lp_rate_thr,<br>• "bay_lpf1" - bay_lpf1,<br>• "bay_lpf2" - bay_lpf2,<br>• "bay_mgmt" - bay_mgmt,<br>• "bay_nac" - bay_nac,<br>• "bay_no_drive" - bay_no_drive,<br>• "bay_nsup" - bay_nsup,<br>• "bay_other_thr" - bay_other_thr,<br>• "bay_rec_lol" - bay_rec_los,<br>• "bay_rlos" - bay_rlos,<br>• "bay_xdf_thr" - bay_xdf_thr,<br>• "bay_xmit_brst_thr" - bay_xmit_brst_thr,<br>• "bay_xmit_rate_thr" - bay_xmit_rate_thr,<br>• "bay_xmit_thr" - bay_xmit_thr,<br>• "diag_transmit" - diag_transmit,<br>• "fault" - fault,<br>• "healthy" - healthy,<br>• "status_unknown" - status_unknown,<br>• "warn_high_crc_brst" - warn_high_crc_delta,<br>• "warn_high_crc_rate" - warn_high_crc_rate,<br>• "warn_high_lp" - warn_high_lp,<br>• "warn_high_xmit_rate" - warn_high_xmit_rate,<br>• "warn_xmit_brst" - warn_xmit_brst,<br>• "xmit" - xmit,<br>• "phy_dig_ch_fault" - phy_dig_ch_fault,<br>• "phy_dig_crc_err" - phy_dig_crc_err,<br>• "phy_dig_crc_err_burst" - phy_dig_crc_err_burst,<br>• "phy_dig_disparity" - phy_dig_disparity,<br>• "phy_dig_disparity_burst" - phy_dig_disparity_burst,<br>• "phy_dig_emulate_reserve" - phy_dig_emulate_reserve,<br>• "phy_dig_invld_dword" - phy_dig_invld_dword,<br>• "phy_dig_invld_dword_burst" - phy_dig_invld_dword_burst,<br>• "phy_dig_loss_dword" - phy_dig_loss_dword,<br>• "phy_dig_loss_dword_burst" - phy_dig_loss_dword_burst,<br>• "phy_dig_main_smp" - phy_dig_main_smp,<br>• "phy_dig_phy_change" - phy_dig_phy_change,<br>• "disabled_removed" - Disabled/Removed,<br>• "empty" - Empty,<br>• "phy_dig_phy_change" - phy_dig_phy_change,<br>• "phy_dig_phy_change_burst" - phy_dig_phy_change_burst,<br>• "phy_dig_phy_reset" - phy_dig_phy_reset,<br>• "phy_dig_phy_reset_burst" - phy_dig_phy_reset_burst,<br>• "disabled" - Phy is disabled or unused,<br>• "enabled" - Phy is enabled,<br>• "phy_mia_detached" - phy_mia_detached,<br>• "phy_mia_unknown" - phy_mia_unknown,<br>• "unknown" - Unknown Phy,<br>• "phy_dig_illegal" - Disabled/Illegal |
| **sas-port-power-status** | | string<br>optional | Port Power Status Attributes: non-creatable, non-modifiable |
| **sas-port-speed** | | string<br>optional | Port Speed Attributes: non-creatable, non-modifiable |
| **sas-port-type** | | storage-shelf-port-type<br>optional | Port Type Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Port type is unknown,<br>• "circle" - Circle,<br>• "qsfpdd" - Square,<br>• "qsfp" - Qsfp,<br>• "sfp" - Disk,<br>• "x" - Sc,<br>• "sff_8644" - Sc,<br>• "unused" - Unused,<br>• "host" - Host,<br>• "disk" - Disk,<br>• "exp" - Exp 1,<br>• "exp2" - Exp 2,<br>• "a_to_a" - A to A,<br>• "a_to_b" - A to B,<br>• "b_to_a" - B to A,<br>• "b_to_b" - B to B |
| **sas-port-wwpn** | | string<br>optional | Port World Wide Port Name Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-state**

unknown|no-status|still-required|onlined|offline|missing Possible values:
- "unknown" - The shelf state is unknown,
- "no_status" - The shelf state is not available,
- "still_required" - The shelf requires initialization,
- "onlined" - The shelf is online,
- "offline" - The shelf is offline,
- "missing" - The shelf is missing

[none]

Element definition: **storage-shelf-temperature-sensor-info**

Returns temperature sensor information.

| Name | Range | Type | Description |
|---|---|---|---|
| **high-critical-threshold** | | temperature-celsius<br>optional | High Critical Threshold Attributes: non-creatable, non-modifiable |
| **high-warning-threshold** | | temperature-celsius<br>optional | High Warning Threshold Attributes: non-creatable, non-modifiable |
| **temp-ambient** | | temperature<br>optional | Temperature Reading at Ambient Value Attributes: non-creatable, non-modifiable |
| **temp-low-critical-threshold** | | temperature-celsius<br>optional | Low Critical Threshold Attributes: non-creatable, non-modifiable |
| **temp-low-warning-threshold** | | temperature-celsius<br>optional | Low Warning Threshold Attributes: non-creatable, non-modifiable |
| **temp-sese-op-status** | | storage-shelf-temperature-op-status<br>optional | Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown Status,<br>• "normal" - Normal,<br>• "under_temperature" - Under Temperature,<br>• "over_temperature" - Over Temperature,<br>• "error" - Error,<br>• "not_supported" - Not Supported,<br>• "not_installed" - Not Installed |
| **temp-sensor-id** | | temperature-celsius<br>optional | Sensor Name Attributes: non-creatable, non-modifiable |
| **temp-sensor-reading** | | temperature-celsius<br>optional | Temperature Reading Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-voltage-sensor-info**

Returns voltage sensor information.

| Name | Range | Type | Description |
|---|---|---|---|
| **voltage-op-status** | | storage-shelf-voltage-op-status<br>optional | Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown Status,<br>• "normal" - Normal,<br>• "over_voltage_critical" - Critical Over Voltage,<br>• "under_voltage_critical" - Critical Under Voltage,<br>• "not_supported" - Not Supported,<br>• "not_installed" - Not Installed,<br>• "volt_redundant" - Volt Redundant |
| **voltage-sensor-id** | | unsigned64-or-dash<br>optional | Voltage Sensor ID Attributes: non-creatable, non-modifiable |
| **voltage-sensor-location** | | string<br>optional | Voltage Sensor Location Attributes: non-creatable, non-modifiable |
| **voltage-sensor-reading** | | string<br>optional | Voltage Current Reading Attributes: non-creatable, non-modifiable |

Element definition: **unsigned64-or-dash**

[none]

Element definition: **node-name**

The node's name

[none]

Element definition: **shelf-module-id**

A|B Possible values:
- "a" - IOM A,
- "b" - IOM B,
- "unknown" - unknown

[none]

Element definition: **storage-shelf-bay-op-status**

unknown|normal|error Possible values:
- "unknown" - The operational status of the disk bay is unknown,
- "normal" - The operational status of the disk bay is normal,
- "error" - The operational status of the disk bay is error

[none]

Element definition: **storage-shelf-bay-type**

unknown|single-disk|multi-lun Possible values:
- "unknown" - The disk bay type is unknown,
- "single_disk" - The disk bay carries single disk,
- "multi_lun" - The disk bay carries multiple LUNs

[none]

Element definition: **storage-shelf-boot-device-op-status**

unknown|normal|error|not-supported|not-installed Possible values:
- "unknown" - Unknown,
- "normal" - Normal,
- "error" - Error,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[none]

Element definition: **storage-shelf-coin-battery-op-status**

unknown|normal|error|low|high|not-supported|not-installed Possible values:
- "unknown" - Unknown,
- "normal" - Normal,
- "error" - Error,
- "low" - Low Voltage,
- "high" - High Voltage,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[none]

Element definition: **storage-shelf-current-op-status**

unknown|normal|over-current-critical|under-current-critical|not-supported|not-installed Possible values:
- "unknown" - Unknown Status,
- "normal" - Normal,
- "over_current_critical" - Critical Over Current,
- "under_current_critical" - Critical Under Current,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[none]

Element definition: **storage-shelf-dimm-op-status**

unknown|normal|error|not-supported|not-installed Possible values:
- "unknown" - Unknown,
- "normal" - Normal,
- "error" - Error,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[none]

Element definition: **storage-shell-error-type**

Unknown|ACPP|BootDevice|ControllerIp|Configuration|Current|Dimm|Expander|Fan|Module|PCM|Power|Temperature|Voltage Possible values:

- "unknown" - Unknown,
- "acpp" - Alternate control path processor error,
- "bootdevice" - Boot device error,
- "current" - Current error,
- "fan" - Cooling fan error,
- "module" - Storage controller module error,
- "power" - Power supply error,
- "temperature" - Temperature error,
- "dimm" - Memory DIMM error,
- "bootdevice" - Boot device error,
- "controllerip" - Cain battery error,
- "pcm" - PCM error,
- "expander" - Expander error,
- "pcm" - PCM error

[none]

Element definition: **storage-shell-fan-op-status**

unknown|normal|offerror|not-supported|not-installed Possible values:

- "unknown" - Unknown Status,
- "normal" - Normal,
- "off" - Off,
- "offerror" - Error,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[none]

Element definition: **storage-shell-lcd-status**

on|off Possible values:

- "off",
- "on",
- "unsupported"

[none]

Element definition: **storage-shell-module-fw-progress**

not-available|ready|in-progress|failed Possible values:

- "not_available" - Not available,
- "ready" - Ready,
- "in_progress" - In Progress,
- "failed" - Failed

[none]

Element definition: **storage-shell-module-op-status**

unknown|normal|warning|error|not-installed Possible values:

- "unknown" - The operational status of the module is unknown,
- "normal" - The shelf module is operational,
- "warning" - There are warning conditions, the module is operational,
- "error" - The shelf module has one or more errors that require immediate action,
- "not_installed" - The shelf module is not installed

[none]

Element definition: **storage-shell-ssm-port-speed**

2.5|5.0|8.0 Possible values:

- "unknown" - Port speed is unknown,
- "5_0" - 5.0 Gb/s,
- "8_0" - 8.0 Gb/s

[none]

Element definition: **storage-shell-ssm-port-state**

up|off-link disabled|off-40 link|link down|no-drive Possible values:

- "unknown" - Port state is unknown,
- "up" - Up,
- "off_link_disabled" - Off, Link Disabled,
- "off_40_link" - Off, 40 Gbps Link Layer Link,
- "link_down" - Link Down,
- "no_drive" - No Drive

[none]

Element definition: **storage-shell-ssm-port-type**

cpu|disk|ioc|ethernet Possible values:

- "unknown" - Port type is unknown,
- "cpu" - CPU,
- "disk" - Disk,
- "ioc" - IOC,
- "ethernet" - Ethernet

[none]

Element definition: **storage-shell-port-op-status**

error|normal|offunknown|tbp-bad-term|bad-over-recovery|fw_cfg_file|tbp_comms_fail|tbp_ctl_limit_file|tbp_data_timeout|tbp_drv_fault|tbp_drv_pwr|tbp_drv_self|tbp_gen|tbp_init|tbp_ltp_link_fw|tbp_ltp_RE|tbp_ltp_rate_fw|tbp_ltpFT|tbp_lttd|tbp_overTemp_rx_drive|tbp_overTemp_xcv_drive|tbp_osc|tbp_other_fw|tbp_rec_lost|tbp_rpunt|tbp_stall_fw|tbp_wrd_bnd_fw|tbp_wrd_rate_fw|tbp_xmit_fault|dsa_transmit|transmit|loopback|status_unknown|warn_high_clk_delta|warn_high_cnc_rate|warn_high_fp|warn_high_wrd_rate|term|phy_dis_clk_fault|phy_dis_cnc_err|phy_dis_cnc_err_burst|phy_dis_disparity|phy_dis_disparity_burst|phy_dis_emulate_reserve|phy_dis_invld_dword|phy_dis_invld_dword_burst|phy_dis_lock_dword|phy_dis_lock_dword_burst|phy_dis_man_sequ|phy_dis_manual|phy_dis_nonrecov|empty|phy_dis_phy_change|phy_dis_phy_change_burst|phy_dis_phy_reset|phy_dis_phy_reset_burst|phy_dis_phy_unused|phy_enal|phy_mnt_not_attach|phy_mnt_unknown|phy_unknown|phy_dis_illegal Possible values:

- "error" - Error,
- "normal" - Normal,
- "off" - Disabled,
- "unknown_status" - StatusUnknown,
- "unused" - Unused,
- "tbp_bad_term" - tbp-bad-term,
- "bad_over_recovery" - bad-over-recovery,
- "tbp_cfg_file" - tbp_cfg_file,
- "tbp_comms_fail" - tbp_comms_fail,
- "tbp_crc_bnd_thr" - tbp_crc_bnd_thr,
- "tbp_crc_rate_thr" - tbp_crc_rate_thr,
- "tbp_data_timeout" - tbp_data_timeout,
- "tbp_drv_fault" - tbp_drv_fault,
- "tbp_drv_pwrfail" - tbp_drv_pwrfa,
- "tbp_drv_self" - tbp_drv_self,
- "tbp_err_ref" - tbp_err_ref,
- "tbp_gen" - tbp_gen,
- "tbp_init" - tbp_init,
- "tbp_lfa_bnd_thr" - tbp_lfa_bnd_thr,
- "tbp_ltp_RE" - tbp_ltp_rE,
- "tbp_ltp_rate_fw" - tbp_ltp_rate_thr,
- "tbp_ltpFT" - tbp_ltpFT,
- "tbp_lttd" - tbp_lttd,
- "tbp_overTemp_main" - tbp_overTemp_main,
- "tbp_rpunt" - tbp_rpunt,
- "tbp_rx_drive" - tbp_rx_drive,
- "tbp_stall" - tbp_stall,
- "tbp_wrd_bnd_thr" - tbp_wrd_bnd_thr,
- "tbp_wrd_rate_thr" - tbp_wrd_rate_thr,
- "tbp_xmit_fault" - tbp_xmit_fault,
- "dsa_transmit" - dsa_transmit,
- "transmit" - transmit,
- "loopback" - loopback,
- "status_unknown" - status_unknown,
- "warn_high_clk_delta" - warn_high_clk_delta,
- "warn_high_cnc_rate" - warn_high_cnc_rate,
- "warn_high_fp" - warn_high_fp,
- "warn_high_wrd_rate" - warn_high_wrd_rate,
- "warn_wrd_bnd" - warn_wrd_bnd,
- "term" - term,
- "phy_dis_clk_fault" - phy_dis_clk_fault,
- "phy_dis_cnc_err" - phy_dis_cnc_err,
- "phy_dis_cnc_err_burst" - phy_dis_cnc_err_burst,
- "phy_dis_disparity" - phy_dis_disparity,
- "phy_dis_disparity_burst" - phy_dis_disparity_burst,
- "phy_dis_emulate_reserve" - phy_dis_emulate_reserve,
- "phy_dis_invld_dword" - phy_dis_invld_dword,
- "phy_dis_invld_dword_burst" - phy_dis_invld_dword_burst,
- "phy_dis_lock_dword" - phy_dis_lock_dword,
- "phy_dis_lock_dword_burst" - phy_dis_lock_dword_burst,
- "phy_dis_man_sequ" - phy_dis_man_sequ,
- "phy_dis_manual" - phy_dis_manual,
- "disabled_mirrored" - Disabled(Mirrored),
- "empty" - Empty,
- "phy_dis_phy_change" - phy_dis_phy_change,
- "phy_dis_phy_change_burst" - phy_dis_phy_change_burst,
- "phy_dis_phy_reset" - phy_dis_phy_reset,
- "phy_dis_phy_reset_burst" - phy_dis_phy_reset_burst,
- "disabled" - Phy is disabled or has not attached,
- "enabled" - Phy is enabled,
- "phy_dis_unused" - Phy is not attached,
- "phy_enal_unknown" - phy_enal_unknown,
- "unknown" - Unknown Phy,
- "phy_dis_illegal" - Disabled Illegal

[none]

Element definition: **storage-shell-port-type**

unknown|circle|square|rect|disk|ioc|ual|unused|host|dom|sas|2pci|2_hsl|a_to_b|b_to_a Possible values:

- "unknown" - Port type is unknown,
- "circle" - Circle,
- "square" - Square,
- "rect" - Rect,
- "disk" - Disk,
- "ioc" - IOC,
- "ual" - Ual,
- "unused" - Unused,
- "host" - Host,
- "dom" - DOM,
- "sas1" - Bus 1,
- "sas2" - Bus 2,
- "2_hsl" - H-Hub,
- "a_to_b" - A to B,
- "b_to_a" - B to A

[none]

Element definition: **storage-shell-psu-op-status**

unknown|normal|error|dc-over-voltage|dc-under-voltage|dc-over-current|over-temperature-error|failed|off|not-supported|not-installed Possible values:

- "unknown" - Unknown Status,
- "normal" - Normal,
- "error" - Error,
- "dc_over_voltage" - DC Over Voltage,
- "dc_under_voltage" - DC Under Voltage,
- "dc_over_current" - DC Over Current,
- "over_temperature_error" - Over Temperature,
- "failed" - Failed,
- "off" - Off,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[none]

Element definition: **storage-shell-temperature-op-status**

unknown|normal|under-temperature|over-temperature|error|not-supported|not-installed Possible values:

- "unknown" - Unknown Status,
- "normal" - Normal,
- "under_temperature" - Under Temperature,
- "over_temperature" - Over Temperature,
- "error" - Error,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[none]

Element definition: **storage-shell-voltage-op-status**

unknown|normal|over-voltage-critical|under-voltage-critical|not-supported|not-installed|not-recoverable Possible values:

- "unknown" - Unknown Status,
- "normal" - Normal,
- "over_voltage_critical" - Critical Over Voltage,
- "under_voltage_critical" - Critical Under Voltage,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed,
- "not_recoverable" - Not Recoverable

[none]

# APIs in Category: **storage-shelf-firmware**

| | |
|---|---|
| storage-shelf-firmware-file-get-iter | This is an auto generated category. |

## storage-shelf-firmware-file-get-iter

[top]

return the firmware file list

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-shelf-firmware-file optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-shelf-firmware-file optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf-firmware object. All storage-shelf-firmware objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-shelf-firmware-file[] optional | The list of attributes of storage-shelf-firmware objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-shelf-firmware objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **storage-shelf-firmware-file**

[top]

Show firmware files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **filename** | | string optional | Storage Firmware File Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# APIs in Category: **storage-switch**


storage-switch-get
storage-switch-get-iter


These APIs enable the getting of values associated with storage switches that have been added for monitoring. These are read only APIs and hence require pre addition of switches for monitoring before these can be used. A storage switch is identified by it's name (set by the administrator and fetched over SNMP) and its information (that these APIs provide) is broadly categorised into following areas:

1. Profile Information: It includes information like switch's wwn, snmp-version, model, vendor etc. 2. Cooling Information: It includes information about switch's temperature sensors, power supply units and fans. 3. Connectivity Information: In includes information about the devices that are directly connected to the switch and the direct paths to it from the nodes. 4. Interface Information: It includes information about the switch's ports, their statistics and Small Form-factor Pluggables. 5. Configuration Information: It includes information about the VSANs and zones configured for the switch. 6. Error Information: It includes information about the errors occurred in the switch.

## storage-switch-get

[top]

Get the attributes of the storage-switch.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-switch-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **name** | | string | Name of the switch. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | storage-switch-info | The attributes of the storage-switch. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## storage-switch-get-iter

[top]

Iterate over a list of storage-switch objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-switch-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-switch-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-switch object. All storage-switch objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-switch-info[] optional | The list of attributes of storage-switch objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-switch objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **storage-switch-info**

[top]

Storage Switch When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **blades** | **[0..2^32-1]** | integer[] optional | Blades to monitor on the switch. Attributes: optional-for-create, modifiable |
| **domain-id** | **[0..2^32-1]** | integer optional | Domain ID of the switch. Attributes: non-creatable, non-modifiable |
| **fabric-name** | | string optional | Name of the fabric containing this switch. Attributes: non-creatable, non-modifiable |
| **firmware-version** | | string optional | Firmware Version of the switch. Attributes: non-creatable, non-modifiable |
| **ip-address** | | ip-address optional | IP Address of the switch. Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **is-director-class** | | boolean optional | Is switch Director class SAN switch? Attributes: non-creatable, non-modifiable |
| **is-local-attach** | | boolean optional | The switch is directly attached to the reporting cluster Attributes: non-creatable, non-modifiable |
| **is-monitoring-enabled** | | boolean optional | Is monitoring enabled for the switch? Attributes: non-creatable, non-modifiable |
| **model** | | string optional | Model of the switch. Attributes: non-creatable, non-modifiable |
| **name** | | string optional | Name of the switch. Attributes: key, required-for-create, non-modifiable |
| **role** | | storage-switch-role optional | Role of switch in the fabric. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Switch Role Unknown,<br>• "primary" - Switch has Primary Role,<br>• "subordinate" - Switch has Subordinate Role |
| **status** | | storage-device-status optional | Status of the switch. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Device Status Unknown,<br>• "ok" - Device Status Ok,<br>• "error" - Device Status Erroneous |
| **storage-switch-connectivity-list** | | storage-switch-connectivity-info[] optional | Information about the individual connection. |
| **storage-switch-error-list** | | storage-switch-error-info[] optional | Information about the individual error. |
| **storage-switch-fan-list** | | storage-switch-fan-info[] optional | Information about individual fan. |
| **storage-switch-path-list** | | storage-switch-path-info[] optional | Information about the individual path. |
| **storage-switch-port-list** | | storage-switch-port-info[] optional | Information about the individual port. |
| **storage-switch-port-statistics-list** | | storage-switch-port-statistics-info[] optional | Information about the port statistics. |
| **storage-switch-power-supply-unit-list** | | storage-switch-power-supply-unit-info[] optional | Information about individual power supply unit. |
| **storage-switch-sfp-list** | | storage-switch-sfp-info[] optional | Information about the individual port sfp. |
| **storage-switch-temperature-sensor-list** | | temperature-sensor-info[] optional | Information about the individual temperature sensor. |
| **storage-switch-vsan-list** | | storage-switch-vsan-info[] optional | Information about the individual vsan. |
| | | storage-switch- | |

| | | | |
|---|---|---|---|
| **storage-switch-zone-list** | | zone-info[] optional | Information about the individual zones. |
| **symbolic-name** | | string optional | If set, symbolic name of the switch, 'Not Set' otherwise. Attributes: non-creatable, non-modifiable |
| **vendor** | | storage-switch-vendor optional | Vendor of the switch. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "brocade" ,<br>• "cisco" |
| **wwn** | | string optional | World Wide Name of the switch. Attributes: non-creatable, non-modifiable |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **storage-device-status**

[top]

unknown|ok|error Possible values:

- "unknown" - Device Status Unknown,
- "ok" - Device Status Ok,
- "error" - Device Status Erroneous

[none]

# Element definition: **storage-switch-connectivity-info**

[top]

Information about the individual connection.

| Name | Range | Type | Description |
|---|---|---|---|
| **peer-info** | | string optional | Information describing the peer device that is connected to the port. Attributes: non-creatable, non-modifiable |
| **peer-port-wwn** | | string optional | World Wide Name of the peer port that is connected to the port. Attributes: non-creatable, non-modifiable |
| **peer-type** | | storage-switch-port- | Type of peer device that is connected to the port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "bridge" - Bridge, |

| | | | |
|---|---|---|---|
| | | peer-type optional | "switch" - Switch,<br>• "fcp_adapter" - FCP Adapter Port,<br>• "fcvi_adapter" - FCVI Adapter Port |
| **peer-unique-id** | | string optional | Unique textual representation of the peer that is connected to the port. It is UUID of the node hosting the adapter if the peer-type is fcp-initiator or fcvi-initiator, World Wide Name otherwise. Attributes: non-creatable, non-modifiable |
| **port-mode** | | storage-switch-port-mode optional | Operating mode of the port in the switch that has a peer port connected to it. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "auto" - Auto,<br>• "f_port" - Fabric Port,<br>• "fl_port" - Fabric Loop Port,<br>• "e_port" - ISL Port,<br>• "te_port" - Trunking ISL Port,<br>• "u_port" - Universal Port,<br>• "g_port" - Generic Port,<br>• "other" - Other,<br>• "ex_port" - Routing ISL Port,<br>• "d_port" - Diagnostic Port,<br>• "sim_port" - Port Simulator Port,<br>• "ve_port" - Virtual E-Port,<br>• "ae_port" - Analytics E-Port,<br>• "af_port" - Analytics F-Port |
| **port-name** | | string optional | Name of the port in the switch that has a peer port connected to it. Attributes: non-creatable, non-modifiable |
| **port-wwn** | | string optional | World Wide Name of the port in the switch that has a peer port connected to it. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-switch-error-info**

[top]

Information about the individual error.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-message** | | string optional | Text describing the error present in the switch. Attributes: non-creatable, non-modifiable |
| **severity** | | storage-switch-error-severity optional | Severity of the error occurred in the switch. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Severity Unknown,<br>• "notice" - Notice,<br>• "warning" - Warning,<br>• "error" - Error |
| **switch-component-id** | **[0..2^32-1]** | integer optional | Name of the switch component with error. Attributes: non-creatable, non-modifiable |
| **switch-component-name** | | string optional | Switch Component Name List Attributes: non-creatable, non-modifiable |
| | | | Type of the error occurred in the switch. Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **type** | | storage-switch-error-type optional | • "switch_unreachable" - Switch is Unreachable over Management Network,<br>• "temp_above_warning_level" - Switch Temperature Above Warning Level,<br>• "temp_above_critical_level" - Switch Temperature Above Critical Level,<br>• "temp_below_warning_level" - Switch Temperature Below Warning Level,<br>• "temp_below_critical_level" - Switch Temperature Below Critical Level,<br>• "temp_sensor_status_failed" - Temperature Sensor is Failed,<br>• "fan_status_non_operational" - Fan is Non-operational,<br>• "power_supply_status_failed" - Power Supply Unit has Failed,<br>• "power_above_warning_level" - Voltage Above Warning Level,<br>• "power_above_critical_level" - Voltage Above Critical Level,<br>• "power_below_warning_level" - Voltage Below Warning Level,<br>• "power_below_critical_level" - Voltage Below Critical Level,<br>• "sfp_rx_power_above_warning_level" - SFP Receive Power Above Warning Level,<br>• "sfp_rx_power_above_critical_level" - SFP Receive Power Above Critical Level,<br>• "sfp_tx_power_above_warning_level" - SFP Transmit Power Above Warning Level,<br>• "sfp_tx_power_above_critical_level" - SFP Transmit Power Above Critical Level,<br>• "sfp_rx_power_below_warning_level" - SFP Receive Power Above Warning Level,<br>• "sfp_rx_power_below_critical_level" - SFP Receive Power Above Critical Level,<br>• "sfp_tx_power_below_warning_level" - SFP Transmit Power Above Warning Level,<br>• "sfp_tx_power_below_critical_level" - SFP Transmit Power Above Critical Level,<br>• "sfp_status_failed" - SFP has Failed,<br>• "vsan_invalid_frame_delivery_configuration" - VSAN is Configured with Incorrect IOD/OOD settings,<br>• "temp_sensor_status_unavailable" - Temperature Sensor Status is Unavailable,<br>• "fan_status_unavailable" - Fan Status is Unavailable,<br>• "power_supply_inline_power_failed" - Power Supply's Inline Power has Failed,<br>• "power_supply_status_unavailable" - Power Supply Status is Unavailable,<br>• "unknown" - Unknown,<br>• "power_supply_off_env_other" - Power Supply is off because of unknown problem,<br>• "power_supply_off_admin" - Power Supply is administratively off,<br>• "power_supply_off_denied" - Power Supply is powered off because available system power is insufficient,<br>• "power_supply_off_env_power" - Power Supply is powered off because of power problem in the FRU,<br>• "power_supply_off_env_temp" - Power Supply is powered off because of temperature problem, |

| | | | |
|---|---|---|---|
| | | | • "power_supply_off_env_fan" - Power Supply is powered off because of fan problems,<br>• "power_supply_on_but_fan_fail" - Power Supply is on but fan has failed,<br>• "power_supply_off_cooling" - Power Supply is powered off because of the system's insufficient cooling capacity,<br>• "power_supply_off_connector_rating" - Power Supply is powered off because of the system's connector rating exceeded,<br>• "e_ports_down" - All E-ports are down for this blade/switch,<br>• "snmpv3_user_not_configured" - SNMPv3 user is not configured,<br>• "incomplete_snmp_data_refresh" - SNMP data collection failed or is incomplete |

# Element definition: **storage-switch-fan-info**

[top]

Information about individual fan.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string<br>optional | Name of the fan. Attributes: non-creatable, non-modifiable |
| **operational-status** | | storage-switch-fan-oper-status<br>optional | Operational status of the fan. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "operational" ,<br>• "failed" ,<br>• "not_operational" ,<br>• "not_present" |
| **speed** | **[0..2^32-1]** | integer<br>optional | Speed of the fan in RPM. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-switch-path-info**

[top]

Information about the individual path.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string<br>optional | Name of the adapter in the node that to which the switch is connected. Attributes: non-creatable, non-modifiable |
| **adapter-type** | | storage-switch-initiator-type<br>optional | Node Adapter Type List Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "fcp_initiator" ,<br>• "fc_vi" ,<br>• "fcp_target" |
| | | | |

| | | | |
|---|---|---|---|
| **node-name** | | filer-id optional | Name of the node to which the switch is connected. Attributes: non-creatable, non-modifiable |
| **switch-port-name** | | string optional | Name of the port in the switch to which the adapter in the node is connected. Attributes: non-creatable, non-modifiable |
| **switch-port-speed** | **[0..2^32-1]** | integer optional | Speed (in Gbps) of the port in the switch to which the adapter in the node is connected. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-switch-port-info**

[top]

Information about the individual port.

| Name | Range | Type | Description |
|---|---|---|---|
| **administrative-status** | | storage-switch-port-admin-status optional | Administrative status of the port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "enabled" ,<br>• "disabled" |
| **bb-credit** | **[0..2^32-1]** | integer optional | BB credit of the port. Attributes: non-creatable, non-modifiable |
| **is-sfp-present** | | boolean optional | Is SFP present in the port? Attributes: non-creatable, non-modifiable |
| **mode** | | storage-switch-port-mode optional | Operating mode of the port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "auto" - Auto,<br>• "f_port" - Fabric Port,<br>• "fl_port" - Fabric Loop Port,<br>• "e_port" - ISL Port,<br>• "te_port" - Trunking ISL Port,<br>• "u_port" - Universal Port,<br>• "g_port" - Generic Port,<br>• "other" - Other,<br>• "ex_port" - Routing ISL Port,<br>• "d_port" - Diagnostic Port,<br>• "sim_port" - Port Simulator Port,<br>• "ve_port" - Virtual E-Port,<br>• "ae_port" - Analytics E-Port,<br>• "af_port" - Analytics F-Port |
| **name** | | string optional | Name of the port. Attributes: non-creatable, non-modifiable |
| **operational-speed** | **[0..2^32-1]** | integer optional | Operational speed of the port in Gbps. Attributes: non-creatable, non-modifiable |
| **operational-status** | | storage-switch-port-oper-status optional | Operational status of the port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "online" ,<br>• "offline" |

| | | | |
|---|---|---|---|
| **peer-port-wwn** | | string optional | Port's Peer port world wide name. Attributes: non-creatable, non-modifiable |
| **wwn** | | string optional | World Wide Name of the port. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-switch-port-statistics-info**

[top]

Information about the port statistics.

| Name | Range | Type | Description |
|---|---|---|---|
| **frame-error-count** | **[0..2^32-1]** | integer optional | Frame error count for the port. Attributes: non-creatable, non-modifiable |
| **name** | | string optional | Name of the port. Attributes: non-creatable, non-modifiable |
| **rx-frames-count** | **[0..2^32-1]** | integer optional | Number of frames received by the port. Attributes: non-creatable, non-modifiable |
| **rx-octets-count** | **[0..2^32-1]** | integer optional | Number of octets received by the port. Attributes: non-creatable, non-modifiable |
| **tx-frames-count** | **[0..2^32-1]** | integer optional | Number of frames transmitted by the port. Attributes: non-creatable, non-modifiable |
| **tx-octets-count** | **[0..2^32-1]** | integer optional | Number of octets transmitted by the port. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-switch-power-supply-unit-info**

[top]

Information about individual power supply unit.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | Name of power supply unit. Attributes: non-creatable, non-modifiable |
| **operational-status** | | storage-switch-power-sensor-status optional | Operational status of power supply unit. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Power Status Unknown,<br>• "normal" - Power Status Normal,<br>• "warning" - Power Status Warning,<br>• "faulty" - Power Sensor is faulty,<br>• "not_present" - Power Sensor is not present |
| **serial-number** | | string optional | Serial number of power supply unit. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-switch-role**

[top]

unknown|primary|subordinate Possible values:

"unknown" - Switch Role Unknown,
- "primary" - Switch has Primary Role,
- "subordinate" - Switch has Subordinate Role

[none]

# Element definition: **storage-switch-sfp-info**

[top]

Information about the individual port sfp.

| Name | Range | Type | Description |
|---|---|---|---|
| **part-number** | | string optional | Part number of SFP. Attributes: non-creatable, non-modifiable |
| **port-name** | | string optional | Name of the port. Attributes: non-creatable, non-modifiable |
| **serial-number** | | string optional | Serial number of SFP. Attributes: non-creatable, non-modifiable |
| **transmitter-type** | | storage-switch-sfp-tx-type optional | Transmitter type of SFP. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown transmitter type.,<br>• "long_wave_laser" - Long wave laser.,<br>• "short_wave_laser" - Short wave laser.,<br>• "long_wave_laser_cost_reduced" - Cost reduced long wave laser.,<br>• "electrical" - Electrical.,<br>• "ten_gig_base_sr" - 10 gigabit base short range transceiver.,<br>• "ten_gig_base_lr" - 10 gigabit base long range transceiver.,<br>• "ten_gig_base_er" - 10 gigabit base extended range transceiver.,<br>• "ten_gig_base_lx4" - 10 gigabit base long range transceiver for extended operating temperature.,<br>• "ten_gig_base_sw" - 10 gigabit base short wave transceiver.,<br>• "ten_gig_base_lw" - 10 gigabit base long wave transceiver.,<br>• "ten_gig_base_ew" - 10 gigabit base extended wave transceiver. |
| | | | Type of SFP. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown type.,<br>• "other" - Other than the types listed here.,<br>• "gbic" - Gigabit interface card.,<br>• "embedded" - Unremovable gigabit interface card.,<br>• "glm" - Gigabit link module.,<br>• "gbic_with_serial_id" - Gigabit interface card with serial ID.,<br>• "gbic_without_serial_id" - Gigabit interface card without serial ID.,<br>• "sfp_with_serial_id" - Small form factor pluggable with serial ID., |

| | | | |
|---|---|---|---|
| **type** | | storage-switch-sfp-type optional | • "sfp_without_serial_id" - Small form factor pluggable without serial ID.,<br>• "xfp" - 10 gigabit small form factor pluggable transceiver.,<br>• "x2_short" - X2 short.,<br>• "x2_medium" - X2 medium.,<br>• "x2_tall" - X2 tall.,<br>• "xpak_short" - Xpak short.,<br>• "xpak_medium" - Xpak medium.,<br>• "xpak_tall" - Xpak tall.,<br>• "xenpak" - Xenpak,<br>• "sfp_dw_dm" - Small form factor pluggable dense wavelength division multiplexing.,<br>• "qsfp" - Quad small form factor pluggable.,<br>• "x2_dw_dm" - X2 dense wavelength division multiplexing.,<br>• "gbic_not_installed" - Gigabit interface card is not installed.,<br>• "small_form_factor" - Small form factor. |
| **vendor** | | string optional | Vendor of SFP. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-switch-vendor**

[top]

unknown|Brocade|Cisco Possible values:

- "unknown" ,
- "brocade" ,
- "cisco"

[none]

# Element definition: **storage-switch-vsan-info**

[top]

Information about the individual vsan.

| Name | Range | Type | Description |
|---|---|---|---|
| **index** | **[0..2^32-1]** | integer optional | Index of the VSAN. Attributes: non-creatable, non-modifiable |
| **is-iod-set** | | boolean optional | Is in order delivery set for the VSAN? Attributes: non-creatable, non-modifiable |
| **load-balancing-type** | | storage-switch-vsan-load-balancing-type optional | Load balancing type set in the VSAN. Attributes: non-creatable, non-modifiable Possible values:<br>• "src_id_dest_id" - Based on source ID and destination ID.,<br>• "src_id_dest_id_ox_id" - Based on source ID, destination ID and originator exchange ID. |
| **name** | | string optional | Name of the VSAN. Attributes: non-creatable, non-modifiable |
| | | | Operational status of the VSAN. Attributes: non- |

| | | | |
|---|---|---|---|
| **operational-status** | | storage-switch-vsan-oper-state optional | creatable, non-modifiable Possible values:<br>• "up" ,<br>• "down" |

## Element definition: **storage-switch-zone-info**

[top]

Information about the individual zones.

| Name | Range | Type | Description |
|---|---|---|---|
| **member-port-id** | | string optional | ID of the member port participating in the zone. Attributes: non-creatable, non-modifiable |
| **member-port-name** | | string optional | Name of the port participating in the zone. Attributes: non-creatable, non-modifiable |
| **member-port-switch-name** | | string optional | Name of the switch that contains the port participating in the zone. Attributes: non-creatable, non-modifiable |
| **member-wwn** | | string optional | World wide name of the member participating in the zone. Attributes: non-creatable, non-modifiable |
| **name** | | string optional | Name of the zone. Attributes: non-creatable, non-modifiable |
| **vsan-id** | **[1..4094]** | integer optional | Identifier of the VSAN to which the zone belongs. Attributes: non-creatable, non-modifiable |

## Element definition: **temperature-sensor-info**

[top]

Information about the individual temperature sensor.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | Name of the temperature sensor. Attributes: non-creatable, non-modifiable |
| **status** | | storage-switch-temp-sensor-status optional | Operational status of the temperature sensor. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "normal" ,<br>• "warning" ,<br>• "critical" |
| **temperature-reading** | **[-2^31..2^31-1]** | integer optional | Temperature Sensor reading in degree celsius. Attributes: non-creatable, non-modifiable |

## Element definition: **filer-id**

[top]

Filer UUID

[none]

## Element definition: **storage-switch-error-severity**

[top]

unknown|notice|warning|error Possible values:

- "unknown" - Severity Unknown,
- "notice" - Notice,
- "warning" - Warning,
- "error" - Error

[none]

## Element definition: **storage-switch-error-type**

[top]

switch-unreachable|temp-above-warning-level|temp-above-critical-level|temp-below-warning-level|temp-below-critical-level|temp-sensor-status-failed|fan-status-non-operational|power-supply-status-failed|power-above-warning-level|power-above-critical-level|power-below-warning-level|power-below-critical-level|sfp-rx-power-above-warning-level|sfp-rx-power-above-critical-level|sfp-tx-power-above-warning-level|sfp-tx-power-above-critical-level|sfp-rx-power-below-warning-level|sfp-rx-power-below-critical-level|sfp-tx-power-below-warning-level|sfp-tx-power-below-critical-level|sfp-status-failed|vsan-invalid-frame-delivery-configuration|temp-sensor-status-unavailable|fan-status-unavailable|power-supply-inline-power-failed|power-supply-status-unavailable|unknown|power-supply-off-env-other|power-supply-off-admin|power-supply-off-denied|power-supply-off-env-power|power-supply-off-env-temp|power-supply-off-env-fan|power-supply-on-but-fan-fail|power-supply-off-cooling|power-supply2 :tor- ating|e-ports-down|snmpv3-user-not-configured|incomplete-snmp-data-refresh Possible values:

- "switch_unreachable" - Switch is Unreachable over Management Network,
- "temp_above_warning_level" - Switch Temperature Above Warning Level,
- "temp_above_critical_level" - Switch Temperature Above Critical Level,
- "temp_below_warning_level" - Switch Temperature Below Warning Level,
- "temp_below_critical_level" - Switch Temperature Below Critical Level,
- "temp_sensor_status_failed" - Temperature Sensor is Failed,
- "fan_status_non_operational" - Fan is Non-operational,
- "power_supply_status_failed" - Power Supply Unit has Failed,
- "power_above_warning_level" - Voltage Above Warning Level,
- "power_above_critical_level" - Voltage Above Critical Level,
- "power_below_warning_level" - Voltage Below Warning Level,
- "power_below_critical_level" - Voltage Below Critical Level,
- "sfp_rx_power_above_warning_level" - SFP Receive Power Above Warning Level,
- "sfp_rx_power_above_critical_level" - SFP Receive Power Above Critical Level,
- "sfp_tx_power_above_warning_level" - SFP Transmit Power Above Warning Level,
- "sfp_tx_power_above_critical_level" - SFP Transmit Power Above Critical Level,
- "sfp_rx_power_below_warning_level" - SFP Receive Power Above Warning Level,
- "sfp_rx_power_below_critical_level" - SFP Receive Power Above Critical Level,
- "sfp_tx_power_below_warning_level" - SFP Transmit Power Above Warning Level,
- "sfp_tx_power_below_critical_level" - SFP Transmit Power Above Critical Level,
- "sfp_status_failed" - SFP has Failed,
- "vsan_invalid_frame_delivery_configuration" - VSAN is Configured with Incorrect IOD/OOD settings,
- "temp_sensor_status_unavailable" - Temperature Sensor Status is Unavailable,

"fan_status_unavailable" - Fan Status is Unavailable,
- "power_supply_inline_power_failed" - Power Supply's Inline Power has Failed,
- "power_supply_status_unavailable" - Power Supply Status is Unavailable,
- "unknown" - Unknown,
- "power_supply_off_env_other" - Power Supply is off because of unknown problem,
- "power_supply_off_admin" - Power Supply is administratively off,
- "power_supply_off_denied" - Power Supply is powered off because available system power is insufficient,
- "power_supply_off_env_power" - Power Supply is powered off because of power problem in the FRU,
- "power_supply_off_env_temp" - Power Supply is powered off because of temperature problem,
- "power_supply_off_env_fan" - Power Supply is powered off because of fan problems,
- "power_supply_on_but_fan_fail" - Power Supply is on but fan has failed,
- "power_supply_off_cooling" - Power Supply is powered off because of the system's insufficient cooling capacity,
- "power_supply_off_connector_rating" - Power Supply is powered off because of the system's connector rating exceeded,
- "e_ports_down" - All E-ports are down for this blade/switch,
- "snmpv3_user_not_configured" - SNMPv3 user is not configured,
- "incomplete_snmp_data_refresh" - SNMP data collection failed or is incomplete

[none]

# Element definition: **storage-switch-fan-oper-status**

[top]

unknown|operational|failed|not-operational|not-present Possible values:

- "unknown" ,
- "operational" ,
- "failed" ,
- "not_operational" ,
- "not_present"

[none]

# Element definition: **storage-switch-initiator-type**

[top]

unknown|FCP-Initiator|FC-VI|FCP-Target Possible values:

- "unknown" ,
- "fcp_initiator" ,
- "fc_vi" ,
- "fcp_target"

[none]

# Element definition: **storage-switch-port-admin-status**

[top]

unknown|enabled|disabled Possible values:

- "unknown" ,
- "enabled" ,
- "disabled"

[none]

## Element definition: **storage-switch-port-mode**

[top]

unknown|auto|F-port|FL-port|E-port|TE-port|U-port|G-port|other|EX-port|D-port|SIM-port|VE-port|AE-port|AF-port Possible values:

- "unknown" - Unknown,
- "auto" - Auto,
- "f_port" - Fabric Port,
- "fl_port" - Fabric Loop Port,
- "e_port" - ISL Port,
- "te_port" - Trunking ISL Port,
- "u_port" - Universal Port,
- "g_port" - Generic Port,
- "other" - Other,
- "ex_port" - Routing ISL Port,
- "d_port" - Diagnostic Port,
- "sim_port" - Port Simulator Port,
- "ve_port" - Virtual E-Port,
- "ae_port" - Analytics E-Port,
- "af_port" - Analytics F-Port

[none]

## Element definition: **storage-switch-port-oper-status**

[top]

unknown|online|offline Possible values:

- "unknown" ,
- "online" ,
- "offline"

[none]

## Element definition: **storage-switch-port-peer-type**

[top]

unknown|bridge|switch|fcp-adapter|fcvi-adapter Possible values:

- "unknown" - Unknown,
- "bridge" - Bridge,

- "switch" - Switch,
- "fcp_adapter" - FCP Adapter Port,
- "fcvi_adapter" - FCVI Adapter Port

[none]

## Element definition: **storage-switch-power-sensor-status**

[top]

unknown|normal|warning|faulty|not-present Possible values:

- "unknown" - Power Status Unknown,
- "normal" - Power Status Normal,
- "warning" - Power Status Warning,
- "faulty" - Power Sensor is faulty,
- "not_present" - Power Sensor is not present

[none]

## Element definition: **storage-switch-sfp-tx-type**

[top]

unknown|long-wave-laser|short-wave-laser|long-wave-laser-cost-reduced|electrical|ten-gig-base-sr|ten-gig-base-lr|ten-gig-base-er|ten-gig-base-lx4|ten-gig-base-sw|ten-gig-base-lw|ten-gig-base-ew Possible values:

- "unknown" - Unknown transmitter type.,
- "long_wave_laser" - Long wave laser.,
- "short_wave_laser" - Short wave laser.,
- "long_wave_laser_cost_reduced" - Cost reduced long wave laser.,
- "electrical" - Electrical.,
- "ten_gig_base_sr" - 10 gigabit base short range transceiver.,
- "ten_gig_base_lr" - 10 gigabit base long range transceiver.,
- "ten_gig_base_er" - 10 gigabit base extended range transceiver.,
- "ten_gig_base_lx4" - 10 gigabit base long range transceiver for extended operating temperature.,
- "ten_gig_base_sw" - 10 gigabit base short wave transceiver.,
- "ten_gig_base_lw" - 10 gigabit base long wave transceiver.,
- "ten_gig_base_ew" - 10 gigabit base extended wave transceiver.

[none]

## Element definition: **storage-switch-sfp-type**

[top]

unknown|other|gbic|embedded|glm|gbic-with-serial-id|gbic-without-serial-id|sfp-with-serial-id|sfp-without-serial-id|xfp|x2-short|x2-medium|x2-tall|xpak-short|xpak-medium|xpak-tall|xenpak|sfp-dw-dm|qsfp|x2-dw-dm|gbic-not-installed|small-form-factor Possible values:

- "unknown" - Unknown type.,
- "other" - Other than the types listed here.,

- "gbic" - Gigabit interface card.,
- "embedded" - Unremovable gigabit interface card.,
- "glm" - Gigabit link module.,
- "gbic_with_serial_id" - Gigabit interface card with serial ID.,
- "gbic_without_serial_id" - Gigabit interface card without serial ID.,
- "sfp_with_serial_id" - Small form factor pluggable with serial ID.,
- "sfp_without_serial_id" - Small form factor pluggable without serial ID.,
- "xfp" - 10 gigabit small form factor pluggable transceiver.,
- "x2_short" - X2 short.,
- "x2_medium" - X2 medium.,
- "x2_tall" - X2 tall.,
- "xpak_short" - Xpak short.,
- "xpak_medium" - Xpak medium.,
- "xpak_tall" - Xpak tall.,
- "xenpak" - Xenpak,
- "sfp_dw_dm" - Small form factor pluggable dense wavelength division multiplexing.,
- "qsfp" - Quad small form factor pluggable.,
- "x2_dw_dm" - X2 dense wavelength division multiplexing.,
- "gbic_not_installed" - Gigabit interface card is not installed.,
- "small_form_factor" - Small form factor.

[none]

# Element definition: **storage-switch-temp-sensor-status**

[top]

unknown|normal|warning|critical Possible values:

- "unknown" ,
- "normal" ,
- "warning" ,
- "critical"

[none]

# Element definition: **storage-switch-vsan-load-balancing-type**

[top]

src-id-dest-id|src-id-dest-id-ox-id Possible values:

- "src_id_dest_id" - Based on source ID and destination ID.,
- "src_id_dest_id_ox_id" - Based on source ID, destination ID and originator exchange ID.

[none]

# Element definition: **storage-switch-vsan-oper-state**

[top]

up|down Possible values:

- "up" ,
- "down"

[none]

# APIs in Category: **system**


external-cache-get
external-cache-modify
system-api-get-elements
system-api-list
system-api-list-types
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system-image-update-get-abort
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system-node-discovery-get-iter
system-node-get
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system-status-hypervisor-modify
system-status-restart-restart-service
system-status-service-get-iter
system-user-capability-get-iter

# external-cache-get

[top]

Get the cluster-wide EC QoS settings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | external-cache-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | external-cache-info | The attributes of the external-cache. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# external-cache-modify

[top]

Modify the existing cluster-wide EC QoS settings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Is Enabled? |
| **is-hya-enabled** | | boolean optional | Is HyA Caching Enabled? |
| **is-rewarm-enabled** | | boolean optional | Is Rewarm On? |
| **node** | | node-name | Node |

| | | | |
|---|---|---|---|
| **pcs-size** | **[0..2^32-1]** | integer<br>optional | PCS Size |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## system-api-get-elements

[top]

get elements for specified apis

| Input Name | Range | Type | Description |
|---|---|---|---|
| **api-list** | | api-list-info[] | list of apis to retrieve |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **api-entries** | | system-api-entry-info[] | |

| Errno | Description |
|---|---|
| **EAPIERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

## system-api-list

[top]

get list of apis. This returns the names only - to get the parameter info, use system-api-get-elements

| Output Name | Range | Type | Description |
|---|---|---|---|
| **apis** | | system-api-info[] | |

| Errno | Description |
|---|---|
| **EAPIERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

## system-api-list-types

[top]

get list and description of typedefs

| Output Name | Range | Type | Description |
|---|---|---|---|
| **type-entries** | | system-api-type-entry-info[] | |

| Vfiler-enabled |
| --- |
| Yes |

## system-available-replication-transfers

[top]

Provide a mechanism to calculate the number of replication operations that could be started. Returns the number of replication operations that could be started for each replication type. Another output is the maximum number of transfers for each replication type.

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **replication-transfer-table** | | replication-transfer-info[] | Table with entries mapping each replication operation to number of transfers which could be started. |

| Vfiler-enabled |
| --- |
| Yes |

## system-cache-mirror-disable

[top]

Disable Cache Mirror

| Errno | Description |
| --- | --- |
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

## system-cache-mirror-enable

[top]

Enable Cache Mirror

| Errno | Description |
| --- | --- |
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

## system-cache-mirror-get

[top]

Get the attributes of Cache Mirror Settings.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| | | | Specify the attributes that should be returned. If not present, all |

| | | | |
|---|---|---|---|
| **desired-attributes** | | cache-mirror optional | attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cache-mirror | The attributes of the system-cache-mirror. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-cache-mirror-get-iter

[top]

Iterate over a list of Cache Mirror Settings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cache-mirror optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cache-mirror optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the system-cache-mirror object. All system-cache-mirror objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cache-mirror[] optional | The list of attributes of system-cache-mirror objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more system-cache-mirror objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-get-info

[top]

Obtain appliance information which includes cpu and backplane information. The output contains the head information in a sysconfig -a command. I/O information is not included.

| Output Name | Range | Type | Description |
|---|---|---|---|
| system-info | | system-info | |

| Vfiler-enabled |
|---|
| Yes |

# system-get-node-info-iter

[top]

Obtain appliance information which includes cpu and backplane information. The output contains the head information in a sysconfig -a command. I/O information is not included. System refers to a node in a cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | system-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | system-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the system-info object. All system-info objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | system-info[] optional | The list of attributes of system-info objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more system-info objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# system-get-ontapi-version

[top]

Obtain the current ONTAPI major and minor versions.

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **major-version** | | integer | Current ONTAPI major version supported by this appliance. |
| **minor-version** | | integer | Current ONTAPI minor version supported by this appliance. |
| **node-ontapi-details** | | node-ontapi-detail-info[] optional | List of nodes along with the ONTAPI versions supported by each of them. |

| Vfiler-enabled |
|---|
| Yes |

# system-get-vendor-info

[top]

Obtain the Data ONTAP vendor information.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **autosupport-email** | | string | Vendor's AutoSupport e-mail target. |
| **autosupport-url** | | string | Vendor's AutoSupport URL target. |
| **complete-name** | | string | Complete name of vendor. |
| **customer-support-contact** | | string | Vendor's technical support contact information. |
| **customer-support-name** | | string | Name of vendor's customer support organization. |
| **information-url** | | string | Vendor's AutoSupport information URL. |
| **ontap-oid-prefix** | | string | Vendor's starting SNMP OID prefix for Data ONTAP. The suffix that follows is the storage system MIB. For example, ".1.3.6.1.4.1.789". To obtain the filer's model name, one would concatenate the OID prefix and ".1.1.5.0" from the storage system MIB. |
| **product-url** | | string | Vendor's installed product information URL. |
| **short-name** | | string | Vendor's short name. |

| Errno | Description |
|---|---|
| **EAPIERROR** | |

| Vfiler-enabled |
|---|
| Yes |

# system-get-version

[top]

Obtain the Data ONTAP version.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **build-timestamp** | | integer optional | Time of build creation, in seconds since January 1, 1970, of the image running on the appliance or of the build whose Data ONTAP version is lowest across the cluster. This field is available in Data ONTAP 8.1 or later. |
| **is-clustered** | | boolean | If true, indicates Data ONTAP Cluster-Mode, else Data ONTAP 7-Mode. This field is available in Data ONTAP 8.1 or later. |
| **node-kernel-info-details** | | system-node-kernel-info[] optional | List of all diagnostics and firmware related files of a node. |
| **node-version-details** | | node-version-detail-info[] optional | List of node names along with the Data ONTAP version running on each node. This field is returned only if the cluster is currently operating with more than one version of Data ONTAP. |
| **version** | | string | Current Data ONTAP version running on the appliance. If the cluster is currently operating with more than one version of Data ONTAP, then the lowest version of all is returned. |
| **version-tuple** | | system-version-tuple optional | The Data ONTAP version tuple, lowest across the cluster i.e. the effective cluster version. This field is available in Data ONTAP 8.1 or later. |

| Vfiler-enabled |
|---|
| Yes |

# system-hypervisor-host-config-create

[top]

Create the hypervisor host config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address-ipv4** | | ip-address | Address |
| **node** | | filer-id | Node |
| **port-ipv4** | **[0..2^32-1]** | integer optional | UDP Port |
| **return-record** | | boolean optional | If set to true, returns the Hypervisor Host Config on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | system-hypervisor-host-config-info optional | The Hypervisor Host Config created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-hypervisor-host-config-destroy

[top]

Destroy the hypervisor host config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-hypervisor-host-config-get

[top]

Get the attributes of the hypervisor host config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-hypervisor-host-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | filer-id | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | system-hypervisor-host-config-info | The attributes of the Hypervisor Host Config. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-hypervisor-host-config-get-iter

[top]

Iterate over the attributes of the hypervisor host config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-hypervisor-host-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | system-hypervisor- | A query that specifies which objects to return. A query could be |

| | | | |
|---|---|---|---|
| **query** | | host-config-info optional | specified on any number of attributes in the Hypervisor Host Config object. All Hypervisor Host Config objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | system-hypervisor-host-config-info[] optional | The list of attributes of Hypervisor Host Config objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Hypervisor Host Config objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-hypervisor-host-config-modify

[top]

Modify the hypervisor host config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address-ipv4** | | ip-address optional | Address |
| **node** | | filer-id | Node |
| **port-ipv4** | **[0..2^32-1]** | integer optional | UDP Port |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-hypervisor-snmpv3-config-create

[top]

Create the hypervisor snmpv3 config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **auth-password** | | string optional | Authentication Password |
| **auth-protocol** | | string optional | Authentication Protocol |
| | | string | |

| | | | |
|---|---|---|---|
| **engine-id** | | optional | Engine ID |
| **node** | | filer-id | Node |
| **priv-protocol** | | string optional | Private Protocol |
| **return-record** | | boolean optional | If set to true, returns the Hypervisor SNMPv4 Config on successful creation. Default: false |
| **snmp-trapport** | **[0..2^32-1]** | integer optional | SNMP Trap Port |
| **username** | | string | Username |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | system-hypervisor-snmpv3-config-info optional | The Hypervisor SNMPv4 Config created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-hypervisor-snmpv3-config-destroy

[top]

Destroy the hypervisor snmpv3 config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-hypervisor-snmpv3-config-get

[top]

Get the attributes of the hypervisor snmpv3 config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-hypervisor-snmpv3-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | filer-id | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | system-hypervisor-snmpv3-config-info | The attributes of the Hypervisor SNMPv4 Config. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# system-hypervisor-snmpv3-config-get-iter

[top]

Iterate over the attributes of the hypervisor snmpv3 config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | system-hypervisor-snmpv3-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | system-hypervisor-snmpv3-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Hypervisor SNMPv4 Config object. All Hypervisor SNMPv4 Config objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | system-hypervisor-snmpv3-config-info[] optional | The list of attributes of Hypervisor SNMPv4 Config objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more Hypervisor SNMPv4 Config objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# system-hypervisor-snmpv3-config-modify

[top]

Modify the hypervisor snmpv3 config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| auth-password | | string optional | Authentication Password |
| | | string | |

| | | | |
|---|---|---|---|
| **auth-protocol** | | optional | Authentication Protocol |
| **engine-id** | | string optional | Engine ID |
| **node** | | filer-id | Node |
| **priv-protocol** | | string optional | Private Protocol |
| **snmp-trapport** | **[0..2^32-1]** | integer optional | SNMP Trap Port |
| **username** | | string optional | Username |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-hypervisor-uplink-mapping-create

[top]

Create the hypervisor uplink mapping.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | filer-id | Node |
| **port** | | net-port | Port |
| **return-record** | | boolean optional | If set to true, returns the Hypervisor Uplink Mapping on successful creation. Default: false |
| **uplinks** | | string[] | Uplink Mapping |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | system-hypervisor-uplink-mapping-info optional | The Hypervisor Uplink Mapping created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-hypervisor-uplink-mapping-destroy

[top]

Destroy the hypervisor uplink mapping.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | filer-id | Node |
| **port** | | net-port | Port |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-hypervisor-uplink-mapping-get

[top]

Get the attributes of a hypervisor uplink mapping.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-hypervisor-uplink-mapping-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | filer-id | Node |
| **port** | | net-port | Port |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | system-hypervisor-uplink-mapping-info | The attributes of the Hypervisor Uplink Mapping. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-hypervisor-uplink-mapping-modify

[top]

Modify the hypervisor uplink mapping.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | filer-id | Node |
| **port** | | net-port | Port |
| **uplinks** | | string[] optional | Uplink Mapping |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-image-external-package-delete

[top]

Delete file on external device

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **device** | | externaldevice | Device Possible values:<br>• "usb0" - external USB port 0,<br>• "usb1" - external USB port 1 |
| **node** | | string | Node |
| **package** | | string | File Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-image-external-package-get-iter

[top]

Display file listing on external device

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-image-external-package-attributes optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | system-image-external-package-attributes optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the system object. All system objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | system-image-external-package-attributes[] optional | The list of attributes of system objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more system objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-image-fetch-package

[top]

Fetch a file from a URL. This API will return immediately. The progress can be monitored using the 'system-image-update-progress-get' API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Node |
| **package** | | string | Package URL |
| **rename-package** | | string optional | Rename the File |
| **replace-package** | | boolean optional | Replace the Local File |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-image-get-iter

[top]

Display software image information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-image-attributes optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | system-image-attributes optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the system object. All system objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | system-image-attributes[] optional | The list of attributes of system objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more system objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-image-modify

[top]

Modify software image configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **image** | | string | Image Name |
| **is-default** | | boolean optional | Is Default Image |
| **node** | | string | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-image-package-delete

[top]

Delete a software package

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Node |
| **package** | | string | Package File Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-image-package-get-iter

[top]

Display software information for all packages

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-image-package-attributes optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | system-image-package-attributes optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the system object. All system objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next- |

| | | | |
|---|---|---|---|
| | | | tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | system-image-package-attributes[] optional | The list of attributes of system objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more system objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-image-update

[top]

Perform software image upgrade/downgrade. This API will return immediately. The progress can be monitored using the 'system-image-update-progress-get' API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ignore-compatibility** | | boolean optional | Ignore Version Compatibility Checking |
| **ignore-offline** | | boolean optional | Ignore Offline Aggregates and Volumes |
| **node** | | string | Node |
| **package** | | string | Package URL |
| **rename-package** | | string optional | Rename the File |
| **replace** | | string optional | Image to Replace |
| **replace-package** | | boolean optional | Replace the Local File |
| **setdefault** | | boolean optional | Set Newly Updated Image as Default |
| **validate-only** | | boolean optional | Validate the Package before Installation |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-image-update-get-abort

[top]

Abort software image update or get operation

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-image-update-progress-get

[top]

Show progress information for current or previous update

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **exit-message** | | string optional | Exit Message |
| **exit-status** | | string optional | Exit Status |
| **last-message** | | string optional | Internal message |
| **phase** | | string optional | Phase |
| **run-status** | | string optional | Run Status |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-node-discovery-get-iter

[top]

Get the discovered nodes sequentially. This returns all unconfigured nodes and all cluster nodes found within the local cluster network.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-node-discovery optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | system-node-discovery optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the system-node-discovery object. All system-node-discovery objects matching this query up to 'max-records' will be returned. |
| | | | Specify the tag from the last call. It is usually not specified for |

| | | | |
|---|---|---|---|
| **tag** | | string optional | the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | system-node-discovery[] optional | The list of attributes of system-node-discovery objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more system-node-discovery objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-node-get

[top]

Obtain the node information when the node is part of a cluster. Information returned includes details like location, serial-number, asset tag, uptime, vendor name etc.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | node-details-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | The textual name of a node. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | node-details-info | The attributes of the system-node. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-node-get-iter

[top]

Obtain the node information when the node is a part of the cluster in an iteration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | node-details-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | node-details-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the system-node object. All system-node objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | node-details-info[] optional | The list of attributes of system-node objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more system-node objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-node-modify

[top]

Modify the node information when the node is a part of the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-diff-svcs** | | boolean optional | Is this node part of differentiated services storage infrastructure. |
| **node** | | node-name | The textual name of a node. |
| **node-asset-tag** | | string optional | The asset tag of the node. |
| **node-location** | | string optional | The physical location of the node. For example, Sunnyvale. |
| **node-owner** | | string optional | The owner of the node. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-node-power-cycle

[top]

Remote Node Power Cycle

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **node** | | node-name | Node which needs to be power cycled |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-node-power-get

[top]

Get power status information about a node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-node-power-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Target node for the operation |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | system-node-power-info | The attributes of the system-node-power. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-node-power-off

[top]

Remote Node Power Off

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node which needs to be powered off |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-node-power-on

[top]

Remote Node Power On

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node which needs to be powered on |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-node-reboot

[top]

Reboot the specified node. Only an admin can reboot the node. If attempted by a user with insufficient privileges EAPIPRIVILEGE is returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ignore-quorum-warnings** | | boolean optional | Skip quorum check before reboot. |
| **ignore-strict-sync-warnings** | | boolean optional | Skip SnapMirror Synchronous Strict Sync check before reboot. |
| **is-dump** | | boolean optional | If 'true', a core dump will be created. Default value is 'true'. |
| **is-inhibit-takeover** | | boolean optional | If 'true', storage takeover by partner will be disallowed. Default value is 'true'. |
| **is-skip-lif-migration-before-reboot** | | boolean optional | If 'true', skip migrating LIFs away from this node prior to reboot. Default value is 'true'. |
| **node** | | string | Node to reboot. |
| **reason** | | string optional | Reason for reboot. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EAPIPRIVILEGE** | |
| **EINTERNALERROR** | |
| **E_CLUSTER_WARNING_FOR_EPSILON_GOING_DOWN** | |
| **E_CLUSTER_WARNING_FOR_GOING_TO_FRAGILE_QUORUM** | |
| **E_CLUSTER_WARNING_FOR_GOING_TO_NO_QUORUM** | |
| **E_FOLLOW_UPGRADE_PROCEDURE** | |
| **E_RESET_DEFAULT_IMAGE_UPGRADE** | |
| **E_RESET_DEFAULT_IMAGE_REVERT** | |

# system-node-rename

[top]

Rename the specified node to a new name specified by 'new-name'

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-name** | | string | New Name |
| **node** | | node-name | The textual name of a node. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# system-node-reset

[top]

Reset node using selected BIOS firmware

| Input Name | Range | Type | Description |
|---|---|---|---|
| firmware | | bios-fw-type optional | BIOS Firmware to use on reboot |
| node | | node-name | Node to be reset |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# system-node-shutdown

[top]

Shut down a node. Only an admin can initiate a node shutdown. If attempted by a user with insufficient privileges EAPIPRIVILEGE is returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| ignore-quorum-warnings | | boolean optional | Skip quorum check before halt. |
| ignore-strict-sync-warnings | | boolean optional | Skip SnapMirror Synchronous Strict Sync check before reboot. |
| is-dump | | boolean optional | If 'true', a core dump will be created. Default value is 'true'. |
| is-inhibit-takeover | | boolean optional | If 'true', storage takeover by partner will be disallowed. Default value is 'true'. |
| is-skip-lif-migration-before-shutdown | | boolean optional | If 'true', skip migrating LIFs away from this node prior to shutdown. Default value is 'true'. |
| node | | string | Node to shutdown. |
| reason | | string optional | Reason for shutdown. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EAPIPRIVILEGE | |
| EINTERNALERROR | |
| E_CLUSTER_WARNING_FOR_EPSILON_GOING_DOWN | |
| E_CLUSTER_WARNING_FOR_GOING_TO_FRAGILE_QUORUM | |
| E_CLUSTER_WARNING_FOR_GOING_TO_NO_QUORUM | |
| E_FOLLOW_UPGRADE_PROCEDURE | |
| E_RESET_DEFAULT_IMAGE_UPGRADE | |

| E_RESET_DEFAULT_IMAGE_REVERT | |
|---|---|

# system-services-web-get

[top]

Get the configuration for the web server for Data ONTAP web services

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-services-web-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | system-services-web-info | The attributes of the system. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-services-web-node-get

[top]

Get the status of the web server for Data ONTAP web services

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-services-web-node-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | system-services-web-node-info | The attributes of the system. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-services-web-node-get-iter

[top]

Get the status of the web server for Data ONTAP web services

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-services-web-node-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | system-services-web-node-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the system object. All system objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | system-services-web-node-info[] optional | The list of attributes of system objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more system objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-set-new-ontap-version-downloaded

[top]

Called when a new version of Data ONTAP is downloaded making a non-disruptive upgrade possible.

# system-set-node-stable-after-startup

[top]

This function is called by the GX management layer once a node has booted up to the point where it is operational. This "notification" allows the dblade to signal its partner that it is ready to receive additional aggregates to complete a send-home.

| Errno | Description |
|---|---|

| Errno | Description |
| --- | --- |
| **EINTERNALERROR** | |

# system-status-hypervisor-get

[top]

Returns the hypervisor support levels

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **desired-attributes** | | status-hypervisor-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **attributes** | | status-hypervisor-info | The attributes of the status-hypervisor. |

| Errno | Description |
| --- | --- |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-status-hypervisor-modify

[top]

Modifies the hypervisor support levels

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **host-type** | | oss-host-type | Hypervisor platform type |
| **support-level** | | oss-support-level | Hypervisor support level |

| Errno | Description |
| --- | --- |
| **EINVALIDACCESS** | |

# system-status-restart-restart-service

[top]

Restart a system status service

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **service** | | oss-restart | Service to restart Possible values:<br>• "statd" ,<br>• "mond" ,<br>• "both" |

| | |
| --- | --- |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# system-status-service-get-iter

[top]

Returns status information for objects in the system

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the status_service object. All status_service objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | status-info[] optional | The list of attributes of status_service objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more status_service objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# system-user-capability-get-iter

[top]

Returns the objects and their operations which are permitted to user who called this API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | capability-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | capability- | A query that specifies which objects to return. A query could be specified on any number of attributes in the security login role |

| | | | |
|---|---|---|---|
| **query** | | info<br>optional | object. All security login role objects matching this query up to 'max-records' will be returned. |
| **tag** | | string<br>optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | capability-info[]<br>optional | The list of attributes of security login role objects. |
| **next-tag** | | string<br>optional | Tag for the next call. Not present when there are no more security login role objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **api-list-info**

[top]

name of the API

[none]

# Element definition: **bios-fw-type**

[top]

Choices for the two BIOS firmware images available for booting the system Possible values:

- "primary" - BIOS Firmware which the system boots from by default,
- "backup" - BIOS Firmware which the system boots from if primary fails,
- "current" - BIOS Firmware which the system is currently booted from

[none]

# Element definition: **cache-mirror**

[top]

Cache Mirror typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **enabled** | | boolean optional | Is Cache mirror enabled? Attributes: non-creatable, modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **capability-info**

[top]

Capability information about the object and their operations. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **object-name** | | string optional | Object name, for e.g., 'volume', 'storage.aggregate', 'vserver.nfs' etc.. Attributes: key, non-creatable, non-modifiable |
| **operation-list** | | operation-info[] optional | Operation details. Contains the operation name, command path and API name. |

# Element definition: **external-cache-info**

[top]

External Cache Settings typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Is Enabled? Attributes: non-creatable, modifiable |
| **is-hya-enabled** | | boolean optional | Is HyA Caching Enabled? Attributes: non-creatable, modifiable |
| **is-rewarm-enabled** | | boolean optional | Is Rewarm On? Attributes: non-creatable, modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **pcs-size** | **[0..2^32-1]** | integer optional | PCS Size Attributes: non-creatable, modifiable |

# Element definition: **externaldevice** [top]

usb0|usb1 Possible values:

- "usb0" - external USB port 0,
- "usb1" - external USB port 1

[none]

# Element definition: **filer-id** [top]

Filer UUID

[none]

# Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

# Element definition: **net-port** [top]

Network Port formatted as 1-byte 'type', 4-byte 'slot', 1-byte 'suffix', and 4-byte 'vlan'.

[none]

# Element definition: **node-details-info** [top]

Contains information about a specific node When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cpu-busytime** | **[0..2^32-1]** | integer optional | The time (in hundredths of a second) that the CPU has been doing useful work since the last boot. Attributes: non-creatable, non-modifiable |
| **cpu-firmware-release** | | string optional | Firmware release number. Defined by the CPU manufacturer. Attributes: non-creatable, non-modifiable |
| **env-failed-fan-count** | **[0..2^32-1]** | integer optional | Count of the number of chassis fans which are not operating within the recommended RPM range. Attributes: non-creatable, non-modifiable |
| **env-failed-fan-message** | | string optional | Text message describing the current condition of chassis fans. This is useful only if env-failed-fan-count is not zero. Attributes: non-creatable, non-modifiable |
| **env-failed-power-supply-count** | **[0..2^32-1]** | integer optional | Number of failed power supply units. Attributes: non-creatable, non-modifiable |
| **env-failed-power-supply-message** | | string optional | Text message describing the state of any power supplies which are currently degraded. This is useful only if env-failed-power-supply-count is not zero. Attributes: non-creatable, non-modifiable |
| **env-over-temperature** | | boolean optional | An indication of whether the hardware is currently operating outside of its recommended temperature range. The hardware will shutdown if the temperature exceeds critical thresholds. Attributes: non-creatable, non-modifiable |
| **is-all-flash-optimized** | | boolean optional | Is this node configured to only support SSD drives. If true, no HDDs are allowed on this node. Attributes: non-creatable, non-modifiable |
| **is-all-flash-select-optimized** | | boolean optional | Is this node configured to only support SSD drives for Select. If true, no HDDs are allowed on this node. Attributes: non-creatable, non-modifiable |
| **is-capacity-optimized** | | boolean optional | Is this node All Flash and Capacity Optimized. Attributes: non-creatable, non-modifiable |
| **is-cloud-optimized** | | boolean optional | Is this node configured to support cloud services. Attributes: non-creatable, non-modifiable |
| **is-diff-svcs** | | boolean optional | Is this node part of differentiated services storage infrastructure. Attributes: non-creatable, modifiable |
| **is-epsilon-node** | | boolean optional | You can designate a node as epsilon to add weight to its voting in a cluster with an even number of nodes. In a cluster, only one node can be designated as epsilon at any given time. A boolean value of true means the node is epsilon. Attributes: non-creatable, modifiable |
| **is-node-cluster-eligible** | | boolean optional | This parameter states nodes that are eligible to participate in the cluster. A boolean value of true means the node is eligible. Attributes: non-creatable, modifiable |
| **is-node-healthy** | | boolean optional | This parameter is used to determine health of a node in a cluster. A boolean value of true means the node is healthy. Attributes: non-creatable, non-modifiable |
| **is-perf-optimized** | | boolean optional | Is this node All Flash and Performance Optimized. Attributes: non-creatable, non-modifiable |
| **maximum-aggregate-size** | | size optional | The maximum supported aggregate size in bytes. Attributes: non-creatable, non-modifiable |
| | | | The maximum number of flexible volumes supported on this |

| | | | |
|---|---|---|---|
| **maximum-number-of-volumes** | **[0..2^32-1]** | integer optional | node. This does not include the number of volumes which can be supported when this node does a takeover of its partner node in a High Availability configuration. Attributes: non-creatable, non-modifiable |
| **maximum-volume-size** | | size optional | The maximum supported volume size in bytes. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | The textual name of a node. Attributes: key, non-creatable, non-modifiable |
| **node-asset-tag** | | string optional | The asset tag of the node. Attributes: non-creatable, modifiable |
| **node-location** | | string optional | The physical location of the node. For example, Sunnyvale. Attributes: non-creatable, modifiable |
| **node-model** | | string optional | The model of the node. For example, FAS3070. Attributes: non-creatable, non-modifiable |
| **node-nvram-id** | | integer optional | Vendor specific NVRAM ID of the node. Attributes: non-creatable, non-modifiable |
| **node-owner** | | string optional | The owner of the node. Attributes: non-creatable, modifiable |
| **node-serial-number** | | string optional | The serial number of the node. This is defined by the vendor. Currently, a string of numbers. Attributes: non-creatable, non-modifiable |
| **node-storage-configuration** | | storage-configuration-state-enum optional | The storage configuration in the system. The possible values are:<br>• 'mixed_path'<br>• 'single_path'<br>• 'multi_path'<br>• 'quad_path'<br>• 'single_path_ha'<br>• 'multi_path_ha'<br>• 'mixed_path_ha'<br>• 'quad_path_ha'<br>• 'unknown'<br>Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "single_path" ,<br>• "multi_path" ,<br>• "mixed_path" ,<br>• "single_path_ha" ,<br>• "multi_path_ha" ,<br>• "mixed_path_ha" ,<br>• "quad_path" ,<br>• "quad_path_ha" |
| **node-system-id** | | string optional | The system Id of the node. This is defined by the vendor. Generally, it is a string of numbers. Attributes: non-creatable, non-modifiable |
| **node-uptime** | **[0..2^32-1]** | integer optional | Total time, in seconds, that the node has been up. Attributes: non-creatable, non-modifiable |
| **node-uuid** | | string optional | The universally unique identifier for the node. It is a 36-character string composed of 32 hexadecimal characters. For example, '542366ea-a024-11dd-9caa-7302e474c5ae'. Attributes: non-creatable, non-modifiable |
| **node-vendor** | | string optional | The hardware vendor of the node. Attributes: non-creatable, non-modifiable |
| | | | Status of the NVRAM battery. The possible values that could |

| | | | |
|---|---|---|---|
| **nvram-battery-status** | | nvram-battery-status-enum optional | be returned:<br><br>• 'battery_ok'<br>• 'battery_partially_discharged'<br>• 'battery_fully_discharged '<br>• 'battery_not_present'<br>• 'battery_near_end_of_life'<br>• 'battery_at_end_of_life'<br>• 'battery_unknown'<br>• 'battery_over_charged'<br>• 'battery_fully_charged'<br><br>Attributes: non-creatable, non-modifiable Possible values:<br><br>• "battery_ok" ,<br>• "battery_partially_discharged" ,<br>• "battery_fully_discharged" ,<br>• "battery_not_present" ,<br>• "battery_near_end_of_life" ,<br>• "battery_at_end_of_life" ,<br>• "battery_unknown" ,<br>• "battery_over_charged" ,<br>• "battery_fully_charged" |
| **product-version** | | string optional | Product Version Attributes: non-creatable, non-modifiable |
| **sas2-sas3-mixed-stack-support** | | sas2-sas3-mixed-stack-support optional | Support of mixed SAS2/SAS3 stacks. Attributes: non-creatable, non-modifiable Possible values:<br><br>• "all" - SAS2/SAS3 mixing supported in all stacks,<br>• "direct_attached" - SAS2/SAS3 mixing supported in direct-attached stacks,<br>• "bridge_attached" - SAS2/SAS3 mixing supported in bridge-attached stacks,<br>• "none" - SAS2/SAS3 mixing not supported |
| **vm-system-disks** | | vm-system-disks optional | Contains virtual machine system disk backing info |
| **vmhost-info** | | vmhost-info optional | Contains virtual machine host information |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **node-ontapi-detail-info**

[top]

The node names along with the ONTAPI version on the respective node.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **major-version** | | integer | Current ONTAPI major version supported by this node. Range: [0..2^31-1]. |
| **minor-version** | | integer | Current ONTAPI minor version supported by this node. Range: [0..2^31-1]. |
| **node-name** | | string | Name of the node. |
| **node-uuid** | | string | UUID, Universal Unique IDentifier, of the node. |

# Element definition: **node-version-detail-info**

[top]

The node names along with the ONTAP version on the respective node.

| Name | Range | Type | Description |
|---|---|---|---|
| **build-timestamp** | | integer optional | Time of build creation, in seconds since January 1, 1970, of the image running on the node. This field is available in Data ONTAP 8.1 or later. |
| **node-name** | | string | Name of the node. |
| **node-uuid** | | string | UUID, Universal Unique IDentifier, of the node. |
| **version** | | string | Data ONTAP version running on the node. |

# Element definition: **oss-host-type**

[top]

ESX|KVM Possible values:

- "esx" ,
- "kvm"

[none]

# Element definition: **oss-restart**

[top]

statd|mond|both Possible values:

- "statd" ,
- "mond" ,
- "both"

[none]

# Element definition: **oss-support-level**

[top]

standard|premium|multi-node Possible values:

- "standard" ,
- "premium" ,
- "multi_node"

[none]

# Element definition: **replication-transfer-info**

[top]

Structure of each entry in the transfer accounting table

| Name | Range | Type | Description |
|---|---|---|---|
| **replication-available-transfers** | | integer | Number of transfers that could be started at this point in time, if we choose only this particular replication type. Range:[0..2^32-1] |
| **replication-maximum-transfers** | | integer | Maximum number of transfers that can be started, if we choose only this particular replication type. Range:[1..2^32-1] |
| **replication-type** | | string | Type of replication operation. Qtree-snapmirror/SnapVault have two core data transfer mechanisms which they can utilize for data transfer. One is the legacy engine and the other is the newer engine. By default Data ONTAP enables the new engine. The user can choose to flip between the new engine and legacy engine. options-get api with an input of replication.logical.transfer_limits can be used to detect the type of engine. "current" implies a new engine while "previous" implies the legacy engine. Open Systems SnapVault (OSSV) always uses the legacy engine for transfers. Legacy volume-snapmirror limits are used when data resides on a traditional volume. Possible values of a replication operation are<br>• "legacy_qtree_snapmirror_source";<br>• "legacy_qtree_snapmirror_destination";<br>• "qtree_snapmirror_source";<br>• "qtree_snapmirror_destination";<br>• "legacy_volume_snapmirror_source";<br>• "legacy_volume_snapmirror_destination";<br>• "volume_snapmirror_source";<br>• "volume_snapmirror_destination";<br>• "legacy_snapvault_source";<br>• "legacy_snapvault_destination";<br>• "snapvault_source";<br>• "snapvault_destination";<br>• "sync_snapmirror_source";<br>• "sync_snapmirror_destination";<br>• "volume_copy_source";<br>• "volume_copy_destination"; |

# Element definition: **status-hypervisor-info**

[top]

Information that defines the hypervisor support level When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **host-type** | | oss-host-type optional | Hypervisor platform type Attributes: non-creatable, modifiable Possible values:<br>• "esx" ,<br>• "kvm" |
| **support-level** | | oss-support-level optional | Hypervisor support level Attributes: non-creatable, modifiable Possible values:<br>• "standard" ,<br>• "premium" ,<br>• "multi_node" |

# Element definition: **status-info**

[top]

Information about Data ONTAP status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster-id** | | string optional | Cluster ID. Attributes: non-creatable, non-modifiable |
| **internal-name** | | string optional | Internal name of the status object. Attributes: non-creatable, non-modifiable |
| **is-cluster-scope** | | boolean optional | Cluster scope. Attributes: non-creatable, non-modifiable |
| **name** | | string optional | Name of the status object. Attributes: non-creatable, non-modifiable |
| **status** | | string optional | Status of the status object. Attributes: non-creatable, non-modifiable |
| **update-time** | | datetime optional | Last status update time. Attributes: non-creatable, non-modifiable |
| **vserver-id** | | string optional | Vserver ID. Attributes: non-creatable, non-modifiable |

# Element definition: **system-api-entry-info**

[top]

list of api names and their elements

| Name | Range | Type | Description |
|---|---|---|---|
| **api-elements** | | system-api-element-info[] | list of api elements |
| **name** | | string | api name |

# Element definition: **system-api-info**

[top]

api information

| Name | Range | Type | Description |
|---|---|---|---|
| **is-streaming** | | boolean optional | does api stream data? |
| **license** | | string optional | license needed if any |
| **name** | | string | name of api |

# Element definition: **system-api-type-entry-info**

[top]

list of type names and their elements

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | type name |
| **type-elements** | | system-api-element-info[] | list of type elements |

# Element definition: **system-hypervisor-host-config-info**

[top]

Hypervisor Host Config Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address-ipv4** | | ip-address optional | Address Attributes: required-for-create, modifiable |
| **node** | | filer-id | Node Attributes: key, required-for-create, non-modifiable |

| | | | |
|---|---|---|---|
| | | optional | |
| **port-ipv4** | **[0..2^32-1]** | integer optional | UDP Port Attributes: optional-for-create, modifiable |

# Element definition: **system-hypervisor-snmpv3-config-info**

[top]

Hypervisor SNMP V3 Config Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **auth-password** | | string optional | Authentication Password Attributes: optional-for-create, modifiable |
| **auth-protocol** | | string optional | Authentication Protocol Attributes: optional-for-create, modifiable |
| **engine-id** | | string optional | Engine ID Attributes: optional-for-create, modifiable |
| **node** | | filer-id optional | Node Attributes: key, required-for-create, non-modifiable |
| **priv-protocol** | | string optional | Private Protocol Attributes: optional-for-create, modifiable |
| **snmp-trapport** | **[0..2^32-1]** | integer optional | SNMP Trap Port Attributes: optional-for-create, modifiable |
| **username** | | string optional | Username Attributes: required-for-create, modifiable |

# Element definition: **system-hypervisor-uplink-mapping-info**

[top]

Hypervisor Uplink Mapping Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **node** | | filer-id optional | Node Attributes: key, required-for-create, non-modifiable |
| | | net-port | |

| | | | |
|---|---|---|---|
| **port** | | optional | Port Attributes: key, required-for-create, non-modifiable |
| **uplinks** | | string[] optional | Uplink Mapping Attributes: required-for-create, modifiable |

# Element definition: **system-image-attributes**

[top]

These attributes describe or modify the configuration of the nodes's boot images. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **image** | | string optional | Image Name Attributes: key, non-creatable, non-modifiable |
| **install-time** | | datetime optional | Install Date Attributes: non-creatable, non-modifiable |
| **is-current** | | boolean optional | Is Current Image Attributes: non-creatable, non-modifiable |
| **is-default** | | boolean optional | Is Default Image Attributes: non-creatable, modifiable |
| **kernel-path** | | string optional | Kernel Image Path Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Node Attributes: key, non-creatable, non-modifiable |
| **rootfs-path** | | string optional | Root Filesystem Image Path Attributes: non-creatable, non-modifiable |
| **version** | | string optional | Software Version Attributes: non-creatable, non-modifiable |

# Element definition: **system-image-external-package-attributes**

[top]

These attributes provide details about the software packages available on the external device connected to the system. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **device** | | externaldevice optional | Device Attributes: key, optional-for-create, non-modifiable Possible values:<br>• "usb0" - external USB port 0,<br>• "usb1" - external USB port 1 |
| **node** | | string optional | Node Attributes: key, non-creatable, non-modifiable |
| **package** | | string optional | File Name Attributes: key, optional-for-create, non-modifiable |

# Element definition: **system-image-package-attributes**

[top]

These attributes provide details about the software packages available on the system. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | Node Attributes: key, non-creatable, non-modifiable |
| **package** | | string optional | Package File Name Attributes: key, optional-for-create, non-modifiable |

# Element definition: **system-info**

[top]

Information about the system. Here system refers to a cluster node when running in cluster mode.

| Name | Range | Type | Description |
|---|---|---|---|
| **backplane-part-number** | | string optional | Part number of the backplane. |
| **backplane-revision** | | string optional | Revision of the backplane part number. |
| **backplane-serial-number** | | string optional | Backplane serial number. |
| **board-speed** | | integer | Speed of the system board in mega Hertz. |
| **board-type** | | string | Type of the system board. This is defined by the vendor |
| **controller-address** | | string optional | The location of the controller in a multi-controller platform. Defined by the platform layer. Possible values: A,B,C,... |
| **cpu-firmware-release** | | string optional | Firmware release number. Defined by the CPU manufacturer. |
| | | | |

| | | | |
|---|---|---|---|
| **cpu-microcode-version** | | string | cpu's microcode version. Defined by the CPU manufacturer. |
| **cpu-part-number** | | string optional | CPU's part number. Defined by the CPU manufacturer. |
| **cpu-processor-id** | | string optional | Processor's ID. Defined by the CPU manufacturer. |
| **cpu-processor-type** | | string optional | Processor's Type. Defined by the CPU manufacturer. |
| **cpu-revision** | | string optional | CPU's part number revision. Defined by the CPU manufacturer. |
| **cpu-serial-number** | | string optional | CPU's serial number. Defined by the CPU manufacturer. |
| **maximum-aggregate-size** | **[0..2^64-1]** | integer optional | The platform's maximum aggregate size in bytes. |
| **maximum-flexible-volume-count** | **[0..2^32-1]** | integer optional | The platform's maximum number of flexible volumes supported on this node. This does not include the number of volumes which can be supported when this node does a takeover of its partner node in a High Availability configuration. |
| **maximum-flexible-volume-size** | **[0..2^64-1]** | integer optional | The platform's maximum flexible volume size in bytes. |
| **memory-size** | | integer | Memory size in megabytes. (1024*1024). |
| **number-of-processors** | | integer | Number of processors in the appliance. |
| **partner-system-id** | | string optional | Partner's system ID. Displayed in a cluster environment. A string of 10 characters. |
| **partner-system-name** | | string optional | Partner's system name. Displayed in a cluster environment. Defined in the partner's setup. |
| **partner-system-serial-number** | | string optional | Partner System serial number. Currently a string of numbers. |
| **prod-type** | | string optional | Will be set to "V-Series", "gfiler", "gateway" or "FAS" depending upon the vendor providing the raw storage. |
| **storage-configuration** | | string optional | Storage configuration status for the controller. The possible values are:<br>• "mixed_path"<br>• "single_path"<br>• "multi_path"<br>• "single_path_ha"<br>• "multi_path_ha"<br>• "mixed_path_ha"<br>• "unknown" |
| **supports-raid-array** | | boolean | Indicates whether the system supports raid arrays back-end connectivity or not. Possible values: "true" or "false". |
| **system-id** | | string | System ID. This is defined by the vendor. Currently, it is a string of numbers |
| **system-machine-type** | | string optional | Machine type of the system, like FAS3050 |

| | | | |
|---|---|---|---|
| **system-model** | | string | Model name of the system, like FAS3050 |
| **system-name** | | string | System name. This is the name defined during setup. |
| **system-revision** | | string optional | System revision. There revision id of the system board. Currently, a character followed by a number, B0. |
| **system-serial-number** | | string optional | System serial number.Currently a string of numbers. |
| **vendor-data1** | | string optional | Vendor specific opaque data field 1. |
| **vendor-data2** | | string optional | Vendor specific opaque data field 2. |
| **vendor-data3** | | string optional | Vendor specific opaque data field 3. |
| **vendor-id** | | string | Hardware vendor identifier. |
| **vm-system-disks** | | vm-system-disks optional | Backing info for the Data ONTAP-v system disks |
| **vmhost-info** | | vmhost-info optional | Info block for the hypervisor physical node on Data ONTAP-v |

# Element definition: **system-node-discovery**

[top]

Discovered nodes. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster-ip-addresses** | | ip-address[] optional | The cluster IP addresses of the discovered node. Attributes: non-creatable, non-modifiable |
| **cluster-name** | | string optional | Cluster Name Attributes: non-creatable, non-modifiable |
| **cluster-netmask** | | ip-address optional | The cluster LIF netmask. Attributes: non-creatable, non-modifiable |
| **cluster-uuid** | | uuid optional | Cluster UUID Attributes: non-creatable, non-modifiable |
| **is-node-in-cluster** | | boolean optional | If true, the node is currently a member of the cluster identified in the cluster-uuid and cluster-name. If false, this node is not currently a member of a cluster. Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Node Name Attributes: key, required-for-create, non-modifiable |

| | | | |
|---|---|---|---|
| **node-model** | | string optional | The model of the node. For example, FAS3070. Attributes: non-creatable, non-modifiable |
| **node-nvram-id** | | nvramid optional | Vendor specific NVRAM ID of the node. Attributes: non-creatable, non-modifiable |
| **node-serial-number** | | string optional | The serial number of the node. This is defined by the vendor. Currently, a string of numbers. Attributes: non-creatable, non-modifiable |
| **partner-nvram-id** | | nvramid optional | The NVRAM-ID of the partner to the discovered node. Attributes: non-creatable, non-modifiable |
| **version** | | string optional | Data ONTAP version running on the node. Attributes: non-creatable, non-modifiable |

# Element definition: **system-node-kernel-info**

[top]

Diagnostics and firmware details of a node

| Name | Range | Type | Description |
|---|---|---|---|
| **compilation-flags** | | string optional | Displays the verbose output which currently includes the compilation flags |
| **firmware-info** | | system-path-version[] optional | Firmware path and firmware version |
| **kernel-info** | | system-path-version[] optional | Kernel path and kernel version |
| **node-name** | | string | Name of the node |

# Element definition: **system-node-power-info**

[top]

Node Power Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name optional | Target node for the operation Attributes: key, non-creatable, non-modifiable |
| **status** | | power-status optional | Current Power Status Attributes: non-creatable, non-modifiable Possible values:<br>• "on" - Node is powered on,<br>• "off" - Node is powered off |

# Element definition: **system-services-web-info**

[top]

Web server configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **csrf-protection-enabled** | | boolean optional | CSRF Protection Enabled Attributes: non-creatable, modifiable |
| **csrf-token-absolute-timeout** | **[0..2^32-1]** | integer optional | CSRF Token Absolute Timeout (Seconds) Attributes: non-creatable, modifiable |
| **csrf-token-concurrent-limit** | **[0..9999]** | integer optional | Maximum Number of Concurrent CSRF Tokens Attributes: non-creatable, modifiable |
| **csrf-token-idle-timeout** | **[0..2^32-1]** | integer optional | CSRF Token Idle Timeout (Seconds) Attributes: non-creatable, modifiable |
| **external** | | boolean optional | Indicates whether or not web services are available to remote clients Attributes: non-creatable, modifiable |
| **http-enabled** | | boolean optional | HTTP Enabled Attributes: non-creatable, modifiable |
| **http-port** | **[0..65535]** | integer optional | HTTP Port Attributes: non-creatable, modifiable |
| **https-port** | **[0..65535]** | integer optional | HTTPS Port Attributes: non-creatable, modifiable |
| **per-address-limit** | **[24..999]** | integer optional | Per Address Limit Attributes: non-creatable, modifiable |
| **ssl-fips-enabled** | | boolean optional | Global FIPS Enabled Attributes: non-creatable, non-modifiable |
| **sslv3-enabled** | | boolean optional | SSLv3 Enabled Attributes: non-creatable, non-modifiable |
| **status** | | web-proto-status optional | Protocol Status Attributes: non-creatable, non-modifiable Possible values:<br>• "offline" - All web services are consistently configured and working correctly,<br>• "partial" - One or more nodes' web services are unavailable due to an error condition,<br>• "mixed" - The nodes in the cluster do not share the same web services configuration,<br>• "online" - All of the nodes' web services are unavailable due to an error condition,<br>• "unclustered" - The current node is not part of an active cluster |
| **tlsv1-enabled** | | boolean optional | TLSv1 Enabled Attributes: non-creatable, non-modifiable |
| **wait-queue-** | **[0..2^32-** | integer | |

| | | | |
|---|---|---|---|
| **capacity** | **1]** | optional | Wait Queue Capacity Attributes: non-creatable, modifiable |

# Element definition: **system-services-web-node-info**

[top]

Node web server status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **csrf-token-count** | **[0..2^32-1]** | integer optional | CSRF Token Count Attributes: non-creatable, non-modifiable |
| **external** | | boolean optional | Indicates whether or not web services are available to remote clients Attributes: non-creatable, modifiable |
| **http-enabled** | | boolean optional | HTTP Enabled Attributes: non-creatable, modifiable |
| **http-port** | **[0..65535]** | integer optional | HTTP Port Attributes: non-creatable, modifiable |
| **https-port** | **[0..65535]** | integer optional | HTTPS Port Attributes: non-creatable, modifiable |
| **mean-connection-wait-time** | **[0..2^32-1]** | integer optional | Mean Connection Wait Time (ms) Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **peak-concurrency** | **[0..2^64-1]** | integer optional | Peak Concurrency Attributes: non-creatable, non-modifiable |
| **peak-connection-wait-time** | **[0..2^32-1]** | integer optional | Peak Connection Wait Time (ms) Attributes: non-creatable, non-modifiable |
| **peak-per-address-concurrency** | **[0..2^64-1]** | integer optional | Peak Per-Address Concurrency Attributes: non-creatable, non-modifiable |
| **per-address-limit** | **[24..999]** | integer optional | Per Address Limit Attributes: non-creatable, modifiable |
| **status** | | web-proto-status optional | Protocol Status Attributes: non-creatable, non-modifiable Possible values:<br>• "offline" - All web services are consistently configured and working correctly,<br>• "partial" - One or more nodes' web services are unavailable due to an error condition,<br>• "mixed" - The nodes in the cluster do not share the same web services configuration,<br>• "online" - All of the nodes' web services are unavailable due to an error condition,<br>• "unclustered" - The current node is not part of an active cluster |

| | | | |
|---|---|---|---|
| **status-code** | **[0..2^32-1]** | integer optional | Status Return Code Attributes: non-creatable, non-modifiable |
| **total-bytes** | **[0..2^32-1]** | integer optional | Total Bytes Served Attributes: non-creatable, non-modifiable |
| **total-connection-wait-time** | **[0..2^64-1]** | integer optional | Total Connection Wait Time (ms) Attributes: non-creatable, non-modifiable |
| **total-connections** | **[0..2^64-1]** | integer optional | Total Connections Attributes: non-creatable, non-modifiable |
| **total-delayed-connections** | **[0..2^64-1]** | integer optional | Total Delayed Connections Attributes: non-creatable, non-modifiable |
| **total-hits** | **[0..2^32-1]** | integer optional | Total HTTP Requests Attributes: non-creatable, non-modifiable |
| **total-http-ops** | **[0..2^32-1]** | integer optional | Total HTTP ops Attributes: non-creatable, non-modifiable |
| **total-https-ops** | **[0..2^32-1]** | integer optional | Total HTTPS ops Attributes: non-creatable, non-modifiable |
| **total-pend-auth** | **[0..2^32-1]** | integer optional | Total Pending Auth Attributes: non-creatable, non-modifiable |
| **total-rc-1xx** | **[0..2^32-1]** | integer optional | Total RCs 100-199 Attributes: non-creatable, non-modifiable |
| **total-rc-2xx** | **[0..2^32-1]** | integer optional | Total RCs 200-299 Attributes: non-creatable, non-modifiable |
| **total-rc-3xx** | **[0..2^32-1]** | integer optional | Total RCs 300-399 Attributes: non-creatable, non-modifiable |
| **total-rc-4xx** | **[0..2^32-1]** | integer optional | Total RCs 400-499 Attributes: non-creatable, non-modifiable |
| **total-rc-5xx** | **[0..2^32-1]** | integer optional | Total RCs 500-599 Attributes: non-creatable, non-modifiable |
| **total-workers** | **[0..2^32-1]** | integer optional | Total Workers Attributes: non-creatable, non-modifiable |
| **wait-queue-capacity** | **[0..2^32-1]** | integer optional | Wait Queue Capacity Attributes: non-creatable, modifiable |
| **work-state-close** | **[0..2^32-1]** | integer optional | Workers Closing Attributes: non-creatable, non-modifiable |
| **work-state-keep** | **[0..2^32-1]** | integer optional | Workers in KeepAlive Attributes: non-creatable, non-modifiable |
| **work-state-log** | **[0..2^32-1]** | integer optional | Workers Logging Attributes: non-creatable, non-modifiable |
| **work-state-read** | **[0..2^32-1]** | integer optional | Workers Reading Attributes: non-creatable, non-modifiable |
| **work-state-ready** | **[0..2^32-1]** | integer optional | Workers Ready Attributes: non-creatable, non-modifiable |
| **work-state-write** | **[0..2^32-1]** | integer optional | Workers Writing Attributes: non-creatable, non-modifiable |
| **workers-avail** | **[0..2^32-1]** | integer optional | Workers Available Attributes: non-creatable, non-modifiable |
| **workers-busy** | **[0..2^32-1]** | integer optional | Workers Busy Attributes: non-creatable, non-modifiable |

## Element definition: **system-version-tuple**

[top]

Contains the Data ONTAP version tuple corresponding to the lowest version across the cluster.

| Name | Range | Type | Description |
|---|---|---|---|
| **generation** | | integer | First integer of the Data ONTAP version tuple corresponding the lowest version across the cluster. |
| **major** | | integer | Second integer of the Data ONTAP version tuple corresponding the lowest version across the cluster. |
| **minor** | | integer | Third integer of the Data ONTAP version tuple corresponding the lowest version across the cluster. |

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **externaldevice**

[top]

usb0|usb1 Possible values:

- "usb0" - external USB port 0,
- "usb1" - external USB port 1

[none]

# Element definition: **filer-id**

[top]

Filer UUID

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **net-port**

[top]

Network Port formatted as 1-byte 'type', 4-byte 'slot', 1-byte 'suffix', and 4-byte 'vlan'.

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **nvram-battery-status-enum**

[top]

ok|partially discharged|fully discharged|not present|near eol|eol|unknown|over charged|fully charged
Possible values:

- "battery_ok" ,
- "battery_partially_discharged" ,
- "battery_fully_discharged" ,
- "battery_not_present" ,
- "battery_near_end_of_life" ,
- "battery_at_end_of_life" ,
- "battery_unknown" ,
- "battery_over_charged" ,
- "battery_fully_charged"

[none]

## Element definition: **nvramid**

[top]

NVRAM Id

[none]

## Element definition: **operation-info**

[top]

Operation details. Contains the operation name, command path and API name.

| Name | Range | Type | Description |
|---|---|---|---|
| **api-name** | | string optional | API corresponding to operation, for e.g., if object name is 'volume' and operation name is 'create' then operation's api name would be 'volume-create'. If multiple APIs are associated with same operation then API names will be ',' separated. Attributes: non-creatable, non-modifiable |
| **command-path** | | string optional | Operation Command Directory Path Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **name** | | string optional | Name of the operation, for e.g., 'create', 'modify' etc.. Attributes: key, non-creatable, non-modifiable |

# Element definition: **oss-host-type**

[top]

ESX|KVM Possible values:

- "esx" ,
- "kvm"

[none]

# Element definition: **oss-support-level**

[top]

standard|premium|multi-node Possible values:

- "standard" ,
- "premium" ,
- "multi_node"

[none]

# Element definition: **power-status**

[top]

Possible values for power status of any node Possible values:

- "on" - Node is powered on,
- "off" - Node is powered off

[none]

# Element definition: **sas2-sas3-mixed-stack-support**

[top]

all|direct-attached|bridge-attached|none Possible values:

- "all" - SAS2/SAS3 mixing supported in all stacks,
- "direct_attached" - SAS2/SAS3 mixing supported in direct-attached stacks,
- "bridge_attached" - SAS2/SAS3 mixing supported in bridge-attached stacks,
- "none" - SAS2/SAS3 mixing not supported

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **storage-configuration-state-enum**

[top]

Unknown|Single-Path|Multi-Path|Mixed-Path|Single-Path HA|Multi-Path HA|Mixed-Path HA|Quad-Path|Quad-Path HA Possible values:

- "unknown" ,
- "single_path" ,
- "multi_path" ,
- "mixed_path" ,
- "single_path_ha" ,
- "multi_path_ha" ,
- "mixed_path_ha" ,
- "quad_path" ,
- "quad_path_ha"

[none]

# Element definition: **system-api-element-info**

[top]

api element description. This can be a simple type or a reference to another typedef (as defined in the 'type' element. Arrays are signified by having '[]' appended to the type name.

| Name | Range | Type | Description |
|---|---|---|---|
| **encrypted** | | string optional | encryption type. If missing the parameter isn't encrypted |
| **is-nonempty** | | boolean optional | must element be non-empty. If false or missing element value may be empty. |
| **is-optional** | | boolean optional | is element optional. If false or missing element is required. |
| **is-output** | | boolean optional | is element an output element. If false or missing then is an input element |
| **is-validated** | | boolean optional | argument will have strong validation done by the server (e.g. integer range). If false or empty, no validation will be done. |
| **name** | | string | name of element |
| **type** | | string | type of variable possible values: "string", "integer", "boolean", type-name |

# Element definition: **system-path-version**

[top]

Image-path and image version for diagnostics and firmware files of the node

| Name | Range | Type | Description |
|---|---|---|---|
| **path-info** | | string optional | File path . Displays the file path in form /cfcard/x86_64/.. |
| **version-info** | | string optional | File version . Kernel and file versions Example: Firmware #.#.# or OS version |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **vm-system-disks**

[top]

Storage info block for the hypervisor physical node on Data ONTAP-v (VSA)

| Name | Range | Type | Description |
|---|---|---|---|
| **vm-bootdisk-area-name** | | string optional | The name of the hypervisor's storage area for the VMs bootdisk. For ESX this is the name of a datastore. |
| **vm-bootdisk-file-name** | | string optional | The hypervisor's filename for the VMs bootdisk. |
| **vm-coredisk-area-name** | | string optional | The name of the hypervisor's storage area for the VMs coredump and swap disk. For ESX this is the name of a datastore. |
| **vm-coredisk-file-name** | | string optional | The hypervisor's filename for the VMs coredump disk. |
| **vm-logdisk-area-name** | | string optional | The name of the hypervisor's storage area for the VMs log disk. For ESX this is the name of a datastore. |
| **vm-logdisk-file-name** | | string optional | The hypervisor's filename for the VMs log disk. |

# Element definition: **vmhost-info**

[top]

Storage info block for the hypervisor physical node on Data ONTAP-v (VSA)

| Name | Range | Type | Description |
|---|---|---|---|
| **vm-custom-max-** | | integer optional | The maximum system capacity (in TB) that can be configured on the VM. Example is "20". |

| | | | |
|---|---|---|---|
| **capacity** | | | |
| **vm-uuid** | | string optional | The hypervisor-supplied UUID, Universal Unique Identifier, for the virtual machine. Example is, "4230f064-02f8-xy3a-02d1-zz89702287e0". |
| **vmhost-bios-release-date** | | string optional | Release date for the currently running hypervisor BIOS. Example is "2000-01-01T00:00:00Z". |
| **vmhost-bios-version** | | string optional | Current BIOS version of the hypervisor physical chassis. Example is "S5500.2.1.3.0.081620131102". |
| **vmhost-boot-time** | | string optional | Time when the hypervisor was last booted. Example is "2014-01-01T00:00:00.420462-04:00". |
| **vmhost-cpu-clock-rate** | **[0..2^32-1]** | integer optional | Speed of the hypervisor CPU cores (MHz). |
| **vmhost-cpu-core-count** | **[0..2^32-1]** | integer optional | Number of physical CPU cores on the hypervisor. Physical CPU cores are the processors contained by a CPU package. |
| **vmhost-cpu-socket-count** | **[0..2^32-1]** | integer optional | Number of physical CPU packages on the hypervisor. Physical CPU packages are chips that contain one or more processors. Processors contained by a package are also known as CPU cores. For example, one dual-core package is comprised of one chip that contains two CPU cores. |
| **vmhost-cpu-thread-count** | **[0..2^32-1]** | integer optional | Number of physical CPU threads on the hypervisor. |
| **vmhost-error** | | string optional | Error (if any) while retrieving hypervisor details. Example is "[13115] vSphere server is missing". |
| **vmhost-gateway** | | string optional | The default gateway (IPv4 or IPv6) for the hypervisor. Examples are "192.168.0.1", "2001:0db8:85a3:0000:0000:8a2e:0370:7334". |
| **vmhost-hardware-vendor** | | string optional | Name of the hypervisor hardware manufacturer. Example is "IBM". |
| **vmhost-hypervisor** | | string optional | Complete product name, including the version information for the hypervisor. |
| **vmhost-ip-address** | | string optional | Primary IP address (IPv4 or IPv6) assigned to the hypervisor. Examples are "192.168.0.1", "2001:0db8:85a3:0000:0000:8a2e:0370:7334". |
| **vmhost-memory** | **[0..2^64-1]** | integer optional | Physical memory size of the hypervisor (bytes). |
| **vmhost-model** | | string optional | The hardware model of the hypervisor machine. Example is "IBM eServer BladeCenter HS21". |
| **vmhost-name** | | string optional | Host name assigned to the hypervisor. Example is "myesx.example.com". |
| **vmhost-netmask** | | string optional | Subnet mask address (IPv4 or IPv6) for the hypervisor. Examples are "192.168.0.1", "2001:0db8:85a3:0000:0000:8a2e:0370:7334". |
| **vmhost-processor-id** | | string optional | Processor ID of the hypervisor. Example is "0000:0000:0000:0001:0000:0110:0111:0110". |
| **vmhost-processor-type** | | string optional | CPU Model of the hypervisor. |
| **vmhost-software-** | | string optional | Name of the virtual machine software manufacturer. |

| | | | |
|---|---|---|---|
| **vendor** | | | |
| **vmhost-uuid** | | string optional | UUID, Universal Unique Identifier, of the hypervisor. Example is, "4230f064-02f8-xy3a-02d1-zz89702287e0". |

# Element definition: **web-proto-status**

[top]

offline|partial|mixed|online|unclustered Possible values:

- "offline" - All web services are consistently configured and working correctly,
- "partial" - One or more nodes' web services are unavailable due to an error condition,
- "mixed" - The nodes in the cluster do not share the same web services configuration,
- "online" - All of the nodes' web services are unavailable due to an error condition,
- "unclustered" - The current node is not part of an active cluster

[none]

# APIs in Category: **tape-mc-info**


tape-mc-get
tape-mc-get-iter
tape-mc-info-alias-clear
tape-mc-info-alias-set
tape-mc-info-offline
tape-mc-info-online
tape-mc-info-position
tape-mc-info-reset
tape-mc-info-test-release
tape-mc-info-test-reserve
tape-mc-info-trace


This set of ZAPIs allows management of cluster-wide tape drive and media changer devices.

## tape-mc-get

[top]

Return a tape drive / media changer view

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | tape-mc-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **device-id** | | string | Device ID |
| **node-name** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | tape-mc-info | The attributes of the tape-mc-info. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## tape-mc-get-iter

[top]

Iterate over the list of Tape/MC objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | tape-mc-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 300 |
| **query** | | tape-mc-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the tape-mc-info object. All tape-mc-info objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | tape-mc-info[] optional | The list of attributes of tape-mc-info objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more tape-mc-info objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# tape-mc-info-alias-clear

[top]

Clear tape drive / media changer alias. Specify name or clear-scope but not both.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **clear-scope** | | tape-mc-device-scope-enum optional | Scope of Alias Clear Operation |
| **name** | | string optional | Alias Name That Is to Be Cleared |
| **node-name** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# tape-mc-info-alias-set

[top]

Set a tape/drive media changer alias

| Input Name | Range | Type | Description |
|---|---|---|---|
| **mapping** | | string | Mapping for Alias Name |
| **name** | | string | Alias Name for Tape Drive or Media Changer |
| **node-name** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# tape-mc-info-offline

[top]

Take a tape drive offline. Specify name or device-id but not both.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **device-id** | | string optional | Tape Drive Device ID |
| **device-name** | | string optional | Tape Drive Device Name |
| **node-name** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# tape-mc-info-online

[top]

Bring a tape drive online

| Input Name | Range | Type | Description |
|---|---|---|---|
| **device-id** | | string optional | Tape Drive Device ID |
| **device-name** | | string optional | Tape Drive Device Name |
| **node-name** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# tape-mc-info-position

[top]

Position tape cartridge

| Input Name | Range | Type | Description |
|---|---|---|---|
| **count** | | integer optional | Count for Positioning |
| **device-name** | | string | Tape Drive Device Name |
| **node-name** | | node-name | Node |
| | | | |

| | | | |
|---|---|---|---|
| **operation** | | tape-mc-tape-oper-enum | Tape Position Operation |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# tape-mc-info-reset

[top]

Reset the tape drive

| Input Name | Range | Type | Description |
|---|---|---|---|
| **device-id** | | string | Tape Drive Device ID |
| **node-name** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# tape-mc-info-test-release

[top]

Release a tape drive test reservation

| Input Name | Range | Type | Description |
|---|---|---|---|
| **device-id** | | string | Tape Drive Device ID |
| **node-name** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# tape-mc-info-test-reserve

[top]

Reserve a tape drive for testing

| Input Name | Range | Type | Description |
|---|---|---|---|
| **device-id** | | string | Tape Drive Device ID |
| **node-name** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# tape-mc-info-trace

[top]

Enable/disable tape trace operations

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-trace-enabled** | | boolean | Tape Trace Enabled or Disabled |
| **node-name** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **tape-mc-device-scope-enum**

[top]

tape|media-changer|all Possible values:

- "none" - Scope none,
- "tape" - Scope of the operation is tape drives only,
- "media_changer" - Scope of the operation is for media changers only,
- "all" - Scope of the operation is for both tape drives and media changers

[none]

# Element definition: **tape-mc-info**

[top]

Information about Tape and Media Changer Devices When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **alias-** | | string | Alias Mapping Attributes: non-creatable, non- |

| | | | |
|---|---|---|---|
| **mapping** | | optional | modifiable |
| **alias-name** | | string optional | Alias Name Attributes: non-creatable, non-modifiable |
| **block-number** | **[-2^31..2^31-1]** | integer optional | Block Number Attributes: non-creatable, non-modifiable |
| **density-formats** | | device-density-format[] optional | Device density formats |
| **description** | | string optional | Description Attributes: non-creatable, non-modifiable |
| **device-id** | | string optional | Device ID Attributes: key, non-creatable, non-modifiable |
| **device-if-type** | | tape-mc-device-if-type-enum optional | Device Interface Type Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Tape drive/media changer interface type unknown,<br>• "fibre_channel" - Tape drive/media changer fibre channel interface type,<br>• "sas" - Tape drive/Media changer SAS interface type,<br>• "pscsi" - Tape drive/media changer pSCSI interface type |
| **device-names** | | device-name-density[] optional | Device names for tape positioning |
| **device-state** | | tape-mc-device-state-enum optional | Operational State of Device Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - State of the tape device is unknown,<br>• "available" - Tape device available for use,<br>• "ready_write_enabled" - Tape drive is ready and write-enabled,<br>• "ready_write_protected" - Tape drive is ready and write-protected,<br>• "offline" - Tape device is offline,<br>• "in_use" - Tape device is currently in use,<br>• "error" - Tape device is reporting errors,<br>• "reserved_by_another_host" - Tape device is reserved by another node or host,<br>• "normal" - Tape device is in a normal functional state,<br>• "rewinding" - Tape device is rewinding a tape,<br>• "erasing" - Tape device is erasing a tape |
| **device-type** | | string optional | Device Type Attributes: non-creatable, non-modifiable |
| **error** | | string optional | Tape Error Attributes: non-creatable, non-modifiable |
| **file-number** | **[-2^31..2^31-1]** | integer optional | File Number Attributes: non-creatable, non-modifiable |
| **functional-status** | | tape-mc-func-status-enum optional | Functional Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Tape device status unknown,<br>• "normal" - Tape device shows normal status, |

| | | | |
|---|---|---|---|
| | | | "error" - Tape device is reporting errors |
| **initiator** | | string optional | Initiator Port Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **residual-count** | **[-2^31..2^31-1]** | integer optional | Residual Count of Last I/O Operation Attributes: non-creatable, non-modifiable |
| **resv-type** | | tape-mc-resv-type-enum optional | Reservation Type for device Attributes: non-creatable, non-modifiable Possible values:<br>• "off" ,<br>• "persistent" ,<br>• "scsi" |
| **serial-number** | | string optional | Serial Number Attributes: non-creatable, non-modifiable |
| **wwnn** | | string optional | World Wide Node Name Attributes: non-creatable, non-modifiable |
| **wwpn** | | string optional | World Wide Port Name Attributes: non-creatable, non-modifiable |

# Element definition: **tape-mc-tape-oper-enum**

[top]

weof|fsf|bsf|fsr|bsr|rewind|erase|eom Possible values:

- "weof" - Write end-of-file,
- "fsf" - Forward space files,
- "bsf" - Backward space files,
- "fsr" - Forward space records,
- "bsr" - Backward space records,
- "rewind" - Rewind tape cartridge,
- "erase" - Erase tape media,
- "eom" - End of tape media

[none]

# Element definition: **device-density-format**

[top]

Device density formats

| Name | Range | Type | Description |
|---|---|---|---|
| **device-format** | | string optional | Tape Cartridge Format Attributes: non-creatable, non-modifiable |

# Element definition: **device-name-density**

[top]

Device names for tape positioning

| Name | Range | Type | Description |
|---|---|---|---|
| **device-name-no-rewind** | | string optional | Device Name for No Rewind Attributes: non-creatable, non-modifiable |
| **device-name-rewind** | | string optional | Device Name for Rewind Attributes: non-creatable, non-modifiable |
| **device-name-unload-reload** | | string optional | Device Name for Unload Reload Attributes: non-creatable, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **tape-mc-device-if-type-enum**

[top]

unknown|fibre-channel|SAS|pSCSI Possible values:

- "unknown" - Tape drive/media changer interface type unknown,
- "fibre_channel" - Tape drive/media changer fibre channel interface type,
- "sas" - Tape drive/Media changer SAS interface type,
- "pscsi" - Tape drive/media changer pSCSI interface type

[none]

# Element definition: **tape-mc-device-state-enum**

[top]

unknown|available|ready-write-enabled|ready-write-protected|offline|in-use|error|reserved-by-another-host|normal Possible values:

- "unknown" - State of the tape device is unknown,
- "available" - Tape device available for use,
- "ready_write_enabled" - Tape drive is ready and write-enabled,
- "ready_write_protected" - Tape drive is ready and write-protected,
- "offline" - Tape device is offline,
- "in_use" - Tape device is currently in use,
- "error" - Tape device is reporting errors,
- "reserved_by_another_host" - Tape device is reserved by another node or host,
- "normal" - Tape device is in a normal functional state,
- "rewinding" - Tape device is rewinding a tape,
- "erasing" - Tape device is erasing a tape

[none]

# Element definition: **tape-mc-func-status-enum**

[top]

unknown|normal|error Possible values:

- "unknown" - Tape device status unknown,
- "normal" - Tape device shows normal status,
- "error" - Tape device is reporting errors

[none]

# Element definition: **tape-mc-resv-type-enum**

[top]

off|persistent|scsi Possible values:

- "off" ,
- "persistent" ,
- "scsi"

[none]

# APIs in Category: **template-management**


template-management-template-copy
template-management-template-delete
template-management-template-download
template-management-template-get
template-management-template-get-iter
template-management-template-parameter-get
template-management-template-parameter-get-iter
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template-management-template-provision
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template-management-template-rename
template-management-template-upload


This set of ZAPIs allows to manage Templates.

## template-management-template-copy

[top]

Copy a Template.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-name** | | string | Destination template. |
| **name** | | string | Name of the template |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ETEMPLATENOTFOUND** | |
| **E_TEMPLATE_CLUSTER_VERSION_NOT_SUPPORTED** | |
| **E_TEMPLATE_FILE_NOT_EXISTS** | |
| **E_TEMPLATE_INTERNAL_FAILURE** | |

# template-management-template-delete

[top]

Delete a template.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the template. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ETEMPLATENOTFOUND** | |
| **E_TEMPLATE_CLUSTER_VERSION_NOT_SUPPORTED** | |

# template-management-template-download

[top]

Download a template.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | Name of the template. |
| **uri** | | string | URI of the template. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **E_TEMPLATE_DOWNLOAD_FAILED** | |
| **E_TEMPLATE_VERSION_KEY_NOT_FOUND** | |
| **E_TEMPLATE_NAME_NOT_FOUND** | |
| **E_TEMPLATE_INVALID_TEMPLATE** | |
| **E_TEMPLATE_VERSION_NOT_SUPPORTED** | |
| **E_TEMPLATE_SYNTAX_ERROR** | |
| **E_TEMPLATE_INTERNAL_ERROR** | |
| **E_TEMPLATE_TEMPLATE_TYPE_NOT_FOUND** | |
| **E_TEMPLATE_INTERNAL_FAILURE** | |
| **E_TEMPLATE_INVALID_TYPE** | |
| **E_TEMPLATE_USE_NAME_OPTION** | |
| **E_TEMPLATE_SAME_NAME_EXISTS** | |

# template-management-template-get

[top]

Get the attributes of the template.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-** | | template-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | optional | present, only the desired attributes for which information is available will be returned. |
| **name** | | template-name | Name of the template |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | template-info | The attributes of the template-management. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# template-management-template-get-iter

[top]

Display information about templates.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | template-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | template-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the template-management object. All template-management objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | template-info[] optional | The list of attributes of template-management objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more template-management objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# template-management-template-parameter-get

[top]

Get the parameter of a Template.

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | template-parameter-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **name** | | string | Name of the parameter |
| **template** | | template-name | Name of the template |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | template-parameter-info | The attributes of the template-management. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# template-management-template-parameter-get-iter

[top]

Get the parameters of the Template.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | template-parameter-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | template-parameter-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the template-management object. All template-management objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | template-parameter-info[] optional | The list of attributes of template-management objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more template-management objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# template-management-template-parameter-modify

[top]

Modify attributes of a parameter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **default-value** | | string optional | Default value of the parameter |
| **name** | | string | Name of the parameter |
| **template** | | template-name | Name of the template |

| Errno | Description |
|---|---|
| **E_TEMPLATE_PERMISSION_DENIED** | |
| **E_TEMPLATE_INTERNAL_FAILURE** | |
| **E_TEMPLATE_CONST_MAX_LEN** | |
| **E_TEMPLATE_CONST_MAX_MIN_LEN** | |
| **E_TEMPLATE_CONST_ALLOW_VALS** | |
| **E_TEMPLATE_TYPE_CHECK_FAILED** | |

# template-management-template-parameter-modify-iter

[top]

Modify attributes of a parameter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | template-parameter-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple template-management objects match a given query. If set to true, the API will continue modifying the next matching template-management even when modification of a previous template-management fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching template-management even when the modification of a previous matching template-management fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | template-parameter-info | If modifying a specific template-management, this input element must specify all keys. If modifying template-management objects based on query, this input element must specify a query. |

| | | | |
|---|---|---|---|
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of template-management objects (just keys) that were not modified due to some error. If set to false, the list of template-management objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of template-management objects (just keys) that were successfully updated. If set to false, the list of template-management objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | template-management-template-parameter-modify-iter-info[] | Information about template-management objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching template-management objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of template-management objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of template-management objects that matched the query and were successfully updated. |
| **success-list** | | template-management-template-parameter-modify-iter-info[] | The template-management objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# template-management-template-provision

[top]

Configures a Vserver according to the specification provided in the template. This is an async operation. On a successful queuing of the import operation, a job ID of the job that would configure the Vserver would be returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **custom-inputs** | | custom-input-info[] optional | An array, one entry per each custom input. |
| **template** | | string | The name of the template. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer optional | The job id of the job that was queued to configure the Vserver. |

| | |
|---|---|
| | |

| Errno | Description |
| --- | --- |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

# template-management-template-provision-error-get

[top]

Get the Template Provision Error Details.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **desired-attributes** | | template-provision-error-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **jobid** | **[0..2^64-1]** | integer | Job ID |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **attributes** | | template-provision-error-info | The attributes of the template-management. |

| Errno | Description |
| --- | --- |
| **EINTERNALERROR** | |

# template-management-template-rename

[top]

Rename a template.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **name** | | string | Name of the template |
| **new-name** | | string | New name of the template. |

| Errno | Description |
| --- | --- |
| **EINTERNALERROR** | |
| **ETEMPLATENOTFOUND** | |
| **E_TEMPLATE_FILE_NOT_EXISTS** | |
| **E_TEMPLATE_NOT_SUPP_ON_RO_AND_SERVICE** | |
| **E_TEMPLATE_SUPP_ONLY_ON_TEMPLATES** | |
| **E_TEMPLATE_INTERNAL_FAILURE** | |
| **E_TEMPLATE_SAME_NAME_EXISTS** | |

# template-management-template-upload

[top]

Upload a template.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the template. |
| **uri** | | string | URI to upload the template. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **E_TEMPLATE_UPLOAD_FAILED** | |
| **E_TEMPLATE_FILE_NOT_EXISTS** | |
| **E_TEMPLATE_PROVIDE_DESTINATION_FILE_NAME** | |
| **E_TEMPLATE_CLUSTER_VERSION_NOT_SUPPORTED** | |

# Element definition: **custom-input-info**

[top]

| Name | Range | Type | Description |
|---|---|---|---|
| **key** | | string | Name of the attribute. |
| **value** | | string | Value of the attribute. |

# Element definition: **template-info**

[top]

When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | Description Attributes: non-creatable, non-modifiable |
| **missing-prerequisites** | | string optional | Missing Prerequesites Attributes: non-creatable, non-modifiable |
| **name** | | template-name optional | Name of the template Attributes: key, non-creatable, non-modifiable |
| **parent-template** | | string optional | Parent template name Attributes: non-creatable, non-modifiable |
| **permission** | | template-permission optional | Permission Attributes: non-creatable, non-modifiable Possible values:<br>• "readonly" - Read Only,<br>• "readwrite" - Read Write |
| **uuid** | | uuid | UUID of the template Attributes: non-creatable, non- |

| | | | |
|---|---|---|---|
| | | optional | modifiable |
| **version** | | string optional | Version Attributes: non-creatable, non-modifiable |

# Element definition: **template-management-template-parameter-modify-iter-info** [top]

Information about the modify operation that was attempted/performed against template-management object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **template-management-key** | | template-parameter-info | The keys for the template-management object to which the modify operation applies. |

# Element definition: **template-name** [top]

The name of the Template.

[none]

# Element definition: **template-parameter-info** [top]

Template Parameter Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **allowed-vals** | | string optional | Allowed values Attributes: non-creatable, non-modifiable |
| **default-value** | | string optional | Default value of the parameter Attributes: non-creatable, modifiable |
| **max-length** | **[0..2^32-1]** | integer optional | Maximum length Attributes: non-creatable, non-modifiable |
| **name** | | string optional | Name of the parameter Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **permission** | | string optional | Template permission Attributes: non-creatable, non-modifiable |
| **range-max** | **[0..2^32-1]** | integer optional | Maximum range Attributes: non-creatable, non-modifiable |
| **range-min** | **[0..2^32-1]** | integer optional | Minumum range Attributes: non-creatable, non-modifiable |
| **recommended-value** | | string optional | Recommended value of the parameter Attributes: non-creatable, non-modifiable |
| **template** | | template-name optional | Name of the template Attributes: key, non-creatable, non-modifiable |
| **type** | | string optional | Type of the parameter Attributes: non-creatable, non-modifiable |

# Element definition: **template-provision-error-info**

[top]

Template Provision Errors When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **failure-errornum** | **[0..2^32-1]** | integer optional | Failure Error Number Attributes: non-creatable, non-modifiable |
| **failure-reason** | | string optional | Failure Reason Attributes: non-creatable, non-modifiable |
| **input-params** | | string[] optional | Input Parameters Attributes: non-creatable, non-modifiable |
| **jobid** | **[0..2^64-1]** | integer optional | Job ID Attributes: key, non-creatable, non-modifiable |

# Element definition: **template-name**

[top]

The name of the Template.

[none]

# Element definition: **template-permission**

[top]

template_permission Possible values:

- "readonly" - Read Only,
- "readwrite" - Read Write

[none]

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# APIs in Category: **ucm**


ucm-adapter-get
ucm-adapter-get-iter
ucm-adapter-modify


UCM provides a management framework to manage configurations of all Fibre Channel (FC) adapters and Converged Network Adapters (CNA) under Data ONTAP. Some adapters with dual operational modes can be configured into either FC or CNA modes. When configured as a CNA, the adapter can concurrently support Ethernet and Fibre Channel over Ethernet (FCoE). When configured as an FC adapter, the adapter only supports native FC. Not all adapters support both modes. Under FC or FCoE, Data ONTAP supports two different functions or FC-4 types: initiator, or target. The initiator type can be used for FC storage loops, FC TapeSAN, and OPR functionality. The target type can be used for SAN attach (FCP/Blocks access) functionality. To modify the configuration of an adapter, use the ucm-adapter-modify API.

## ucm-adapter-get

[top]

Get the attributes of the UC Adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | Adapter |
| **desired-attributes** | | uc-adapter-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | uc-adapter-info | The attributes of the UC Adapter. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## ucm-adapter-get-iter

[top]

Iterate over a list of UC Adapter objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | uc- | Specify the attributes that should be returned. If not present, all |

| | | | |
|---|---|---|---|
| **desired-attributes** | | adapter-info optional | attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | uc-adapter-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the UC Adapter object. All UC Adapter objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | uc-adapter-info[] optional | The list of attributes of UC Adapter objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more UC Adapter objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## ucm-adapter-modify

[top]

Modify the attributes of UC Adapter object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | Adapter |
| **fc4-type** | | ucm-type optional | Configured Type |
| **mode** | | ucm-mode optional | Configured Mode |
| **node-name** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **uc-adapter-info**

[top]

Information for one UC Adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string optional | Adapter Attributes: key, non-creatable, non-modifiable |
| **fc4-type** | | ucm-type optional | Current Type Attributes: non-creatable, non-modifiable Possible values:<br>• "initiator" - Initiator mode,<br>• "target" - Target mode,<br>• "fcvi" - Fcvi mode |
| **mode** | | ucm-mode optional | Current Mode Attributes: non-creatable, non-modifiable Possible values:<br>• "fc" - Fibre Channel,<br>• "cna" - Converged Network Adapter |
| **node-name** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **pending-fc4-type** | | ucm-type optional | Pending Type Attributes: non-creatable, non-modifiable Possible values:<br>• "initiator" - Initiator mode,<br>• "target" - Target mode,<br>• "fcvi" - Fcvi mode |
| **pending-mode** | | ucm-mode optional | Pending Mode Attributes: non-creatable, non-modifiable Possible values:<br>• "fc" - Fibre Channel,<br>• "cna" - Converged Network Adapter |
| **status** | | string optional | Administrative Status Attributes: non-creatable, non-modifiable |
| **supported-fc4-type-for-cna-mode** | | ucm-type[] optional | Supported CNA Types Attributes: non-creatable, non-modifiable Possible values:<br>• "initiator" - Initiator mode,<br>• "target" - Target mode,<br>• "fcvi" - Fcvi mode |
| | | | Supported FC Types Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **supported-fc4-type-for-fc-mode** | | ucm-type[] optional | • "initiator" - Initiator mode,<br>• "target" - Target mode,<br>• "fcvi" - Fcvi mode |
| **supported-mode** | | ucm-mode[] optional | Supported Modes Attributes: non-creatable, non-modifiable Possible values:<br>• "fc" - Fibre Channel,<br>• "cna" - Converged Network Adapter |

# Element definition: **ucm-mode**

[top]

The operational mode of the adapter. Possible values:

- "fc" - Fibre Channel,
- "cna" - Converged Network Adapter

[none]

# Element definition: **ucm-type**

[top]

The FC-4 type of the adapter. Possible values:

- "initiator" - Initiator mode,
- "target" - Target mode,
- "fcvi" - Fcvi mode

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# APIs in Category: **useradmin**


useradmin-domainuser-add
useradmin-domainuser-delete
useradmin-domainuser-list
useradmin-group-add
useradmin-group-delete
useradmin-group-list
useradmin-group-modify
useradmin-role-add
useradmin-role-delete
useradmin-role-list
useradmin-role-modify
useradmin-user-add
useradmin-user-delete
useradmin-user-list
useradmin-user-modify
useradmin-user-modify-password


## useradmin-domainuser-add

[top]

Adds a nonlocal user into a group or groups. The user can be added as a SID or as domain\username. This API is only used in a windows environment.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **user-identifier** | | string | Name of the user in domain\username format. This can also be a SID (Windows security identifier) describing a user. A SID has the format S-1-5-21-int-int-int-rid. |
| **useradmin-groups** | | useradmin-group-info[] | List of local groups to contain the domain user. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EONTAPI_EPERM** | |
| **ECIFSNOTCONFIGURED** | |

| Vfiler-enabled |
|---|
| **Yes** |

## useradmin-domainuser-delete

[top]

Removes a nonlocal user from a group or groups. The user can be removed as a SID or as domain\username. This API is only used in a windows environment.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **user-identifier** | | string | Name of the user in domain\username format. This can also be a SID (Windows security identifier) describing a user. A SID has the format S-1-5-21-int-int-int-rid. |
| **useradmin-groups** | | useradmin-group-info[] | Remove the SID from this list of local groups. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EONTAPI_EPERM** | |
| **ECIFSNOTCONFIGURED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# useradmin-domainuser-list

[top]

List all of the SIDs in a given group. This API is only used in a windows environment.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | string | List only the SIDs in this group. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **user-identifiers** | | sid[] | List of SID's inside of the group. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EONTAPI_EPERM** | |
| **ECIFSNOTCONFIGURED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# useradmin-group-add

[top]

Adds a group given the information provided.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **useradmin-group** | | useradmin-group-info | New group information. A group must have a name and at least one role. A comment is also allowed. All other fields are ignored. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
| --- |
| Yes |

## useradmin-group-delete

[top]

Deletes a group.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| group-name | | string | The name of the group to be deleted. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

## useradmin-group-list

[top]

Lists full information for all groups on the system.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| group-name | | string optional | List only the information associated with this group. |
| verbose | | boolean optional | Default is false. If set to true, then the allowed capabilities are placed into the group-info structure. Depending on number of groups and roles, this operation may take a long time. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| useradmin-groups | | useradmin-group-info[] | List of groups and information associated with them. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

## useradmin-group-modify

[top]

Modifies a group given the information provided.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| | | | |

| | | | |
|---|---|---|---|
| **new-group-name** | | string optional | New group name for this group. This is used to rename the group specified in useradmin-group. If this value is invalid, useradmin-group-modify fails without changing anything. The value is optional, and if not provided, the group name will be unchanged. |
| **useradmin-group** | | useradmin-group-info | A group must have a name. If one or more roless and/or a comment is provided, the group is modified accordingly. All other fields are ignored. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# useradmin-role-add

[top]

Adds a role given the information provided.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **useradmin-role** | | useradmin-role-info | New role information. A role must have a name and at least one allowed capability. A role-info comment is also allowed. All other fields are ignored. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# useradmin-role-delete

[top]

Deletes a role.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **role-name** | | string | The name of the role to be deleted. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# useradmin-role-list

[top]

Lists full information for all roles on the system.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **role-name** | | string<br>optional | List only the information associated with this role. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **useradmin-roles** | | useradmin-role-info[] | List of roles and information associated with them. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# useradmin-role-modify

[top]

Modifies a role given the information provided.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **useradmin-role** | | useradmin-role-info | A role must have a name. If one or more capabilities and/or a comment is provided, the role is modified accordingly. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# useradmin-user-add

[top]

Adds a user given the information provided.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **password** | | string | Password for the user. Please see documentation for constraints on the password. |
| **useradmin-user** | | useradmin-user-info | New user information. A user must have a name and at least one group. A comment and full-name are also allowed. All other fields are ignored. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDPASSWORD** | |

| Vfiler-enabled |
|---|
| **Yes** |

# useradmin-user-delete

[top]

Deletes a user.

| Input Name | Range | Type | Description |
|---|---|---|---|
| user-name | | string | The name of the user to be deleted. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

| Vfiler-enabled |
|---|
| Yes |

# useradmin-user-list

[top]

Lists information for all administrative users on the system with the exception of root and snmp.

| Input Name | Range | Type | Description |
|---|---|---|---|
| group-name | | string optional | List only the users which are a part of this group. This option must be left empty if the option "user-name" contains a value. |
| user-name | | string optional | List only the information associated with this user. This option must be left empty if the option "group-name" contains a value. |
| verbose | | boolean optional | Default is false. If set to true, then the allowed capabilities are placed into the user-info structure. Depending on number of users, groups, and roles; this operation may take a long time. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| useradmin-users | | useradmin-user-info[] | List of users and information associated with them. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

| Vfiler-enabled |
|---|
| Yes |

# useradmin-user-modify

[top]

Modifies a user given the information provided.

| Input Name | Range | Type | Description |
|---|---|---|---|
| useradmin- | | useradmin- | A user must have a name. If one or more groups a comment and/or a full-name is provided, the user is modified accordingly. All other fields |

| | | | |
|---|---|---|---|
| **user** | | user-info | are ignored. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

## useradmin-user-modify-password

[top]

Changes the password of a specified user.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-password** | | string | New password for the user. Please see documentation for constraints on the password. |
| **old-password** | | string optional | Current password for the user. A user with the capability 'security-passwd-change-others' and at least the same capabilities as the user being changed, does not need to enter the current password in order to change it to a new one. |
| **user-name** | | string | The user who's password should be changed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDPASSWORD** | |
| **EONTAPI_EPERM** | |

| Vfiler-enabled |
|---|
| **Yes** |

## Element definition: **sid**

[top]

Windows security identifier describing a user. A SID has the format S-1-5-21-int-int-int-rid.

[none]

## Element definition: **useradmin-group-info**

[top]

Structure containing information pertaining to a group.

| Name | Range | Type | Description |
|---|---|---|---|
| **allowed-capabilities** | | useradmin-capability-info[] optional | List of capabilities the group is allowed. |

| | | | |
|---|---|---|---|
| **comment** | | string optional | Comment for the group. |
| **name** | | string | Name of the group. |
| **rid** | | string optional | Unique relative identifier (per domain) for this group. (Used only for Windows.) |
| **useradmin-roles** | | useradmin-role-info[] optional | List of roles this group contains. The only included entry in this structure is the name field. For full role information user useradmin-role-list. |

# Element definition: **useradmin-role-info**

[top]

Structure containing information pertaining to a role.

| Name | Range | Type | Description |
|---|---|---|---|
| **allowed-capabilities** | | useradmin-capability-info[] optional | List of capabilities the role is allowed. |
| **comment** | | string optional | Comment for the role. |
| **name** | | string | Name of the role. |

# Element definition: **useradmin-user-info**

[top]

Structure containing information pertaining to a user.

| Name | Range | Type | Description |
|---|---|---|---|
| **allowed-capabilities** | | useradmin-capability-info[] optional | List of capabilities the user is allowed. |
| **comment** | | string optional | Comment for the user. This is only set if the user has a comment. |
| **full-name** | | string optional | Full name of the user. (Used only for Windows.) This is only set if the user has a full-name. |
| **name** | | string | Name of the user. |
| **password-maximum-age** | | integer optional | Number of days that this user's password can be active before the user must change it. Default value is 2^31-1 days. |
| **password-minimum-age** | | integer optional | Number of days that this user's password must be active before the user can change it. Default value is 0. |
| **rid** | | string optional | Unique relative identifier (per domain) for this user. (Used only for Windows.) |
| **status** | | string optional | Current status of the user account. This element cannot be used as an input. It is used as an output for useradmin-user-list. Possible values: "enabled", "disabled", or "expired". |
| **useradmin-groups** | | useradmin-group-info[] | List of groups this user is part of. The only included entry in this structure is the name field. For full group information user useradmin-group-list. |

# Element definition: **useradmin-capability-info**

[top]

Capability to run a command or commands on the filer.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the capability Possible values include: "*", "login-*", "cli-*", "api-*", "security-*"... Instead of "*", commands and subcommands can be specified directly. Please see man page or other documentation for more details. |

# Element definition: **useradmin-group-info**

[top]

Structure containing information pertaining to a group.

| Name | Range | Type | Description |
|---|---|---|---|
| **allowed-capabilities** | | useradmin-capability-info[] optional | List of capabilities the group is allowed. |
| **comment** | | string optional | Comment for the group. |
| **name** | | string | Name of the group. |
| **rid** | | string optional | Unique relative identifier (per domain) for this group. (Used only for Windows.) |
| **useradmin-roles** | | useradmin-role-info[] optional | List of roles this group contains. The only included entry in this structure is the name field. For full role information user useradmin-role-list. |

# Element definition: **useradmin-role-info**

[top]

Structure containing information pertaining to a role.

| Name | Range | Type | Description |
|---|---|---|---|
| **allowed-capabilities** | | useradmin-capability-info[] optional | List of capabilities the role is allowed. |
| **comment** | | string optional | Comment for the role. |
| **name** | | string | Name of the role. |

# Element definition: **useradmin-capability-info**

[top]

Capability to run a command or commands on the filer.

| Name | Range | Type | Description |
| --- | --- | --- | --- |
| **name** | | string | Name of the capability Possible values include: "*", "login-*", "cli-*", "api-*", "security-*"... Instead of "*", commands and subcommands can be specified directly. Please see man page or other documentation for more details. |

# APIs in Category: **virtual-machine**


virtual-machine-get-info
virtual-machine-maintenance-event-acknowlege
virtual-machine-maintenance-event-get
virtual-machine-maintenance-event-get-iter
virtual-machine-system-disks-get-iter
vm-disk-object-store-create
vm-disk-object-store-destroy
vm-disk-object-store-dns-cache-create
vm-disk-object-store-dns-cache-destroy
vm-disk-object-store-dns-cache-get-iter
vm-disk-object-store-dns-cache-modify
vm-disk-object-store-get-iter
vm-disk-object-store-modify
vm-network-load-balancer-get-iter


## virtual-machine-get-info

[top]

Retrieve virtual machine instance information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vm-instance-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | The name of the node. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vm-instance-info | The attributes of the virtual-machine. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSAPLATFORMNOTSUPPORTED** | |
| **EVSAVMINFOACCESSERROR** | |

## virtual-machine-maintenance-event-acknowlege

[top]

Acknowlege that the system is ready for the event to start

| Input Name | Range | Type | Description |
|---|---|---|---|
| **event-id** | | string | Event ID |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# virtual-machine-maintenance-event-get

[top]

Retrieve virtual machine instance maintenance event information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vm-instance-maintenance-event optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **event-id** | | string | A cloud provider-supplied unique event ID for this virtual machine maintenance event, for example 2831c724-97ca-4395-b8d3-a65c2a65b502. |
| **node** | | filer-id | The name of the node. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vm-instance-maintenance-event | The attributes of the virtual-machine. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# virtual-machine-maintenance-event-get-iter

[top]

Retrieve virtual machine instance maintenance event information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vm-instance-maintenance-event optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vm-instance-maintenance-event optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the virtual-machine object. All virtual-machine objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next- |

| | | | |
|---|---|---|---|
| | | | tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vm-instance-maintenance-event[] optional | The list of attributes of virtual-machine objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more virtual-machine objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# virtual-machine-system-disks-get-iter

[top]

Retrieve Cloud Volumes ONTAP virtual machine system disks details.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | virtual-machine-system-disks-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | virtual-machine-system-disks-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the virtual-machine-system-disks object. All virtual-machine-system-disks objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | virtual-machine-system-disks-info[] optional | The list of attributes of virtual-machine-system-disks objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more virtual-machine-system-disks objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| | |
|---|---|
| **EVSAPLATFORMNOTSUPPORTED** | |
| **EVSAVMINFOACCESSERROR** | |

# vm-disk-object-store-create

[top]

Define the configuration for an object store.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **azure-account** | | string | Azure Storage Account. |
| **azure-private-key** | | string | Azure Storage Account Access Key. |
| **container-name** | | string | Container Name. |
| **node** | | filer-id | ONTAP Node Name. |
| **object-store-name** | | object-store-name | ONTAP Name for this Object Store Config. |
| **port** | **[0..65535]** | integer | Port Number of the Object Store. |
| **server** | | string | Fully Qualified Domain Name of the Object Store Server. |
| **update-partner** | | boolean optional | Required parameter when the system is running in an HA configuration. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSAPLATFORMNOTSUPPORTED** | |
| **EVSAOBJECTSTOREDUPLICATE** | |
| **EVSAOBJECTSTORENAMETOOLONG** | |
| **EVSAOBJECTSTORENAMETOOSHORT** | |
| **EVSAOBJECTSTORENAMENOTVALID** | |
| **EVSAOBJECTSTORENAMEINVALIDFIRSTCHAR** | |
| **EVSAOBJECTSTORENAMEINUSE** | |
| **EVSAREQUPDATEPARTNER** | |
| **EVSANOPARTNERNAME** | |
| **EVSAINVALIDOPTIONUPDATEPARTNER** | |
| **EVSAOBJECTSTORECONFIGSYNC** | |
| **E_OBJSTORE_CLIENT_OPERATION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_SERVER_ERROR** | |
| **E_OBJSTORE_CLIENT_CONNECTION_ERROR** | |
| **E_OBJSTORE_CLIENT_INTERNAL_ERROR** | |
| **E_OBJSTORE_CLIENT_ACCESS_DENIED** | |
| **E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED** | |
| **E_OBJSTORE_CLIENT_DNS_NOT_FOUND** | |
| **E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_NO_SUCH_BUCKET** | |
| **E_OBJSTORE_CLIENT_STORE_INACCESSIBLE** | |
| **E_OBJSTORE_CLIENT_OTHER** | |

# vm-disk-object-store-destroy

[top]

Deletes the disk object store.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | filer-id | ONTAP Node Name. |
| **object-store-name** | | object-store-name | ONTAP Name for this Object Store Config. |
| **update-partner** | | boolean<br>optional | Update HA Partner |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSAPLATFORMNOTSUPPORTED** | |
| **EVSAREQUPDATEPARTNER** | |
| **EVSANOPARTNERNAME** | |
| **EVSAINVALIDOPTIONUPDATEPARTNER** | |

# vm-disk-object-store-dns-cache-create

[top]

Add a DNS mapping to the cache.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hostname** | | string | Hostname of the Object Store Server. |
| **ipaddress** | | ip-address | IP Address of the Object Store Server. |
| **node** | | filer-id | The name of the Node. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSAPLATFORMNOTSUPPORTED** | |

# vm-disk-object-store-dns-cache-destroy

[top]

Delete a DNS mapping from the cache.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hostname** | | string | Hostname of the Object Store Server. |
| **node** | | filer-id | The name of the Node. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSAPLATFORMNOTSUPPORTED** | |

# vm-disk-object-store-dns-cache-get-iter

[top]

Iterate over the list of cached DNS mappings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vm-disk-object-store-dns-cache-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vm-disk-object-store-dns-cache-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vm-disk-object-store-dns-cache object. All vm-disk-object-store-dns-cache objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vm-disk-object-store-dns-cache-info[] optional | The list of attributes of vm-disk-object-store-dns-cache objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vm-disk-object-store-dns-cache objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# vm-disk-object-store-dns-cache-modify

[top]

Modify a DNS mapping in the cache.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hostname** | | string | Hostname of the Object Store Server. |
| **ipaddress** | | ip-address | IP Address of the Object Store Server. |
| **node** | | filer-id | The name of the Node. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EVSAPLATFORMNOTSUPPORTED | |

# vm-disk-object-store-get-iter

[top]

Iterate over the list of object store configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | vm-disk-object-store-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | vm-disk-object-store-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vm-disk-object-store object. All vm-disk-object-store objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | vm-disk-object-store-info[] optional | The list of attributes of vm-disk-object-store objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more vm-disk-object-store objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# vm-disk-object-store-modify

[top]

Modify the configuration of an object store.

| Input Name | Range | Type | Description |
|---|---|---|---|
| azure-private- | | string | Azure Storage Account Access Key. |

| | | | |
|---|---|---|---|
| **key** | | optional | |
| **node** | | filer-id | ONTAP Node Name. |
| **object-store-name** | | object-store-name | ONTAP Name for this Object Store Config. |
| **server** | | string optional | Fully Qualified Domain Name of the Object Store Server. |
| **update-partner** | | boolean optional | Required parameter when the system is running in an HA configuration. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSAPLATFORMNOTSUPPORTED** | |
| **EVSAREQUPDATEPARTNER** | |
| **EVSANOPARTNERNAME** | |
| **EVSAINVALIDOPTIONUPDATEPARTNER** | |
| **E_OBJSTORE_CLIENT_OPERATION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_SERVER_ERROR** | |
| **E_OBJSTORE_CLIENT_CONNECTION_ERROR** | |
| **E_OBJSTORE_CLIENT_INTERNAL_ERROR** | |
| **E_OBJSTORE_CLIENT_ACCESS_DENIED** | |
| **E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED** | |
| **E_OBJSTORE_CLIENT_DNS_NOT_FOUND** | |
| **E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_NO_SUCH_BUCKET** | |
| **E_OBJSTORE_CLIENT_STORE_INACCESSIBLE** | |
| **E_OBJSTORE_CLIENT_OTHER** | |

# vm-network-load-balancer-get-iter

[top]

Retrieve network load balancer information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vm-network-load-balancer-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vm-network-load-balancer-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the virtual-machine object. All virtual-machine objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vm-network-load-balancer-info[] optional | The list of attributes of virtual-machine objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more virtual-machine objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSAPLATFORMNOTSUPPORTED** | |

# Element definition: **filer-id**

[top]

Filer UUID

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **object-store-name**

[top]

Name of the object store

[none]

# Element definition: **virtual-machine-system-disks-info**

[top]

Cloud Volumes ONTAP virtual machine system disks. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name optional | The name of the node. Attributes: key, required-for-create, non-modifiable |
| **vmdisk-bus-target-lun-id** | | string optional | Bus-Target-LUN ID for the disk. Attributes: non-creatable, non-modifiable |
| **vmdisk-capacity** | | string optional | Size of the system disk Attributes: non-creatable, non-modifiable |
| **vmdisk-file-name** | | string optional | File name of the system disk used by the hypervisor. Attributes: non-creatable, non-modifiable |
| **vmdisk-id** | | string optional | System Disk ID. Attributes: non-creatable, non-modifiable |
| **vmdisk-info** | | string optional | Platform-specific disk information. Attributes: non-creatable, non-modifiable |
| **vmdisk-purpose** | | string optional | Purpose of the System Disk - Boot, NVRAM or Core. Attributes: key, required-for-create, non-modifiable |
| **vmdisk-type** | | string optional | Type of the system disk - VMDISK or SSD. Attributes: non-creatable, non-modifiable |

# Element definition: **vm-disk-object-store-dns-cache-info**

[top]

VM Disk Object Store DNS Cache. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **hostname** | | string optional | Hostname of the Object Store Server. Attributes: key, required-for-create, non-modifiable |
| **ipaddress** | | ip-address optional | IP Address of the Object Store Server. Attributes: required-for-create, modifiable |
| **lookup-** | | datetime | Last time a DNS lookup was performed. Attributes: non-creatable, non- |

| | | | |
|---|---|---|---|
| **time** | | optional | modifiable |
| **node** | | filer-id optional | The name of the Node. Attributes: key, required-for-create, non-modifiable |

# Element definition: **vm-disk-object-store-info**

[top]

VM Disk Object Store Configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **alive** | | boolean optional | Is Server Alive. Attributes: non-creatable, non-modifiable |
| **azure-account** | | string optional | Azure Storage Account. Attributes: required-for-create, non-modifiable |
| **container-name** | | string optional | Container Name. Attributes: required-for-create, non-modifiable |
| **node** | | filer-id optional | ONTAP Node Name. Attributes: key, required-for-create, non-modifiable |
| **object-store-name** | | object-store-name optional | ONTAP Name for this Object Store Config. Attributes: key, required-for-create, non-modifiable |
| **port** | **[0..65535]** | integer optional | Port Number of the Object Store. Attributes: required-for-create, non-modifiable |
| **server** | | string optional | Fully Qualified Domain Name of the Object Store Server. Attributes: required-for-create, modifiable |
| **update-partner** | | boolean optional | Required parameter when the system is running in an HA configuration. Attributes: optional-for-create, modifiable |

# Element definition: **vm-instance-info**

[top]

Virtual machine instance information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **account-id** | | string optional | The cloud provider-associated account ID for this virtual machine, for example 122047257761. This parameter is usually associated with a cloud provider login ID and password. Attributes: non-creatable, non-modifiable |
| **automatic-restart** | | string optional | Automatic restart policy setting. Attributes: non-creatable, non-modifiable |
| **availability-zone** | | string optional | A distinct location within a region that is insulated from failures in other availability zones. It provides low-latency network connectivity to other availability zones in the same region. A typical availability zone name might be us-east-1d which would reside within the us-east-1 region. Attributes: non-creatable, non-modifiable |
| **cpu-platform** | | string optional | CPU platform of the instance Attributes: non-creatable, non-modifiable |
| **fault-domain** | **[0..2^32-1]** | integer optional | A cloud provider-assigned numerical fault domain ID for this virtual machine within an Availability Set. Attributes: non-creatable, non-modifiable |
| **image-id** | | string optional | The image ID installed on this virtual machine instance, for example ami-26bahc7c. It identifies a pre-defined template of a computing device's software environment. It contains the operating system and can also include application software, such as database servers, middleware, and web servers. In this case, the ID refers to an image that contains everything required to run Data ONTAP in the cloud. Attributes: non-creatable, non-modifiable |
| **instance-id** | | string optional | A cloud provider-supplied unique instance ID for this virtual machine, for example i-a9d42f89 or db00a7755a5e4e8a8fe4b19bc3b330c3.1 Attributes: non-creatable, non-modifiable |
| **instance-type** | | string optional | A specification (as defined by the cloud provider) that defines the memory, CPU, storage capacity and usage cost for a virtual machine instance. Some intance types are designed for standard applications, whereas others are designed for CPU-intensive or memory-intensive applications and so on. m3.xlarge is an example of an instance-type. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | The name of the node. Attributes: key, non-creatable, non-modifiable |
| **offer** | | string optional | A Marketplace is an online store that offers applications and services either built on or designed to integrate with a particular cloud provider. A virtual machine offer corresponds to a class of product offering from a publisher. An offer is a collection of SKUs. Every offer appears as its own entity in the provider Marketplace. Attributes: non-creatable, non-modifiable |
| **on-host-maintenance** | | string optional | VM Policy setting when hypervisor host maintenance occurs. Attributes: non-creatable, non-modifiable |
| **primary-ip** | | string optional | The primary IP address assigned to this virtual machine instance, e.g. 192.168.0.1. Attributes: non-creatable, non-modifiable |
| **provider** | | string optional | The Provider on which this instance is running. Attributes: non-creatable, non-modifiable |
| **region** | | string optional | A named set of resources in the same geographical area. For example us-east-1 might be the name for a collection of compute and storage resources on the eastern coast of the United States. Typically a region contains multiple availability zones. Attributes: non-creatable, non-modifiable |
| **resource-group-name** | | string optional | Resource group for the instance. Attributes: non-creatable, non-modifiable |
| | | | A SKU is the smallest purchasable unit of an offer. While within the |

| | | | |
|---|---|---|---|
| **sku** | | string optional | same product. class (offer), SKUs allow you to differentiate between different features supported, VM image types and billing models supported. Attributes: non-creatable, non-modifiable |
| **sku-version** | | string optional | The version for this virtual machine SKU. Attributes: non-creatable, non-modifiable |
| **update-domain** | **[0..2^32-1]** | integer optional | A cloud provider-assigned numerical update domain ID for this virtual machine within an Availability Set. Attributes: non-creatable, non-modifiable |
| **version** | | string optional | The instance metadata version of this virtual machine instance. Attributes: non-creatable, non-modifiable |

# Element definition: **vm-instance-maintenance-event**

[top]

Virtual machine instance maintenance event. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **event-id** | | string optional | A cloud provider-supplied unique event ID for this virtual machine maintenance event, for example 2831c724-97ca-4395-b8d3-a65c2a65b502. Attributes: key, non-creatable, non-modifiable |
| **event-status** | | maint-event-status optional | Scheduled or Started. Attributes: non-creatable, non-modifiable Possible values:<br>• "scheduled" ,<br>• "started" |
| **event-type** | | maint-event-type optional | Freeze, Reboot, or Redeploy. Attributes: non-creatable, non-modifiable Possible values:<br>• "freeze" ,<br>• "reboot" ,<br>• "redeploy" |
| **node** | | filer-id optional | The name of the node. Attributes: key, non-creatable, non-modifiable |
| **not-before-time** | | datetime optional | The event will not start before the indicated time, for example: Mon, 19 Sep 2018 18:29:47 GMT. Attributes: non-creatable, non-modifiable |

# Element definition: **vm-network-load-balancer-info**

[top]

Network load balancer information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired

attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **active** | | boolean optional | Network load balancer is actively receiving health probe requests on this TCP port. Attributes: non-creatable, non-modifiable |
| **last-probe-time** | | datetime optional | The timestamp of the most recent health probe request on this TCP port. Attributes: non-creatable, non-modifiable |
| **lif-id** | **[0..2^32-1]** | integer optional | ONTAP LIF ID. Attributes: key, non-creatable, non-modifiable |
| **lif-name** | | string optional | ONTAP LIF Name. Attributes: non-creatable, non-modifiable |
| **node** | | filer-id optional | The name of the node. Attributes: key, required-for-create, non-modifiable |
| **probe-port** | **[0..65535]** | integer optional | A TCP port which is regularly probed by the network load balancer. When the TCP port is healthy and open, the network load balancer will continue sending traffic to an associated network route. When unhealthy, the network load balancer will redirect all traffic intended for this route to an alternate route. Attributes: non-creatable, non-modifiable |
| **remove-listener** | | boolean optional | Whether or not ONTAP has programmatically told the netwwork load balancer to stop listening on the health probe associated with this LIF. Attributes: non-creatable, non-modifiable |
| **vserver-name** | | string optional | Vserver Name. Attributes: non-creatable, non-modifiable |

# Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **filer-id** [top]

Filer UUID

[none]

# Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

## Element definition: **maint-event-status**

[top]

Cloud provider maintenance event status Possible values:

- "scheduled" ,
- "started"

[none]

## Element definition: **maint-event-type**

[top]

Cloud provider maintenance event types Possible values:

- "freeze" ,
- "reboot" ,
- "redeploy"

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **object-store-name**

[top]

Name of the object store

[none]

# APIs in Category: **volume**


volume-add
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volume-mirror
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volume-modify-iter-async
volume-mount
volume-move-get-iter
volume-move-pause

volume-move-resume
volume-move-start
volume-move-target-aggr-get-iter
volume-move-trigger-abort
volume-move-trigger-cutover
volume-offline
volume-offline-async
volume-online
volume-online-async
volume-options-list-info
volume-rehost
volume-rename
volume-rename-async
volume-restrict
volume-restrict-async
volume-scrub-list-info
volume-scrub-resume
volume-scrub-start
volume-scrub-stop
volume-scrub-suspend
volume-set-language
volume-set-option
volume-set-total-files
volume-size
volume-size-async
volume-space-get-iter
volume-split
volume-tiering-policies-list
volume-transition-check
volume-transition-prepare-to-downgrade
volume-transition-protect
volume-unmount
volume-verify-list-info
volume-verify-resume
volume-verify-start
volume-verify-stop
volume-verify-suspend
volume-wafl-info

# volume-add

[top]

Adds disks to the given traditional volume. Specify the disks to add in the same way as for 'volume-create'. Disks cannot be added to a mirrored traditional volume if one of its plexes is offline. Addition of the specified disk(s) may not have completed by the time the API returns. Use 'volume-list-info' to query the traditional volume's status, and thus determine when the disk addition is complete. It is not possible to add disks directly to a flexible volume; if that is the goal, then consider using 'volume-container' to find the flexible volume's containing aggregate, then use 'aggr-add' to add the desired disks there (which, of course, will make their storage available to all flexible volumes contained in that same aggregate).

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **disk-count** | | integer optional | Number of disks to add, including parity disks. The disks will come from the spare pool. The smallest disks in the spare pool join the volume first, unless "disk-size" is specified as an argument. Range : [0..2^31-1]. |
| **disk-size** | | integer optional | The disk size in 4KB blocks. Disks that are within approximately 20% of the specified size are selected for use in the traditional volume. If neither the "disk-size" nor the "disk-size-with-unit" is specified, the smallest disks in the spare pool join the traditional volume first. This option is ignored if a specific list of disks to use is provided via the "disks" argument. Range : [0..2^63-1]. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned. |
| **disk-size-with-unit** | | string optional | The disk size in specified unit. It is a positive integer number followed by unit of "T", "G", "M" or "K". This option is ignored if a specific list of disks to use is provided via the "disks" argument. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned. |
| **disks** | | disk-info[] optional | Specific list of disks to add to the traditional volume. If the traditional volume is mirrored and a specific disk list is supplied, another list ("mirror-disks") must also be supplied with the same number of disks. |
| **force** | | boolean optional | Disks in a plex are not permitted to span spare spare pools. This behavior is overridden with this option when it is set to "true". |
| **mirror-disks** | | disk-info[] optional | Specific list of mirror disks needed to accompany the list in the "disks" argument. This list must contain the same number of disks specified in "disks". |
| **raid-group** | | string optional | Specifies the RAID group (for example, 'rg0') to which the indicated disks are to be added. When a RAID group other than the last RAID group is specified, the traditional volume can no longer be reverted to a version of ONTAP prior to 6.2. In such a case, the "force" option must be specified as well. By default, the filer fills up one RAID group with disks before starting another RAID group. Suppose a traditional volume currently has one RAID group of 12 disks and its RAID group size is 14. If you add 5 disks to this traditional volume, it will have one RAID group with 14 disks and another RAID group with 3 disks. The filer does not evenly distribute disks among RAID groups. |
| **volume** | | string | Name of the traditional volume to which disks are to be added. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **bad-disks** | | disk-info[] optional | List of disks that were not added. This is only returned if there are bad disks. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMERGINVALID** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMEDISKSIZEINVALID** | |
| **EVOLUMEDISKDUP** | |
| **EDISKTYPEWRONGFORVOL** | |

# volume-autosize-get

[top]

Given the name of a volume, get the autosize settings. This API is not supported for Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | The name of the volume for which we want to get autosize. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **grow-threshold-percent** | | integer optional | The threshold capacity percentage at which the volume automatically grows. Range : [0..100] |
| **increment-size** | | string optional | The increment size by which the volume would be grown, in kbytes. |
| **is-enabled** | | boolean | This element is deprecated in Data ONTAP 8.2 and later. Please use autosize-mode instead. When this parameter is 'true', the 'grow' autosize mode is in effect, while 'false' means that the autosize mode to 'off'. |
| **maximum-size** | | string | The maximum size to which the volume would be grown automatically, in kbytes. |
| **minimum-size** | | string optional | The minimum size to which the volume would be shrunk automatically, in kbytes. |
| **mode** | | string optional | The operating mode of autosize. Valid values are "grow", "grow_shrink", and "off". |
| **shrink-threshold-percent** | | integer optional | The threshold capacity percentage at which the volume automatically shrinks. Range : [0..100] |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-autosize-set

[top]

Given the name of a volume, set the autosize settings. This API is not supported for FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **grow-threshold-percent** | | integer optional | Specifies the percentage of the flexible volume's capacity at which autogrow is initiated. The default grow threshold varies from 85% to 98%, depending on the volume size. It is an error for the grow threshold to be less than or equal to the shrink threshold. Range : [0..100] |
| **increment-** | | string | Specify the flexible volume's increment size using the following format < number > [k\|m\|g\|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', |

| | | | |
|---|---|---|---|
| **size** | | optional | 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value of increment size is 5%. |
| **is-enabled** | | boolean optional | This element is deprecated in Data ONTAP 8.2 and later. Please use autosize-mode instead. Setting this parameter to 'true' enables the 'grow' mode, while setting it to 'false' disables autosize and sets the autosize mode to 'off'. The default value is 'false'. |
| **maximum-size** | | string optional | Specify the flexible volume's maximum allowed size using the following format < number > [k\|m\|g\|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value is 20% greater than the volume size at the time autosize was enabled. It is an error for the maximum volume size to be less than the current volume size. It is also an error for the maximum size to be less than or equal to the minimum size. |
| **minimum-size** | | string optional | Specify the flexible volume's minimum allowed size using the following format < number > [k\|m\|g\|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value is the size of the volume at the time the 'grow_shrink' mode was enabled. It is an error for the minimum size to be greater than or equal to the maximum size. |
| **mode** | | string optional | Specify the flexible volume's autosize mode of operation. Valid values are "grow", "grow_shrink", and "off". The default mode is "off". |
| **reset** | | boolean optional | Sets the values of is-enabled, maximum size, increment-size, minimum-size, grow-threshold-percent, shrink-threshold-percent and mode to their defaults. |
| **shrink-threshold-percent** | | integer optional | Specifies the percentage of the flexible volume's capacity at which autoshrink is initiated. The default shrink theshold is 50%. It is an error for the shrink threshold to be greater than or equal to the grow threshold. Range : [0..100] |
| **volume** | | string | The name of the flexible volume for which we want to set autosize. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# volume-autosize-set-async

[top]

Given the name of a volume, set the autosize settings. This API is not supported for flexible volumes or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Specifies the percentage of the flexible volume's capacity at which |

| | | | |
|---|---|---|---|
| **grow-threshold-percent** | | integer optional | autogrow is initiated. The default grow threshold varies from 85% to 98%, depending on the volume size. It is an error for the grow threshold to be less than or equal to the shrink threshold. Range : [0..100] |
| **maximum-size** | | string optional | Specify the flexible volume's maximum allowed size using the following format < number > [k\|m\|g\|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value is 20% greater than the volume size at the time autosize was enabled. It is an error for the maximum volume size to be less than the current volume size. It is also an error for the maximum size to be less than or equal to the minimum size. |
| **minimum-size** | | string optional | Specify the flexible volume's minimum allowed size using the following format < number > [k\|m\|g\|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value is the size of the volume at the time the 'grow_shrink' mode was enabled. It is an error for the minimum size to be greater than or equal to the maximum size. |
| **mode** | | string optional | Specify the flexible volume's autosize mode of operation. Valid values are "grow", "grow_shrink", and "off". The default mode is "off". |
| **reset** | | boolean optional | Sets the values of is-enabled, maximum size, increment-size, minimum-size, grow-threshold-percent, shrink-threshold-percent and mode to their defaults. |
| **shrink-threshold-percent** | | integer optional | Specifies the percentage of the flexible volume's capacity at which autoshrink is initiated. The default shrink theshold is 50%. It is an error for the shrink threshold to be greater than or equal to the grow threshold. Range : [0..100] |
| **volume** | | string | The name of the flexible volume for which we want to set autosize. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# volume-clone-create

[top]

Create a flexible volume that is a clone of a "backing" or "parent" flexible volume. A clone is a volume that is a writable snapshot of another volume. Initially, the clone and its parent share the same storage; more storage space is consumed only as one volume or the other changes. If a specific snapshot name within the parent volume is provided, it is chosen as the parent snapshot. Otherwise, the filer will create a new, distinctively- named snapshot in the parent volume for that purpose. The parent snapshot is locked in the parent volume, preventing its deletion until the clone is either destroyed or split from the parent using the 'volume-clone-split-start' command (see below). This command fails if the chosen parent volume is currently involved in a split operation. This command also fails if the chosen parent volume is a traditional volume. Cloning is a new capability that applies exclusively to flexible volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | A description for the clone volume being created. The maximum length of the description is 1023 characters. |
| **force-worm-clone** | | boolean optional | If set to 'true', forces the creation of clone on a worm volume. If set to 'false', clone creation on any worm volume will fail, because clones of worm volumes are not deletable until all the inherited worm files on newly created clone have expired. Default value is false. |
| **gid** | **[1..2^32-1]** | integer optional | The UNIX group ID for the clone volume. |
| **junction-active** | | boolean optional | This field indicates whether the mounted volume is accessible. The default is true. If the mounted junction path is not accessible, the volume does not appear in the owning Vserver's namespace. This field applies only to Cluster-Mode volumes. |
| **junction-path** | | string optional | The Junction Path at which this volume is to be mounted.<br><br>The fully-qualified pathname in the owning Vserver's namespace at which a volume is mounted. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'.<br><br>An example of a valid junction path is: '/user/my_volume'.<br><br>Only one volume can be mounted at any given junction path. If an incorrect junction path is specified, EINVALIDINPUTERROR is returned. If another volume is mounted at the specified junction path, EVOLALREADYMOUNTED is returned. |
| **match-parent-storage-tier** | | boolean optional | Specifies whether the FlexClone volume splits the data blocks by matching its parent storage tier. This option is applicable only if the tiering policy and the tiering minimum cooling days of the parent volume and the FlexClone volume are the same. |
| **parent-snapshot** | | string optional | Name of the snapshot within 'parent-volume' that is to serve as the parent snapshot for the clone. If not provided, the filer will create a new snapshot named 'clone_parent_' (using a freshy-generated UUID) in 'parent-volume' for this purpose. |
| **parent-volume** | | string | Name of the parent flexible volume for the clone. |
| **parent-vserver** | | string optional | Parent flexible volume's Vserver. |
| **qos-policy-** | | | The QoS Policy Group Name that is to be associated with this FlexClone volume in order to enforce Service Level Objectives (SLO). If you do not assign a QoS policy group to a volume, the system will |

| | | | |
|---|---|---|---|
| **group-name** | | string optional | not monitor and control the traffic to it. Note that "none" is a reserved keyword used to remove the association of a storage object to a QoS policy group. Specifying "none" as a QoS policy group in this command would have no effect. |
| **space-reserve** | | string optional | Specifies the type of volume guarantee for the clone. Possible values: none, file, volume. If this argument is not provided, then guarantee type is inherited from parent volume. |
| **uid** | **[1..2^32-1]** | integer optional | The UNIX user ID for the clone volume. |
| **volume** | | string | Desired name of the clone. |
| **volume-type** | | string optional | The type of the volume to be created. Possible values:<br>• "rw" - read-write volume (default setting),<br>• "dp" - data-protection volume<br>If not provided, the filer will assume the default value i.e. "rw" volume. Creation of data-protection volume clone is only allowed from parent-volume which is paloma logical DP volume. |
| **vserver** | | string | Name of the Vserver in which the clone will be created. |
| **vserver-dr-protection** | | string optional | Specifies the protection type for the volume in a Vserver DR setup.<br>Possible values:<br>• 'protected' ... Volume will be replicated to the destination,<br>• 'unprotected' ... Volume will not be replicated to the destination. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENOTONLINE** | |
| **EVOL_ALREADY_MOUNTED** | |
| **EINVALIDINPUTERROR** | |
| **ESNAPSHOTDOESNOTEXIST** | |
| **ESNAPSHOTBUSY** | |
| **EDP_CLONE_NOT_ALLOWED** | |
| **ESNAPSHOT_NOT_EXPORTED** | |
| **EONTAPI_EEXIST** | |
| **EVOL_MAX_CLONEDEPHREACHED** | |
| **EONDEMAND_CANT_CREATE_FILE** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **E_QOS_OBJECT_OVERLAP_ERROR** | |
| **E_QOS_NO_SUCH_PG** | |
| **E_QOS_TOO_MANY_USER_WIDS** | |
| **E_QOS_GENERAP_OP_ERROR** | |
| **E_QOS_VSERVERIZATION_VIOLATION** | |
| **E_QOS_VOL_TYPE_UNSUPPORTED** | |
| **EPARENT_NOT_DP_VSERVER_WHEN_CLONE_IN_DIFFERENT_VSERVER** | |
| **E_PROTECTION_HANDLING_FAILED** | |
| **E_GUARANTEED_CLONE_CANT_BE_LOGICALLY_ENFORCED** | |

| Vfiler-enabled |
| --- |
| Yes |

# volume-clone-get

[top]

Display details of a specific FlexClone volume

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **desired-attributes** | | volume-clone-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **volume** | | string | FlexClone Volume |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **attributes** | | volume-clone-info | The attributes of the volume. |

| Errno | Description |
| --- | --- |
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENOTCLONE** | |
| **EVOL7MSNAPSHOT** | |

# volume-clone-get-iter

[top]

Display a list of FlexClone volumes

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **desired-attributes** | | volume-clone-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 10 |
| **query** | | volume-clone-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **attributes-** | | volume-clone- | The list of attributes of volume objects. |

| | | | |
|---|---|---|---|
| **list** | | info[] optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more volume objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-clone-split-estimate

[top]

Display an estimate of additional storage required in the underlying aggregate to perform a volume clone split operation. This command fails if applied to a traditional volume. Cloning is a new capability that applies exclusively to flexible volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | The name of the clone whose split usage is being estimated. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **clone-split-estimate** | | clone-split-estimate-info[] | An estimate of the number of blocks required in the enclosing aggregate to split a clone from its parent. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENOTCLONE** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUMEINUSE** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-clone-split-start

[top]

Begin the process by which the given clone is split off from its underlying parent volume and snapshot. New storage is allocated for the clone that is distinct from its parent. This process may take some time and proceeds in the background. Use the 'volume-clone-split-status' command to view the operation's progress. Both clone and parent volumes remain available during the process of splitting them apart. Upon completion, the snapshot on which the clone was based will be unlocked in the parent volume. Any snapshots in the clone are removed at the end of processing. Use the 'volume-clone-split-stop' command to stop this process. This command fails if applied to a traditional volume. Cloning is a new capability that applies exclusively to flexible volumes.

In Data ONTAP Cluster-Mode, a job is created to perform the split operation. The job id of the job is returned in the API response. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **match-parent-storage-tier** | | boolean optional | Specifies whether the FlexClone volume splits the data blocks by matching its parent storage tier. This option is applicable only if the tiering policy and the tiering minimum cooling days of the parent volume and the FlexClone volume are the same. |
| **volume** | | string | Name of the clone that we want split off from its parent volume and snapshot. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | error code, if the operation caused an error. |
| **result-error-message** | | string optional | error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | The job id of the job that was queued to split the clone volume. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded", "in-progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENOTCLONE** | |
| **EVOL_SCAN_INIT_FAILED** | |
| **EVOL_CLONE_BEING_SPLIT** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-clone-split-status

[top]

Display the progress in separating clones from their underlying parent volumes and snapshots. If a clone name is specified, then the split status for that clone is provided. If no clone name is provided, then status is provided for all clones currently being split. This command fails if applied to a traditional volume, and EONTAPI_EVOLNOTFLEX is thrown. Cloning is a capability that applies exclusively to flexible volumes. This command fails if the volume specified is not a clone, and EVOLNOTCLONE is thrown. This command fails if the volume specified is not being split, and EVOLOPNOTUNDERWAY is thrown.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string optional | The name of the clone being split off from its parent volume and snapshot for which we want status. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **clone-split-details** | | clone-split-detail-info[] optional | List of clones that are currently being split from their parent volumes, along with all relevant status information. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EONTAPI_ENOENT** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EONTAPI_EVOLNOTFLEX** | |
| **EVOLNOTCLONE** | |
| **EVOLOPNOTUNDERWAY** | |
| **EVOLUMENOTONLINE** | |
| **EINTERNALERROR** | |
| **EAGGRDOESNOTEXIST** | |
| **EONTAPI_ENOSPC** | |
| **EPARENTNOTONLINE** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-clone-split-stop

[top]

Stop the process of splitting off a clone from its parent volume and snapshot. All of the blocks that were formerly shared between the given clone and its parent volume that have already been split off will remain that way. This command fails if applied to a traditional volume. Cloning is a new capability that applies exclusively to flexible volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | The name of the clone for which we want to stop the process of being split off from its parent volume and snapshot. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLNOTCLONE** | |
| **EVOLOPNOTUNDERWAY** | |
| **EINTERNALERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-container

[top]

Return the name of the containing aggregate for the named flexible volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | The name of the flexible volume for which we want the containing aggregate. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | |

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|---|---|---|---|
| **containing-aggregate** | | string | Name of the given volume's containing aggregate, if applicable. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-create

[top]

Create a volume.

The detailed behavior of this API depends on where it is received:

1. In Data ONTAP Cluster-Mode, create a new flexible volume.

2. In Data ONTAP 7-Mode, create a new flexible, traditional, or sparse volume with the given name and characteristics. Freshly-created traditional volumes may not be operational immediately after the API returns. Use 'volume-list-info' to obtain information about volumes, including the status of the newly-created traditional volume in order to determine when it is fully operational.

This API is not supported for FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **antivirus-on-access-policy** | | string optional | {Deprecated, this field does not have any effect on the operation of the volume.} The name of the Anti-Virus On-Access policy. The default policy name is 'default'.<br><br>If not specified when creating a volume, the Anti-Virus On-Access Policy is inherited from the owning Vserver. Currently, this policy can only be managed using the 'antivirus' command line interfaces. |
| **application-io-size** | | string optional | This field specifies the block size used for volume efficiency compression for the volume.<br><br>Possible values:<br>• '8K' ... 8K,<br>• 'auto' ... auto |
| **cache-retention-priority** | | string optional | The cache retention priority that is to be associated with the volume. This policy decides how long blocks of a volume will be cached in flash pool once they become cold. The possible values for this field are:<br>• low - Cache the cold blocks for the lowest time.<br>• normal - Cache the cold blocks for the default time.<br>• high - Cache the cold blocks for the highest time. |

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| | | | Default cache retention priority is normal. |
| **caching-policy** | | string optional | The caching policy that is to be associated with this volume. This policy is used to make caching decisions for this volume. The possible options for this value are:<br><br>• none - Does not cache any user data or metadata blocks.<br>• auto - Read caches all metadata blocks and randomly read user data blocks and write caches all randomly overwritten user data blocks.<br>• meta - Read caches only metadata blocks.<br>• random_read - Read caches all metadata and randomly read user data blocks.<br>• random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.<br>• all_read - Read caches all metadata, randomly read and sequentially read user data blocks.<br>• all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data.<br>• all - Read caches all data blocks read and written. It does not do any write caching.<br>• noread-random_write - Write caches all randomly overwritten user data blocks. It does not do any read caching.<br>• meta-random_write - Same as meta and noread-random_write.<br>• random_read_write-random_write - Same as random_read_write and noread-random_write.<br>• all_read-random_write - Same as all_read and noread-random_write.<br>• all_read_random_write-random_write - Same as all_read_random_write and noread-random_write.<br>• all-random_write - Same as all and noread-random_write.<br><br>Default caching-policy is auto. |
| **cloud-retrieval-policy** | | string optional | This optional parameter specifies the cloud retrieval policy for the volume. This policy determines which tiered out blocks to retrieve from the capacity tier to the performance tier. The available cloud retrieval policies are:<br><br>• default - This policy retrieves tiered data based on the underlying tiering policy. If the tiering policy is 'auto', tiered data is retrieved only for random client driven data reads. If the tiering policy is 'none' or 'snapshot-only', tiered data is retrieved for random and sequential client driven data reads. If the tiering policy is 'all', tiered data is not retrieved.<br>• on-read - This policy retrieves tiered data for all client driven data reads.<br>• never - This policy never retrieves tiered data.<br>• promote - This policy retrieves all eligible tiered data automatically during the next scheduled scan. It is only supported when the tiering policy is 'none' or 'snapshot-only'. If the tiering policy is 'snapshot-only', the only data brought back is the data in the AFS. Data that is only in a snapshot copy stays in the cloud. |
| **constituent-role** | | string optional | This parameter is not supported. |
| **containing-aggr-name** | | string optional | **Flexible** volumes only. The name of the aggregate in which to create the new flexible volume. If provided, this argument must be accompanied by the "size" parameter described below. |

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|---|---|---|---|
| | | | This input is required for creating a Cluster-Mode volume. |
| **disk-count** | | integer optional | **Traditional** volumes only. Number of disks to place into the new traditional volume, including the parity disks. The disks in this newly-created traditional volume come from the spare disk pool. The smallest disks in this pool join the traditional volume first, unless the "disk-size" argument is specified. Either "disk-count" or "disks" must be supplied for traditional volumes. Range [0..2^31-1]. |
| **disk-size** | | integer optional | **Traditional** volumes only. Disk size in 4KB blocks. Disks that are within 20% of the specified size will be selected for use in the traditional volume. If neither "disk-size" nor "disk-size-with-unit" is specified, existing groups are appended with disks that are the best match for the largest disk in the group. When starting new groups, the smallest disks are selected first. This option is ignored if a specific list of disks to use is specified through the "disks" parameter. Range [0..2^63-1]. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned. |
| **disk-size-with-unit** | | string optional | **Traditional** volumes only. Disk size in the specified unit. It is a positive integer number followed by unit of "T", "G", "M" or "K". This option is ignored if a specific list of disks to use is specified through the "disks" parameter. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned. |
| **disks** | | disk-info[] optional | **Traditional** volumes only. Specific list of disks to use for the new volume. If "mirrored" is set to true and a specific list of disks is supplied, the "mirror-disks" list with the same number of disks must also be supplied. Either "disk-count" or "disks" must be supplied when creating traditional volumes. |
| **efficiency-policy** | | string optional | Efficiency policy name. This attribute selects the efficiency policy to use for this volume. Each efficiency policy controls how volume efficiency (deduplication and/or compression) will operate.<br><br>This policy can be created using the 'sis-policy-create' API. |
| **encrypt** | | boolean optional | Specifies whether a volume is encrypted or not. |
| **excluded-from-autobalance** | | boolean optional | When set to 'true', the volume is excluded from Auto Balance aggregate processing. The default value is false, meaning that the volume is included in Auto Balance Aggregate processing. |
| **export-policy** | | string optional | The name of the Export Policy to be used by NFS/CIFS protocols. The default policy name is 'default'. |
| **extent-size** | | string optional | This field specifies the default extent size for the volume. In case of WAFL volumes, this option would always be set to 4K. For MetaWAFL volumes, the possible values are as follows.<br><br>Possible values:<br>• '4K' ... 4K,<br>• '8K' ... 8K,<br>• '16K' ... 16K,<br>• '32K' ... 32K |
| **flexcache-cache-policy** | | string optional | The name of the FlexCache policy.<br><br>The default policy name is 'default'.<br><br>This policy applies only to FlexCache volumes and can be created using the 'flexcache-cache-policy-create' API. |
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|---|---|---|---|
| **flexcache-fill-policy** | | string optional | The name of the FlexCache prefill policy.<br><br>The default policy name is 'default'.<br><br>This policy applies only to FlexCache volumes and can be created using the 'flexcache-fill-policy-create' API. |
| **flexcache-origin-volume-name** | | string optional | The name of the origin volume that contains the authoritative data. This field is valid only for a FlexCache volume. The origin volume must belong to the same Vserver that owns this volume. |
| **force** | | boolean optional | **Traditional** volumes only. Disks in a plex are not normally permitted to span spare pools. This behavior is overridden with this option when it is set to "true". |
| **group-id** | **[0..2^32-1]** | integer optional | The UNIX group ID for the volume. The default value is 0 ('root'). |
| **is-junction-active** | | boolean optional | This field indicates whether the mounted volume is accessible. The default is true. If the mounted junction path is not accessible, the volume does not appear in the owning Vserver's namespace. This field applies only to Cluster-Mode volumes. |
| **is-mirrored** | | boolean optional | **Traditional** volumes only. Specifies that the new traditional volume be mirrored (have two plexes). If set to "true", then the indicated disks will be split across the two plexes. By default, the new volume will not be mirrored. |
| **is-nvfail-enabled** | | string optional | If true, the controller performs additional work at boot and takeover times if it finds that there has been any potential data loss in this volume due to an NVRAM failure.<br><br>For 7-Mode volumes, it causes the invalidation of all NFS file handles on all volumes affected by the problem so that client-side users are forced to remount the affected file system (and thus not continue to use potentially incorrect data).<br><br>It is also possible to specify a set of files per volume that are to be renamed out of the way in these cases. The controller sends error messages to the console whenever such problems are found.<br><br>For Cluster-Mode volumes, the volume would be put in a special state called 'in-nvfailed-state' such that protocol access is blocked. This will cause the client applications to crash and thus prevent access to stale data on the volume.<br><br>To get out of this situation, the admin needs to manually clear the 'in-nvfailed-state' on the volume.<br><br>By default, this value is false. |
| **is-snaplock** | | boolean optional | Specifies the creation of a SnapLock volume. By default, is-snaplock is not specified. When is-snaplock is "true" the type of snaplock volume is determined in the following way - 1> If snaplock-type is set, create the type specified in snaplock-type (see snaplock-type for more details) 2> Otherwise, create a Snaplock enterprise volume if a Snaplock enterprise license has been installed. 3> Otherwise, create a Snaplock compliance volume. ESERVICENOTLICENSED is returned if the required Snaplock Compliance or Enterprise license is not installed. EONTAPI_EWORMNOCLOCK is returned if SnapLock Compliance Clock is not running. If you need to create a snaplock volume, the suggested method is to specify snaplock-type as "compliance" or "enterprise" and not specify is-snaplock at all. If you want to create a non-snaplock volume, the suggested method is to specify neither snaplock-type nor is-snaplock. |

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| **is-space-enforcement-logical** | | boolean optional | This parameter specifies whether to perform logical space accounting on the volume. When space is enforced logically, ONTAP enforces volume settings such that all the physical space saved by the storage efficiency features will be calculated as used. This parameter is not supported on FlexGroups in versions earlier than 9.9.0. The default setting is false. |
| **is-space-reporting-logical** | | boolean optional | This parameter specifies whether to report space logically on the volume. When space is reported logically, ONTAP reports the volume space such that all the physical space saved by the storage efficiency features are also reported as used. This parameter is not supported on FlexGroups in versions earlier than 9.9.0. The default setting is false. |
| **is-vserver-root** | | boolean optional | If true, this volume is the namespace root volume of the Vserver which owns this volume. The default value is false.<br><br>When creating a volume, if this field is set to true, the new volume is to become the new namespace root volume of the Vserver. This field can be used in a recovery scenario in which the namespace root volume of the Vserver becomes unrecoverable. |
| **junction-path** | | string optional | The Junction Path at which this volume is to be mounted.<br><br>The fully-qualified pathname in the owning Vserver's namespace at which a volume is mounted. The pathname is case insensitive and must be unique within a Vserver's namespace. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'.<br><br>An example of a valid junction path is: '/user/my_volume'.<br><br>Only one volume can be mounted at any given junction path. If an incorrect junction path is specified, EINVALIDINPUTERROR is returned. If another volume is mounted at the specified junction path, EVOLALREADYMOUNTED is returned. |
| **language-code** | | string optional | Specifies the language to use for the new volume via a language code. The default language is the one used by the filer's root volume. Available language codes are:<br><br>• 'C' ... POSIX,<br>• 'ar' ... Arabic,<br>• 'cs' ... Czech,<br>• 'da' ... Danish,<br>• 'de' ... German,<br>• 'en' ... English,<br>• 'en_US' ... English (US),<br>• 'es' ... Spanish,<br>• 'fi' ... Finnish,<br>• 'fr' ... French,<br>• 'he' ... Hebrew,<br>• 'hr' ... Croatian,<br>• 'hu' ... Hungarian,<br>• 'it' ... Italian,<br>• 'ja' ... Japanese euc-j,<br>• 'ja_v1' ... Japanese euc-j,<br>• 'ja_JP.PCK' ... Japanese PCK (sjis),<br>• 'ja_JP.932' ... Japanese cp932,<br>• 'ja_JP.PCK_v2' ... Japanese PCK (sjis),<br>• 'ko' ... Korean,<br>• 'no' ... Norwegian, |

| | | | |
|---|---|---|---|
| | | | • 'nl' ... Dutch,<br>• 'pl' ... Polish,<br>• 'pt' ... Portuguese,<br>• 'ro' ... Romanian,<br>• 'ru' ... Russian,<br>• 'sk' ... Slovak,<br>• 'sl' ... Slovenian,<br>• 'sv' ... Swedish,<br>• 'tr' ... Turkish,<br>• 'zh' ... Simplified Chinese,<br>• 'zh.GBK' ... Simplified Chinese (GBK),<br>• 'zh_TW' ... Traditional Chinese euc-tw,<br>• 'zh_TW.BIG5' ... Traditional Chinese Big 5<br><br>To use UTF-8 as the NFS character set, append '.UTF-8' to the language code. |
| **max-dir-size** | **[0..2^63-1]** | integer<br>optional | The maximum size (in bytes) to which any directory in this volume can grow.<br><br>For 7-Mode volumes, the default setting of 10240 limits directory size to 10 MBytes and allows it to hold up to approximately 300,000 files. For Cluster-Mode volumes, the default setting is 100 MBytes and it allows the directory to hold up to approximately 3,000,000 files. The number of files that the directory actually can hold varies depending on such things as the length of the names and whether it needs to use double-byte UNICODE characters.<br><br>Most users should not need to change this field's default setting. It is useful for environments where system users may grow a directory to a size that starts impacting system performance. When a user tries to create a file in a directory that is at the limit, the system returns a ENOSPC error and fails the create. |
| **max-write-alloc-blocks** | **[0..2048]** | integer<br>optional | The maximum number of blocks used for write allocation.<br><br>This feature is deprecated. |
| **mirror-disks** | | disk-info[]<br>optional | **Traditional** volumes only. List of mirror disks to use. It must contain the same number of disks specified in "disks". |
| **percentage-snapshot-reserve** | | integer<br>optional | The percentage of disk space that has to be set aside as reserve for snapshot usage. The default value is 5. Range : [0..90] |
| **qos-adaptive-policy-group-name** | | string<br>optional | The QoS Adaptive Policy Group Name that is to be associated with this volume in order to enforce Service Level Objectives (SLO) that adjust based on the volume allocated space or used space. NOTE: "none" is a reserved keyword for deleting the association of the volume with a QoS adaptive policy group. Specifying "none" as a the QoS adaptive policy group during volume creation will have no effect. This parameter is not supported on FlexGroups. |
| **qos-policy-group-name** | | string<br>optional | The QoS Policy Group Name that is to be associated with this volume in order to enforce Service Level Objectives (SLO). If you do not assign a QoS policy group to a volume, the system will not monitor and control the traffic to it. NOTE: "none" is a reserved keyword for deleting the association of the volume with a QoS policy group. Specifying "none" as a the QoS policy group during volume creation will have no effect. |
| **raid-size** | | integer<br>optional | **Traditional** volumes only. Specifies the maximum number of disks in each RAID group in the traditional volume. The maximum value for this parameter is of raidsize is 28. The default value is platform-dependent. The valid range of values is also platform-dependent, |

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|---|---|---|---|
| | | | but never wider than [2..28]. |
| **remote-location** | | string optional | Specifies the remote host and volume name for the origin of the FlexCache. A FlexCache license is necessary for this option to be utilized. The default action is not to create a FlexCache Volume. Format: : Create a sparse volume as a FlexCache for the given remote host and remote volume name. Remote Host: Should be formatted as either the DNS hostname or as an IP address. Remote Volume: Should be formatted the same as a volume name. ESERVICENOTLICENSED is returned if the FlexCache service is not licensed. EINVALIDINPUT is returned if the host, or source volume is found to be invalid. |
| **size** | | string optional | **Flexible** volumes only. The initial size of the new flexible volume. The format to use is: < number > k\|m\|g\|t where "k" means kilobytes, "m" means megabytes, "g" means gigabytes, and "t" means terabytes. If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. If provided, this argument must be accompanied by the "containing-aggr-name" parameter described above. |
| **snaplock-type** | | string optional | Specifies the type of Snaplock volume to be created. Possible values - "compliance" or "enterprise" ESERVICENOTLICENSED is returned if the necessary Snaplock compliance or enterprise license has not been installed. EINVALIDINPUT is returned if snaplock-type has an illegal value or if is-snaplock has been set to "false". EONTAPI_EWORMNOCLOCK is returned if SnapLock Compliance Clock is not running. |
| **snapshot-policy** | | string optional | The name of the snapshot policy.<br><br>The default policy name is 'default'.<br><br>This policy can be created using the 'snapshot-policy-create' API. It can be managed using the 'snapshot-policy-*' APIs. |
| **space-reserve** | | string optional | Specifies the type of volume guarantee the new volume will use. Possible values: none, file, volume. If this argument is not provided, the default volume guarantee type is volume. |
| | | | Specifies the space SLO type for the volume. The space SLO type is the Service Level Objective for space management for the volume. The space SLO value is used to enforce existing volume settings so that sufficient space is set aside on the aggregate to meet the space SLO. The default setting is **none**. There are three supported values: **none**, **thick** and **semi-thick**.<br><br>**none**: The value of **none** does not provide any guarantee for overwrites or enforce any restrictions. It should be used if the admin plans to manually manage space consumption in the volume and aggregate, and out of space errors.<br><br>**thick**: The value of **thick** guarantees that the hole fills and overwrites to space-reserved files in this volume will always succeed by reserving space. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified:<br><br>• Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's **space-guarantee** type is not supported.<br>• Fractional Reserve: 100 - 100% of the space required for overwrites is reserved. Changing the volume's **fractional-reserve** setting is not supported.<br><br>**semi-thick**: The value of **semi-thick** is a best-effort attempt to ensure that overwrites succeed by restricting the use of features |

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| **space-slo** | | string optional | that share blocks and auto-deleting backups and Snapshot copies in the volume. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified:<br><br>• Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's **space-guarantee** type is not supported.<br>• Fractional Reserve: 0 - No space will be reserved for overwrites by default. However, changing the volume's **fractional-reserve** setting is supported. Changing the setting to 100 means that 100% of the space required for overwrites is reserved.<br>• Snapshot Autodelete: enabled - Automatic deletion of Snapshot copies is enabled to reclaim space. To ensure that the overwrites can be accommodated when the volume reaches threshold capacity, the following volume snapshot autodelete parameters are set automatically to the specified values and cannot be modified:<br>◦ enabled: true<br>◦ commitment: destroy<br>◦ trigger: volume<br>◦ defer-delete: none<br>◦ destroy-list: vol_clone, lun_clone, file_clone, cifs_share<br><br>In addition, with a value of semi-thick, the following technologies are not supported for the volume:<br><br>• File Clones with autodelete disabled: Only full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of **autodelete** for file clone create is required.<br>• Partial File Clones: Only the full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of **range** for file clone create is not allowed.<br>• Volume Efficiency: Enabling **volume efficiency** is not supported to allow autodeletion of Snapshot copies. |
| **storage-efficiency-mode** | | string optional | This field specifies the storage efficiency mode for the volume. The 'default' mode will set 8k adaptive compression on the volume. The 'efficient' mode will set auto adaptive compression on the volume. The default setting is 'default'. This field is valid only on AFF platforms.<br><br>Possible values:<br><br>• 'default' ... default,<br>• 'efficient' ... efficient |
| **storage-service** | | string optional | This parameter is not supported. |
| **tiering-minimum-cooling-days** | **[2..183]** | integer optional | This parameter specifies the minimum number of days that user data blocks of the volume must be cooled before they can be considered cold and tiered out to the capacity tier. For volumes hosted on FabricPools, this parameter is used for tiering purposes and does not affect the reporting of inactive data. For volumes hosted on non-FabricPools, this parameter affects the cooling window used for reporting inactive data. The value specfied should be greater than the frequency that applications in the volume shift between different sets of data. |
| | | | The tiering policy that is to be associated with the volume. This policy decides whether the blocks of a volume will be tiered to the |

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| **tiering-policy** | | string optional | capacity tier. The possible values for this field are:<br><br>• snapshot-only - This policy allows tiering of only the volume snapshot copies not associated with the active file system.<br>• 'auto' - This policy allows tiering of both snapshot and active file system user data to the capacity tier.<br>• none - Volume blocks will not be tiered to the capacity tier.<br>• backup - On DP volumes this policy allows all transferred user data blocks to start in the capacity tier.<br><br>Default tiering policy is snapshot-only. |
| **unix-permissions** | | string optional | Unix permission bits in octal string format.<br><br>It's similar to Unix style permission bits:<br><br>In Data ONTAP 7-mode, the default setting of '0755' gives read/write/execute permissions to owner and read/execute to group and other users.<br><br>In Data ONTAP Cluster-Mode, for security style "mixed" or "unix", the default setting of '0755' gives read/write/execute permissions to owner and read/execute permissions to group and other users. For security style "ntfs", the default setting of '0000' gives no permissions to owner, group and other users.<br><br>It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. |
| **user-id** | **[0..2^32-1]** | integer optional | The UNIX user ID for the volume. The default value is 0 ('root'). |
| **vm-align-sector** | **[1..7]** | integer optional | The Virtual Machine alignment 512 byte sector number. All files created with the suffix specified in the 'vm-align-suffix' input parameter will have zero-filled <512 * 'vm-align-sector'> bytes data at the beginning so that it's actual data starts at a different offset instead of zero. This is done so that the read & writes to such files are aligned to WAFL's 4k block boundary. |
| **vm-align-suffix** | | string optional | The Virtual Machine alignment suffix. The suffix such as '.xyz' is used to identify the files which needs to be aligned. This element can only be specified if the vm-align-sector input element is also specified. See the description for 'vm-align-sector' above for more information on this. |
| **volume** | | string optional | Name of the volume to create. The volume name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. In Data ONTAP Cluster-Mode, the volume names must be unique within a Vserver. In Data ONTAP 7-mode, the volume names must be unique on a controller. |
| **volume-comment** | | string optional | A description for the volume being created. Range:[0..1023] |
| **volume-raid-type** | | string optional | **Traditional** volumes only. Specifies the type of RAID groups to use in the new traditional volume. The default is "raid4" on most platforms. Possible values: raid4, raid_dp, raid_tec. |
| **volume-security-** | | string optional | The security style associated with this volume.<br><br>Possible values:<br><br>• 'mixed' ... Mixed-style security,<br>• 'ntfs' ... NTFS/Windows-style security, |

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| **style** | | | • 'unix' ... Unix-style security (default for Flexible Volume)<br><br>Security styles don't apply to GX-striped data volumes. |
| **volume-state** | | string<br>optional | Desired state of the volume after it is created.<br><br>Possible values:<br><br>• 'online',<br>• 'restricted',<br>• 'offline' |
| **volume-type** | | string<br>optional | The type of the volume to be created. Possible values:<br><br>• "rw" - read-write volume (default setting),<br>• "ls" - load-sharing volume,<br>• "dp" - data-protection volume,<br>• "dc" - data-cache volume (FlexCache) |
| **vserver-dr-protection** | | string<br>optional | Specifies the protection type for the volume in a Vserver DR setup.<br><br>Possible values:<br><br>• 'protected' ... Volume will be replicated to the destination,<br>• 'unprotected' ... Volume will not be replicated to the destination. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **bad-disks** | | disk-info[]<br>optional | **Traditional** volumes only. List of disks that were not added. This is only returned if there are bad disks. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMERGSIZEINVALID** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMELANGUAGEINVALID** | |
| **EVOLUMEDISKSIZEINVALID** | |
| **EVOLUMEDISKDUP** | |
| **ESERVICENOTLICENSED** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EVOLALREADYMOUNTED** | |
| **EONTAPI_EWORMNOCLOCK** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_QOS_OBJECT_OVERLAP_ERROR** | |
| **E_QOS_NO_SUCH_PG** | |
| **E_QOS_TOO_MANY_USER_WIDS** | |
| **E_QOS_GENERAP_OP_ERROR** | |
| **E_QOS_VSERVERIZATION_VIOLATION** | |
| **E_QOS_DC_VOL_TYPE_UNSUPPORTED** | |
| **E_QOS_LS_VOL_TYPE_UNSUPPORTED** | |

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|---|---|
| **E_QOS_VOL_TYPE_UNSUPPORTED** | |
| **E_PROTECTION_HANDLING_FAILED** | |
| **E_FAILED_TO_ADD_KEY_INFO_INTO_VLDB** | |
| **E_ENCRYPTION_KEY_CREATE_ERR** | |
| **E_VV_CANT_CREATE_KEYS_FILE** | |
| **E_VV_CANT_ACCESS_KEYS_FILE** | |
| **E_ENCRYPTION_RESOURCES_UNAVAILABLE** | |

# volume-create-async

[top]

Create a volume. The ability to create Infinite Volumes has been removed as of Data ONTAP 9.4. When creating a FlexGroup, four constituents will be created on every aggregate specified in the aggr-list parameter. An aggregate may be specified multiple times to have extra constituents created on it. The default value of four constituents per aggregate can be overriden by specifying a different value for the aggr-list-multiplier parameter. This API is not supported for FlexGroup constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] optional | Specifies an array of names of aggregates to be used for FlexGroup constituents. Each entry in the array will create a constituent on the specified aggregate. An aggregate may be specified multiple times to have multiple constituents created on it. This parameter is only supported for FlexGroups. |
| **aggr-list-multiplier** | **[1..1000]** | integer optional | Specifies the number of times to iterate over the aggregates listed with the -aggr-list parameter when creating a FlexGroup. The aggregate list will be repeated the specified number of times. For example, if the aggr-list is "aggr1,aggr2" and the aggr-list-multiplier is 2 four constituents to be created in the order aggr1, aggr2, aggr1, aggr2. The number of constituents created on a node contributes to the maximum volume limit per node, which cannot be exceeded. Default aggr-list-multiplier is 4. This parameter is only supported for FlexGroups. |
| **application-io-size** | | string optional | This field specifies the block size used for volume efficiency compression for the volume.<br><br>Possible values:<br><br>• '8K' ... 8K,<br>• 'auto' ... auto |
| **auto-provision-as** | | string optional | |
| **cache-retention-priority** | | string optional | The cache retention priority that is to be associated with the volume. This policy decides how long blocks of a volume will be cached in flash pool once they become cold. The possible values for this field are:<br><br>• low - Cache the cold blocks for the lowest time.<br>• normal - Cache the cold blocks for the default time.<br>• high - Cache the cold blocks for the highest time.<br><br>Default cache retention priority is normal. |
| | | | The caching policy that is to be associated with this volume. This policy is used to make caching decisions for this volume. The possible options for this value are: |

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|---|---|---|---|
| **caching-policy** | | string optional | • none - Does not cache any user data or metadata blocks.<br>• auto - Read caches all metadata blocks and randomly read user data blocks and write caches all randomly overwritten user data blocks.<br>• meta - Read caches only metadata blocks.<br>• random_read - Read caches all metadata and randomly read user data blocks.<br>• random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.<br>• all_read - Read caches all metadata, randomly read and sequentially read user data blocks.<br>• all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data.<br>• all - Read caches all data blocks read and written. It does not do any write caching.<br>• noread-random_write - Write caches all randomly overwritten user data blocks. It does not do any read caching.<br>• meta-random_write - Same as meta and noread-random_write.<br>• random_read_write-random_write - Same as random_read_write and noread-random_write.<br>• all_read-random_write - Same as all_read and noread-random_write.<br>• all_read_random_write-random_write - Same as all_read_random_write and noread-random_write.<br>• all-random_write - Same as all and noread-random_write.<br><br>Default caching-policy is auto. This parameter is only supported for FlexGroups. |
| **cloud-retrieval-policy** | | string optional | This optional parameter specifies the cloud retrieval policy for the volume. This policy determines which tiered out blocks to retrieve from the capacity tier to the performance tier. The available cloud retrieval policies are:<br><br>• default - This policy retrieves tiered data based on the underlying tiering policy. If the tiering policy is 'auto', tiered data is retrieved only for random client driven data reads. If the tiering policy is 'none' or 'snapshot-only', tiered data is retrieved for random and sequential client driven data reads. If the tiering policy is 'all', tiered data is not retrieved.<br>• on-read - This policy retrieves tiered data for all client driven data reads.<br>• never - This policy never retrieves tiered data.<br>• promote - This policy retrieves all eligible tiered data automatically during the next scheduled scan. It is only supported when the tiering policy is 'none' or 'snapshot-only'. If the tiering policy is 'snapshot-only', the only data brought back is the data in the AFS. Data that is only in a snapshot copy stays in the cloud. |
| **containing-aggr-name** | | string optional | **Flexible** volumes only. The name of the aggregate in which to create the new flexible volume. If provided, this argument must be accompanied by the "size" parameter described below. |
| **efficiency-policy** | | string optional | Efficiency policy name. This attribute selects the efficiency policy to use for this volume. Each efficiency policy controls how volume efficiency (deduplication and/or compression) will operate.<br><br>This policy can be created using the 'sis-policy-create' API. This parameter is not supported for FlexGroups. |
| | | boolean | |

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|---|---|---|---|
| **encrypt** | | optional | Specifies whether a volume is encrypted or not. |
| **encryption-type** | | integer optional | This parameter specifies the encryption-type of the FlexGroup created where the system automatically selects aggregates. If the value is 1, the FlexGroup will be unencrypted. If the value is 2, the FlexGroup will be of type NVE (NetApp Volume Encryption). If the value is 3, the FlexGroup will be of type NAE (NetApp Aggregate Encryption). The default value is none. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **excluded-from-autobalance** | | boolean optional | When set to 'true', the volume is excluded from Auto Balance aggregate processing. The default value is false, meaning that the volume is included in Auto Balance Aggregate processing. This parameter is not supported for FlexGroups. |
| **export-policy** | | string optional | The name of the Export Policy to be used by the NFS protocol. The default policy name for FlexGroups is 'default'. |
| **flexcache-cache-policy** | | string optional | The name of the FlexCache policy.<br><br>The default policy name is 'default'.<br><br>This policy applies only to FlexCache volumes and can be created using the 'flexcache-cache-policy-create' API. This parameter is not supported for FlexGroups. |
| **flexcache-fill-policy** | | string optional | The name of the FlexCache prefill policy.<br><br>The default policy name is 'default'.<br><br>This policy applies only to FlexCache volumes and can be created using the 'flexcache-fill-policy-create' API. This parameter is not supported for FlexGroups. |
| **flexcache-origin-volume-name** | | string optional | The name of the origin volume that contains the authoritative data. This field is valid only for a FlexCache volume. The origin volume must belong to the same Vserver that owns this volume. This parameter is not supported for FlexGroups. |
| **group-id** | **[0..2^32-1]** | integer optional | The UNIX group ID for the volume. The default value for FlexGroups is 0. |
| **is-junction-active** | | boolean optional | This field indicates whether the mounted volume is accessible. The default is true. If the mounted junction path is not accessible, the volume does not appear in the owning Vserver's namespace. This field applies only to Cluster-Mode volumes. |
| **is-nvfail-enabled** | | boolean optional | If true, the controller performs additional work at boot and takeover times if it finds that there has been any potential data loss in the volume's constituents due to an NVRAM failure.<br><br>The volume's constituents would be put in a special state called 'in-nvfailed-state' such that protocol access is blocked. This will cause the client applications to crash and thus prevent access to stale data.<br><br>To get out of this situation, the admin needs to manually clear the 'in-nvfailed-state' on the volume's constituents.<br><br>By default, this value is true. |
| **is-space-enforcement-logical** | | boolean optional | This parameter specifies whether to perform logical space accounting on the volume. When space is enforced logically, ONTAP enforces volume settings such that all the physical space saved by the storage efficiency features will be calculated as used. This parameter is not supported on FlexGroups or Infinite Volumes. The default setting is false. |

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|---|---|---|---|
| **is-space-reporting-logical** | | boolean optional | This parameter specifies whether to report space logically on the volume. When space is reported logically, ONTAP reports the volume space such that all the physical space saved by the storage efficiency features are also reported as used. This parameter is not supported on FlexGroups or Infinite Volumes. The default setting is false. |
| **is-vserver-root** | | boolean optional | If true, this volume is the namespace root volume of the Vserver which owns this volume. The default value is false.<br><br>When creating a volume, if this field is set to true, the new volume is to become the new namespace root volume of the Vserver. This field can be used in a recovery scenario in which the namespace root volume of the Vserver becomes unrecoverable. This parameter is not supported for FlexGroups. |
| **junction-path** | | string optional | The Junction Path at which the volume is to be mounted.<br><br>The fully-qualified pathname in the owning Vserver's namespace at which the volume is mounted. The pathname is case insensitive. This string must begin with '/'. In addition, it must not end with '/'. The pathname must be unique within a Vserver's namespace.<br><br>Only one volume can be mounted at any given junction path. If an incorrect junction path is specified, EINVALIDINPUTERROR is returned. If another volume is mounted at the specified junction path, EVOLALREADYMOUNTED is returned. For FlexGroups the following rules apply:<br><br>The pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length.<br><br>An example of a valid junction path is: '/user/my_volume'. If the junction-path is not specified, the FlexGroup is not mounted. |
| **language-code** | | string optional | Specifies the language to use for the new volume via a language code. The default language is the one used by the filer's root volume. Available language codes are:<br><br>• 'C' ... POSIX,<br>• 'ar' ... Arabic,<br>• 'cs' ... Czech,<br>• 'da' ... Danish,<br>• 'de' ... German,<br>• 'en' ... English,<br>• 'en_US' ... English (US),<br>• 'es' ... Spanish,<br>• 'fi' ... Finnish,<br>• 'fr' ... French,<br>• 'he' ... Hebrew,<br>• 'hr' ... Croatian,<br>• 'hu' ... Hungarian,<br>• 'it' ... Italian,<br>• 'ja' ... Japanese euc-j,<br>• 'ja_v1' ... Japanese euc-j,<br>• 'ja_JP.PCK' ... Japanese PCK (sjis),<br>• 'ja_JP.932' ... Japanese cp932,<br>• 'ja_JP.PCK_v2' ... Japanese PCK (sjis),<br>• 'ko' ... Korean,<br>• 'no' ... Norwegian,<br>• 'nl' ... Dutch,<br>• 'pl' ... Polish, |

| | | | |
|---|---|---|---|
| | | | 'pt' ... Portuguese,<br>• 'ro' ... Romanian,<br>• 'ru' ... Russian,<br>• 'sk' ... Slovak,<br>• 'sl' ... Slovenian,<br>• 'sv' ... Swedish,<br>• 'tr' ... Turkish,<br>• 'zh' ... Simplified Chinese,<br>• 'zh.GBK' ... Simplified Chinese (GBK),<br>• 'zh_TW' ... Traditional Chinese euc-tw,<br>• 'zh_TW.BIG5' ... Traditional Chinese Big 5<br><br>To use UTF-8 as the NFS character set, append '.UTF-8' to the language code. This parameter is only supported for FlexGroups. |
| **max-constituent-size** | **[0..2^63-1]** | integer optional | The maximum size of each constituent in bytes. The default value is determined by checking the maximum FlexVol size setting on all nodes used by the volume. The smallest value found is chosen as the default for the max-constituent-size for the volume. This parameter is only supported on FlexGroups. |
| **max-dir-size** | **[0..2^63-1]** | integer optional | The maximum size (in bytes) to which any directory in the volume's namespace can grow.<br><br>Most users should not need to change this field's default setting. It is useful for environments where system users may grow a directory to a size that starts impacting system performance. When a user tries to create a file in a directory that is at the limit, the system returns a ENOSPC error and fails the create. |
| **nodes** | | node-name[] optional | Specifies an array of node names to be used for provisioning the FlexGroup. If an array of node names is specified, only aggregates from the specified nodes will be considered for provisioning. If no value is specified, all nodes in the cluster will be used. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **percentage-snapshot-reserve** | | integer optional | The percentage of disk space that has to be set aside as reserve for snapshot usage. The default value is 5. Range : [0..90] |
| **qos-adaptive-policy-group-name** | | string optional | The QoS Adaptive Policy Group Name that is to be associated with this volume in order to enforce Service Level Objectives (SLO) that adjust based on the volume allocated space or used space. NOTE: "none" is a reserved keyword for deleting the association of the volume with a QoS adaptive policy group. Specifying "none" as a the QoS adaptive policy group during volume creation will have no effect. This parameter is not supported on FlexGroups. |
| **qos-policy-group-name** | | string optional | The QoS Policy Group Name that is to be associated with this volume in order to enforce Service Level Objectives (SLO). If you do not assign a QoS policy group to a volume, the system will not monitor and control the traffic to it. NOTE: "none" is a reserved keyword for deleting the association of the volume with a QoS policy group. Specifying "none" as a the QoS policy group during volume creation will have no effect. |
| **size** | **[0..2^64-1]** | integer optional | The initial size of the volume in bytes. If size is not specified, then it will use the system default which is 20MB for FlexVol volumes and 100GB per constituent for FlexGroups. For FlexGroups, constituents must be a minimum of 100GB. If the constituents are smaller than this, the FlexGroup will perform less than optimally. |
| **snaplock-** | | string | Specifies the type of Snaplock volume to be created. Possible values - "compliance" or "enterprise" ESERVICENOTLICENSED is returned if the necessary Snaplock license has not been installed. |

| | | | |
|---|---|---|---|
| **type** | | optional | EINVALIDINPUT is returned if snaplock-type has an illegal value. EONTAPI_EWORMNOCLOCK is returned if SnapLock Compliance Clock is not running. |
| **snapshot-policy** | | string optional | The name of the snapshot policy.<br><br>This policy can be created using the 'snapshot-policy-create' API. It can be managed using the 'snapshot-policy-*' APIs.<br><br>The default policy name for FlexGroups is 'default'. |
| **space-guarantee** | | string optional | Specifies the type of space guarantee the new volume will use. Possible values: none, file, volume. If this argument is not provided, the default guarantee is "volume". |
| **space-reserve** | | string optional | Specifies the type of volume guarantee the new volume will use. Possible values: none, file, volume. If this argument is not provided, the default volume guarantee type is volume. This field is mutually exclusive with 'space-guarantee'. |
| **space-slo** | | string optional | Specifies the space SLO type for the volume. The space SLO type is the Service Level Objective for space management for the volume. The space SLO value is used to enforce existing volume settings so that sufficient space is set aside on the aggregate to meet the space SLO. The default setting is **none**. There are three supported values: **none**, **thick** and **semi-thick**.<br><br>**none**: The value of **none** does not provide any guarantee for overwrites or enforce any restrictions. It should be used if the admin plans to manually manage space consumption in the volume and aggregate, and out of space errors.<br><br>**thick**: The value of **thick** guarantees that the hole fills and overwrites to space-reserved files in this volume will always succeed by reserving space. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified:<br><br>• Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's **space-guarantee** type is not supported.<br>• Fractional Reserve: 100 - 100% of the space required for overwrites is reserved. Changing the volume's **fractional-reserve** setting is not supported.<br><br>**semi-thick**: The value of **semi-thick** is a best-effort attempt to ensure that overwrites succeed by restricting the use of features that share blocks and auto-deleting backups and Snapshot copies in the volume. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified:<br><br>• Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's **space-guarantee** type is not supported.<br>• Fractional Reserve: 0 - No space will be reserved for overwrites by default. However, changing the volume's **fractional-reserve** setting is supported. Changing the setting to 100 means that 100% of the space required for overwrites is reserved.<br>• Snapshot Autodelete: enabled - Automatic deletion of Snapshot copies is enabled to reclaim space. To ensure that the overwrites can be accommodated when the volume reaches threshold capacity, the following volume snapshot autodelete parameters are set automatically to the specified values and cannot be modified: |

| | | | |
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| | | | enabled: true<br>◦ commitment: destroy<br>◦ trigger: volume<br>◦ defer-delete: none<br>◦ destroy-list: vol_clone, lun_clone, file_clone, cifs_share<br><br>In addition, with a value of semi-thick, the following technologies are not supported for the volume:<br><br>• File Clones with autodelete disabled: Only full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of **autodelete** for file clone create is required.<br>• Partial File Clones: Only the full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of **range** for file clone create is not allowed.<br>• Volume Efficiency: Enabling **volume efficiency** is not supported to allow autodeletion of Snapshot copies. |
| **storage-efficiency-mode** | | string<br>optional | This field specifies the storage efficiency mode for the volume. The 'default' mode will set 8k adaptive compression on the volume. The 'efficient' mode will set auto adaptive compression on the volume. The default setting is 'default'. This field is valid only on AFF platforms.<br><br>Possible values:<br><br>• 'default' ... default,<br>• 'efficient' ... efficient |
| **support-tiering** | | boolean<br>optional | This parameter specifies whether or not FabricPools are selected when provisioning a FlexGroup where the system automatically selects aggregates. Only FabricPools are used if this parameter is set to true and only non FabricPools are used if this parameter is set to false. The default value is false. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **tiering-minimum-cooling-days** | **[2..183]** | integer<br>optional | This parameter specifies the minimum number of days that user data blocks of the volume must be cooled before they can be considered cold and tiered out to the capacity tier. For volumes hosted on FabricPools, this parameter is used for tiering purposes and does not affect the reporting of inactive data. For volumes hosted on non-FabricPools, this parameter affects the cooling window used for reporting inactive data. The value specfied should be greater than the frequency that applications in the volume shift between different sets of data. |
| **tiering-policy** | | string<br>optional | The tiering policy that is to be associated with the volume. This policy decides whether the blocks of a volume will be tiered to the capacity tier. The possible values for this field are:<br><br>• snapshot-only - This policy allows tiering of only the volume snapshot copies not associated with the active file system.<br>• 'auto' - This policy allows tiering of both snapshot and active file system user data to the capacity tier.<br>• none - Volume blocks will not be tiered to the capacity tier.<br>• backup - On DP volumes this policy allows all transferred user data blocks to start in the capacity tier.<br><br>Default tiering policy is snapshot-only. |
| | | | Unix permission bits in octal string format. |

| | | | |
|---|---|---|---|
| **unix-permissions** | | string optional | It's similar to Unix style permission bits:<br><br>The default setting of '0755' gives read/write/execute permissions to owner and read/execute permissions to group and other users.<br><br>It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. |
| **use-mirrored-aggregates** | | boolean optional | This parameter specifies whether or not mirrored aggregates are selected when provisioning a FlexGroup where the system automatically selects aggregates. Only mirrored aggregates are used if this parameter is set to true and only unmirrored aggregates are used if this parameter is set to false. Aggregate level mirroring for a FlexGroup can be changed by moving all of the constituents to the required aggregates. The default value is true for a MetroCluster configuration and is false for a non-MetroCluster configuration. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **user-id** | **[0..2^32-1]** | integer optional | The UNIX user ID for the volume. The default value is 0. |
| **vm-align-sector** | **[1..7]** | integer optional | The Virtual Machine alignment 512 byte sector number. All files created with the suffix specified in the 'vm-align-suffix' input parameter will have zero-filled <512 * 'vm-align-sector'> bytes data at the beginning so that it's actual data starts at a different offset instead of zero. This is done so that the read & writes to such files are aligned to WAFL's 4k block boundary. This parameter is not supported for FlexGroups. |
| **vm-align-suffix** | | string optional | The Virtual Machine alignment suffix. The suffix such as '.xyz' is used to identify the files which needs to be aligned. This element can only be specified if the vm-align-sector input element is also specified. See the description for 'vm-align-sector' above for more information on this. This parameter is not supported for FlexGroups. |
| **volume-comment** | | string optional | A description for the volume being created. The maximum length of the description is 1023 characters. |
| **volume-name** | | string | Name of the volume to create. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. |
| **volume-security-style** | | string optional | The security style associated with this volume.<br><br>Possible values:<br><br>• 'mixed' ... Mixed-style security,<br>• 'ntfs' ... NTFS/Windows-style security,<br>• 'unix' ... Unix-style security (default for FlexGroups)<br><br>Security styles don't apply to GX-striped data volumes. |
| **volume-state** | | string optional | Desired state of the volume after it is created.<br><br>Possible values:<br><br>• 'online' (default),<br>• 'restricted',<br>• 'offline' |
| | | | The type of the volume to be created. Possible values: |

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| **volume-type** | | string optional | 'rw' - read-write volume (default),<br>• 'ls' - load-sharing volume,<br>• 'dp' - data-protection volume,<br>• 'dc' - data-cache volume (FlexCache) |
| **vserver-dr-protection** | | string optional | Specifies the protection type for the volume in a Vserver DR setup.<br><br>Possible values:<br><br>• 'protected' ... Volume will be replicated to the destination,<br>• 'unprotected' ... Volume will not be replicated to the destination.<br><br>This parameter is not supported for FlexGroups. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMERGSIZEINVALID** | |
| **EINVALIDINPUTERROR** | |
| **ESERVICENOTLICENSED** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EVOLALREADYMOUNTED** | |
| **EINSUFFICIENTAGGREGATES** | |
| **EVOLUMEIMBALANCE** | |
| **E_OLV_FLEXGROUP_PROVISIONING_AGGR_NOT_ENOUGH_FREE_SPACE** | |
| **E_OLV_CANT_CALCULATE_MAX_CONSTITUENT_SIZE** | |
| **E_OLV_CONSTITUENT_SIZE_TOO_BIG** | |
| **E_OLV_CONSTITUENT_SIZE_TOO_SMALL** | |
| **E_OLV_PARAM_ONLY_SUPPORTED_FOR_FLEXGROUPS** | |
| **E_OLV_FLEXGROUP_NAME_TAKEN** | |
| **E_OLV_VOLUME_NAME_TAKEN_BY_FLEXGROUP** | |
| **E_OLV_AGGR_OFFLINE** | |
| **EOP_DISALLOWED_ON_PHANTOM_AGGR** | |
| **EOP_DISALLOWED_ON_SNAPLOCK_AGGR** | |
| **EOP_DISALLOWED_ON_UNKNOWN_STATE_AGGR** | |
| **E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE** | |
| **E_OLV_FG_MCC_UNSUPPORTED** | |
| **E_OLV_FG_EXPORT_POLICY_NOT_SUPPORTED** | |
| **E_OLV_FG_VSERVERDR_UNSUPPORTED** | |

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|---|---|
| **E_OLV_FG_TOO_MANY_CONSTITUENTS** | |
| **E_OLV_OPERATIONS_CONFLICT** | |
| **E_OLV_FG_MAX_CONSTITUENT_SIZE_TOO_SMALL** | |
| **E_OLV_FLEXGROUP_CREATE_SIZE_UNDER_MINIMUM** | |
| **E_OLV_FLEXGROUP_CREATE_SIZE_OVER_MINIMUM** | |
| **E_OLV_FG_CREATE_AUTO_AGGRS_FALSE** | |

# volume-destroy

[top]

Destroy the specified volume or plex. If a flexible volume is specified, all of its blocks are freed and returned to its containing aggregate; no other flexible volumes in the same containing aggregate (if any) are affected. If a traditional volume is specified, all of its plexes are destroyed, and its disks are returned to the appropriate spare pool(s). If a plex is specified, it must be for a mirrored aggregate (which could potentially be embedded in a traditional volume), leaving it unmirrored. Only offline volumes and plexes can be destroyed. Plexes are not supported for Cluster-Mode volumes.

This API is not supported for FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of an existing volume or plex. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEPLEXINVALID** | |
| **EVOLUME_HAS_VFILER_STORAGE** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |
| **EOP_DISALLOWED_ON_CLONE_PARENT** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVOL_IS_SNAPMIRROR_SOURCE** | |
| **EVOL_IS_SNAPMIRROR_SOURCE_DEST** | |
| **EVOL_IS_SNAPMIRROR_DEST** | |
| **EAUTO_BALANCE_VOLUME_RUNNING** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-destroy-async

[top]

Destroy a volume. The volume must be unmounted and must be offline before it can be destroyed.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **volume-name** | | string | Name of an existing volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EAUTO_BALANCE_VOLUME_RUNNING** | |

# volume-encryption-conversion-get-iter

[top]

Display the encryption status of all volumes undergoing encryption

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | volume-encryption-conversion-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 10 |
| **query** | | volume-encryption-conversion-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | volume-encryption-conversion-info[] optional | The list of attributes of volume objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more volume objects to return. |
| **num-records** | **[0..2^32-** | integer | The number of records returned in this call. |

| | | | |
|---|---|---|---|
| | 1] | | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

## volume-encryption-conversion-pause

[top]

Pause Volume Encryption Conversion

| Input Name | Range | Type | Description |
|---|---|---|---|
| volume | | string | Volume Name |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EVOLUMENOTFOUND | |

## volume-encryption-conversion-resume

[top]

Resume Paused Volume Encryption Conversion

| Input Name | Range | Type | Description |
|---|---|---|---|
| volume | | string | Volume Name |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EVOLUMENOTFOUND | |

## volume-encryption-conversion-start

[top]

Start Encryption Conversion of a Volume

| Input Name | Range | Type | Description |
|---|---|---|---|
| volume | | string | Volume Name |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EVOLUMENOTFOUND | |
| ESERVICENOTLICENSED | |
| EKEYMANAGERSETUPNOTFOUND | |
| | |

| Errno | Description |
| --- | --- |
| EREKEYINPROGRESS | |

# volume-encryption-rekey-get-iter

[top]

Display the encryption status of all volumes undergoing encryption rekey

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| desired-attributes | | volume-encryption-rekey-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 10 |
| query | | volume-encryption-rekey-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| attributes-list | | volume-encryption-rekey-info[] optional | The list of attributes of volume objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more volume objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

# volume-encryption-rekey-pause

[top]

Pause Volume Encryption Rekey

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| volume | | string | Volume Name |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EVOLUMENOTFOUND | |

# volume-encryption-rekey-resume

[top]

Resume Paused Volume Encryption Rekey

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Volume Name |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMENOTFOUND** | |

# volume-encryption-rekey-start

[top]

Rekey a Volume

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Volume Name |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMENOTFOUND** | |
| **ESERVICENOTLICENSED** | |
| **EKEYMANAGERSETUPNOTFOUND** | |
| **EREKEYINPROGRESS** | |

# volume-expand-async

[top]

Allows the user to increase the size of a FlexGroup by adding constituents. The size of the new constituents is determined by the size of the smallest existing constituent.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volumes or Infinite Volume constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] | Specifies an array of names of aggregates to be used for FlexGroup constituents. Each entry in the array will create a constituent on the specified aggregate. An aggregate may be specified multiple times to have multiple constituents created on it. |
| **aggr-list-multiplier** | **[1..1000]** | integer optional | Specifies the number of times to iterate over the aggregates listed with the -aggr-list parameter when creating a FlexGroup. The aggregate list will be repeated the specified number of times. For example, if the aggr-list is "aggr1,aggr2" and the aggr-list-multiplier is 2 four constituents to be created in the order aggr1, aggr2, aggr1, |

| | | | |
|---|---|---|---|
| | | | aggr2. The number of constituents created on a node contributes to the maximum volume limit per node, which cannot be exceeded. Default aggr-list-multiplier is 1. |
| **volume-name** | | string | The name of the FlexGroup to expand. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_OLV_FLEXGROUP_PROVISIONING_AGGR_NOT_ENOUGH_FREE_SPACE** | |
| **E_OLV_CANT_CALCULATE_MAX_CONSTITUENT_SIZE** | |
| **E_OLV_AGGR_OFFLINE** | |
| **EOP_DISALLOWED_ON_PHANTOM_AGGR** | |
| **EOP_DISALLOWED_ON_SNAPLOCK_AGGR** | |
| **EOP_DISALLOWED_ON_UNKNOWN_STATE_AGGR** | |
| **E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE** | |
| **E_OLV_FG_DOESNT_EXIST** | |
| **E_OLV_FG_TOO_MANY_CONSTITUENTS** | |
| **E_OLV_OPERATIONS_CONFLICT** | |
| **E_OLV_FG_EXPAND_NO_QUOTA** | |
| **E_OLV_FG_EXPAND_NO_SNAPMIRROR** | |
| **E_OLV_FG_EXPAND_NO_DP** | |

# volume-flexgroup-capacity-tier-footprint-get-iter

[top]

Get the current footprint in the capacity tier for FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | volume-flexgroup-capacity-tier-footprint-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | volume-flexgroup-capacity-tier-footprint-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | volume-flexgroup-capacity-tier-footprint-info[] optional | The list of attributes of volume objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more volume objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |

# volume-flexgroup-deploy-async

[top]

This API is no longer supported as of ONTAP 9.6.0. Use the volume-create-async API without either the 'containing-aggregate' or 'aggr-list' parameters instead.

Deploys a FlexGroup on the cluster.

The FlexGroup is created with 8 constituents on each node in the cluster. The constituents are split equally between the two largest aggregates on each node. If using two aggregrates per node is not possible, all of the constituents are created on the largest aggregate on each node.

This API is only supported on clusters with 4 nodes or less. On clusters with more than 4 nodes, use the volume-create-async API to create FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **size** | | integer | The initial size of the new FlexGroup, in bytes. The maximum size of the FlexGroup is limited by the platform maximum FlexVol size multiplied by 8 and multiplied by the number of nodes in the cluster. The size of the FlexGroup is also limited by the available space in the hosting aggregates. |
| **space-reserve** | | string optional | Specifies the type of volume guarantee the new volume will use. Possible values: none, volume. The default setting on All Flash FAS systems is none, otherwise the default setting is volume. .* |
| **volume-** | | string | This specifies the name of the FlexGroup. The name of the The FlexGroup can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an |

| | | | |
|---|---|---|---|
| **name** | | optional | underscore. In Data ONTAP Cluster-Mode, the volume names must be unique within a Vserver. The default value for the FlexGroup name is 'fg'. |
| **volume-type** | | string optional | The type of the volume to be created. Possible values:<br>• 'rw' - read-write volume (default),<br>• 'dp' - data-protection volume, |
| **vserver** | | string optional | This specifies the Vserver on which the FlexGroup will be located. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **E_OLV_FLEXGROUP_PROVISIONING_AGGR_NOT_ENOUGH_FREE_SPACE** | |
| **E_OLV_CANT_CALCULATE_MAX_CONSTITUENT_SIZE** | |
| **E_OLV_CONSTITUENT_SIZE_TOO_BIG** | |
| **E_OLV_CONSTITUENT_SIZE_TOO_SMALL** | |
| **E_OLV_PARAM_ONLY_SUPPORTED_FOR_FLEXGROUPS** | |
| **E_OLV_FLEXGROUP_NAME_TAKEN** | |
| **E_OLV_VOLUME_NAME_TAKEN_BY_FLEXGROUP** | |
| **E_OLV_AGGR_OFFLINE** | |
| **EOP_DISALLOWED_ON_PHANTOM_AGGR** | |
| **EOP_DISALLOWED_ON_SNAPLOCK_AGGR** | |
| **EOP_DISALLOWED_ON_UNKNOWN_STATE_AGGR** | |
| **E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE** | |
| **E_OLV_FG_MCC_UNSUPPORTED** | |
| **E_OLV_FG_EXPORT_POLICY_NOT_SUPPORTED** | |
| **E_OLV_FG_VSERVERDR_UNSUPPORTED** | |
| **E_OLV_FG_TOO_MANY_CONSTITUENTS** | |
| **E_OLV_OPERATIONS_CONFLICT** | |
| **E_OLV_FG_MAX_CONSTITUENT_SIZE_TOO_SMALL** | |
| **E_OLV_FG_DEPLOY_TOO_MANY_FLEXGROUPS** | |
| **E_OLV_FG_DEPLOY_NOT_ENOUGH_DISKS** | |
| **E_OLV_FG_DEPLOY_FLEXGROUP_CREATE_FAILED** | |
| **E_OLV_FG_DEPLOY_FLEXGROUP_CREATE_AND_ROLLBACK_FAILED** | |
| **E_OLV_FG_DEPLOY_AGGREGATE_CREATE_FAILED** | |
| **E_OLV_FG_DEPLOY_AGGREGATE_CREATE_AND_ROLLBACK_FAILED** | |
| **E_OLV_FG_DEPLOY_NOT_ENOUGH_AGGREGATES** | |

| | |
|---|---|
| **E_OLV_FG_DEPLOY_NOT_ENOUGH_VALID_AGGREGATES** | |
| **E_OLV_FG_DEPLOY_VSERVER_CREATE_FAILED** | |
| **E_OLV_FG_DEPLOY_VSERVER_CREATE_AND_ROLLBACK_FAILED** | |

# volume-flexgroup-deploy-simulate-aggr-layout

[top]

This API is no longer supported as of ONTAP 9.6.0. Use the volume-flexgroup-get-create-limits API instead.

Get the aggregate layout that will be created when deploying a FlexGroup.

Return calculated number of aggregates, estimated aggregate capacity, disk count and disk type.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **aggr-count** | | integer | The number of aggregates that will be created. |
| **aggr-size** | | integer | The expected size of each aggregate. |
| **disk-count** | | integer | Total number of disks used for each aggregate. |
| **disk-type** | | string | Name of the Disk type present on this controller. Possible values include FCAL, ATA, LUN, SAS, SSD, BSAS, FSAS, MSATA and VMDISK. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EAGGREXISTS** | |
| **E_OLV_FG_DEPLOY_NOT_ENOUGH_DISKS** | |

# volume-flexgroup-get-create-limits

[top]

Get a preivew of FlexGroup creation. If manually selecting the aggregates to create the FlexGroup, this API will return the minimum and maximum size allowable for the FlexGroup. If using auto provisioinig, this API will return the minimum and maximum size allowable, along with the type of disks that can support the maximum allowable size. If a size is specified, the API will also return the list of aggregates that will be used to create a FlexGroup of the requested size, along with the type of disks that would be used. If a size is specified and a FlexGroup cannot be provisioned for the specified size, the API will not return an error when using auto provisioning. An error is only returned for auto provisioning if no FlexGroup of any size can be created on any aggregates.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] optional | Specifies an array of names of aggregates to be used for FlexGroup constituents. Each entry in the array will create a constituent on the specified aggregate. An aggregate may be specified multiple times to have multiple constituents created on it. |
| **aggr-list-multiplier** | **[1..1000]** | integer optional | Specifies the number of times to iterate over the aggregates listed with the -aggr-list parameter when creating a FlexGroup. The aggregate list will be repeated the specified number of times. For example, if the aggr-list is "aggr1,aggr2" and the aggr-list-multiplier is 2 four constituents to be created in the order aggr1, aggr2, aggr1, aggr2. The number of constituents created on a node contributes to the maximum volume limit per node, which |

| | | | |
|---|---|---|---|
| | | | cannot be exceeded. This parameter is only supported when getting the create limits of a FlexGroup using the aggr-list parameter. Default aggr-list-multiplier is 4. |
| **auto-provision-as** | | string optional | |
| **encryption-type** | | integer optional | This parameter specifies the encryption-type of the FlexGroup created where the system automatically creates aggregates. If the value is 1, the FlexGroup will be unencrypted. If the value is 2, the FlexGroup will be of type NVE (NetApp Volume Encryption). If the value is 3, the FlexGroup will be of type NAE (NetApp Aggregate Encryption). The default value is none. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **nodes** | | node-name[] optional | Specifies an array of node names to be used for provisioning the FlexGroup. If an array of node names is specified, only aggregates from the specified nodes will be considered for provisioning. If no value is specified, all nodes in the cluster will be used . This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **size** | **[0..2^64-1]** | integer optional | The initial size of the volume in bytes. If size is not specified, then it will use the system default which is the number of constituents times 200MB for FlexGroups. |
| **space-guarantee** | | string optional | Specifies the type of space guarantee the new volume will use. Possible values: none, volume. |
| **support-tiering** | | boolean optional | Use this parameter to specify whether FabricPools are selected when creating a FlexGroup where the system automatically selects aggregates. Only FabricPools are used if this parameter is set to true and only non FabricPools are used if this parameter is set to false. The default value is false. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **use-mirrored-aggregates** | | boolean optional | This parameter specifies whether or not mirrored aggregates are selected when provisioning a FlexGroup where the system automatically selects aggregates. Only mirrored aggregates are used if this parameter is set to true and only unmirrored aggregates are used if this parameter is set to false. Aggregate level mirroring for a FlexGroup can be changed by moving all of the constituents to the required aggregates. The default value is true for a MetroCluster configuration and is false for a non-MetroCluster configuration. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **volume-type** | | string optional | The type of the volume to be created. Possible values:<br>• "rw" - read-write volume (default setting),<br>• "ls" - load-sharing volume,<br>• "dp" - data-protection volume,<br>• "dc" - data-cache volume (FlexCache) |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **chosen-aggr-count** | | integer optional | The number of aggregates the FlexGroup will be created on. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **chosen-aggr-list** | | aggr-name[] optional | The aggregates the FlexGroup will be created on. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| | | | |

| | | | |
|---|---|---|---|
| **chosen-aggr-type** | | string optional | The disk type of the aggregates the FlexGroup will be created on. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **chosen-create-error** | | string optional | If the size parameter is specified, and creating a FlexGroup at that size is not possible, the error string indicating why will be returned via the chosen create-error parameter. |
| **chosen-provider-type** | | string optional | The object store provider type of the FabricPools the FlexGroup will be created on. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates and the support-tiering parameter is true. |
| **max-create-aggr-type** | | string optional | The disk type of the aggregates that supports the maximum sized FlexGroup that can be created. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **max-create-provider-type** | | string optional | The object store provider type of the FabricPools that support the maximum sized FlexGroup that can be created. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates and the support-tiering parameter is true. |
| **max-create-with-dedupe** | **[0..2^64-1]** | integer | The maximum sized FlexGroup that can be created with deduplication. |
| **max-create-without-dedupe** | **[0..2^64-1]** | integer | The maximum sized FlexGroup that can be created without deduplication. |
| **max-sizes** | | flexgroup-max-size-entry[] optional | An array of maximum FlexGroup sizes that can be created for each type of disks on the cluster. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **min-create** | **[0..2^64-1]** | integer | The minimum sized FlexGroup that can be created. This is based on a minimum constituents size of 100GB. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |

# volume-flexgroup-get-expand-limits

[top]

Get the minimum and maximum expand limits for a FlexGroup.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string | This specifies the name of the FlexGroup you want the the limits for. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **max-aggr-list-with-dedupe** | | aggr-name[] | Specifies the maximum array of names of aggregates that can be used to expand the specified FlexGroup, with deduplication. Each entry in the array corresponds to a constituent on the specified aggregate. The number of times an aggregate is specified is the number of constituents that can be created on it. |
| | | | |

| | | | |
|---|---|---|---|
| **max-aggr-list-without-dedupe** | | aggr-name[] | Specifies the maximum array of names of aggregates that can be used to expand the specified FlexGroup, without deduplication. Each entry in the array corresponds to a constituent on the specified aggregate. The number of times an aggregate is specified is the number of constituents that can be created on it. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |

# volume-flexgroup-get-resize-limits

[top]

Get the minimum and maximum resize limits for a FlexGroup.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string | This specifies the name of the FlexGroup you want the the limits for. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **max-resize-with-dedupe** | | integer | The maximum a FlexGroup can be resized to with deduplication. |
| **max-resize-without-dedupe** | | integer | The maximum a FlexGroup can be resized to without deduplication. |
| **min-resize** | | integer | The minimum a FlexGroup can be resized to. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |

# volume-footprint-get-iter

[top]

Display a list of volumes and their data and metadata footprints in their parent aggregate. The term footprint is used to refer to space that is considered used in an aggregate due to data in a specific volume. Some fields are expensive to compute, if the system is under load, the information may not be returned. Best practise would be to only request the fields needed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | footprint-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | footprint-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the volume-footprint object. All volume-footprint objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | footprint-info[] optional | The list of attributes of volume-footprint objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more volume-footprint objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-get-filer-info

[top]

Get information on what possibilities and parameters exist for volumes on a given filer.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **allowed-raidtypes** | | raidtype-info[] | List of RAID types allowed for aggregates on this filer. |
| **checksum-types** | | string | Checksum types supported by this filer. The possible values:<br>• "zoned" - if all aggregates are Fixed VBN,<br>• "block" - if all aggregates are Block Appended,<br>• "mixed" - if aggregates are mixed (Fixed VBN and Block Appended and Advanced Zoned),<br>• "none" - if no aggregates have zoned or block checksums or advanced_zoned checksum (azcs) or mixed,<br>• "advanced_zoned" - if all aggregates have Advanced Zoned Checksum scheme. |
| **default-raidtype** | | string | Default type of RAID used to protect against disk failure in aggregates on this filer. Possible values: raid0, raid4, raid_dp, raid_tec. |
| **disk-types** | | string | Type of disks supported by this filer. Possible values: "512", "520", "4096", "mixed", "none". "512" if all disks are 512 BPS, "520" if all disks 520 BPS "4096" if all disks 4096 BPS, "mixed" if disks are mixed 512, 520 and 4096 BPS "none" if no disks have 512 or 520 or 4096 BPS. |
| **raidgroup-size** | | raidgroup-size-info[] | List of the RAID group sizing parameters for each RAID type supported on this filer. |
| **root-volume** | | string | Current root volume on the filer. |
| **snapshots-max** | | integer | Maximum number of snapshots available per aggregate on the filer. Range : [0..2^31-1]. |

| Errno | Description |
|---|---|

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# volume-get-iter

[top]

Iterate over a list of volume objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | volume-attributes optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | volume-attributes optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | volume-attributes[] optional | The list of attributes of volume objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more volume objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# volume-get-language

[top]

Get the given volume's language mapping.

| Input Name | Range | Type | Description |
|---|---|---|---|
| volume | | string | Name of the volume for which we want the language mapping. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| language | | string | Set to the volume's language mapping, in the form "LanguageCode (Full Name)" (e.g. "en_US (English (US))"). For more information on these values, see 'volume-create'. |
| language-code | | string | Set to the volume's language code, suitable for use as an argument to other functions (e.g. "en_US"). For more information on these values, see 'volume-create'. |
| | | | |

| | | | |
|---|---|---|---|
| **nfs-character-set** | | string | The NFS language mapping character set that is currently in effect for the volume.<br><br>This field is of the following format: "<nfs-character-set>\|<display-name>\|<asctime>"<br>Note that "\|" is not an OR syntax.<br><br><asctime> is the timestamp in the language configuration file header and its format is based on the standard: "A la ISO/IEC 9945-1, ANSI/IEEE Std 1003.1, Second Edition, 1996-07-12."<br><br>It uses the C Programming Language Printf format: "%.3s %.3s%3d %02d:%02d:%02d %s %d"<br><br>This format takes the following parameters in order: <weekday name>, <month name>, <month day>, <hour>, <minute>, <second>, <timezone> OR <"">, <year><br><br>E.g., If the volume language code is set to "en_US", the default NFS character set is as follows:<br>"iso-8859-1\|iso-8859-1\|Thu Oct 1 15:00:53 PDT 1998" |
| **oem-character-set** | | string | The OEM language mapping character set that is currently in effect for the volume.<br><br>This field is of the following format: "<oem-code-page>\|<display-name>\|<asctime>"<br>Note that "\|" is not an OR syntax.<br><br><asctime> is the timestamp in the language configuration file header and its format is based on the standard: "A la ISO/IEC 9945-1, ANSI/IEEE Std 1003.1, Second Edition, 1996-07-12."<br><br>It uses the C Programming Language Printf format: "%.3s %.3s%3d %02d:%02d:%02d %s %d"<br><br>This format takes the following parameters in order: <weekday name>, <month name>, <month day>, <hour>, <minute>, <second>, <timezone> OR <"">, <year><br><br>E.g., If the volume language code is set to "en_US", the default NFS character set is as follows:<br>"cp437\|cp437\|Thu Oct 1 15:00:53 PDT 1998" |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-get-root-name

[top]

Return the name of the "root" volume on the filer. If this request is executed in the context of a vfiler, the "root" volume of the vfiler will be returned. If this request is executed in the context of a Vserver the "namespace root" volume of the Vserver will be returned. If the "namespace root" volume of the Admin Vserver is requested, EVSERVER_OP_NOT_ALLOWED will be returned.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the root volume for the filer. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-get-supported-guarantees

[top]

Returns the list of guarantee types that are supported on this volume. This just does semantic checks and so enabling supported guarantees can still fail because of space checks.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume. Ex: flex1, vol0 etc. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **guarantee-types** | | guarantee[] | List of guarantee types supported on this volume. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-get-volume-path

[top]

Return the junction-path of the volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-style-cifs** | | boolean | CIFS-style-flag |
| **volume** | | string | Volume Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **junction** | | string | Junction Path |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVSERVERNOTFOUND** | |

# volume-list-info

[top]

Get volume status. Note that all RAID-related status items (e.g., 'raid-size', 'raid-status', 'checksum-style') reported for a flexible volume actually describe the state of its containing aggregate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **verbose** | | boolean optional | If set to "true", more detailed volume information is returned. If not supplied or set to "false", this extra information is not returned. |
| **volume** | | string optional | The name of the volume for which we want status information. If not supplied, then we want status for all volumes on the filer. Note that if status information for more than 20 volumes is desired, the volume-list-info-iter-* zapis will be more efficient and should be used instead. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **volumes** | | volume-info[] | List of volumes and their status information. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVSERVERNOTFOUND** | |
| **EMISSINGVSERVERARGUMENT** | |
| **ENODENOTFOUND** | |
| **ESNAPMIRRORDESTINATIONBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-list-info-iter-end

[top]

Terminate a list iteration and clean up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from a previous volume-list-info-iter-start. |

| Vfiler-enabled |
| --- |
| Yes |

## volume-list-info-iter-next

[top]

Continues an iteration through the list of volumes.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| maximum | | integer | The maximum number of entries to retrieve. |
| tag | | string | Tag from a previous volume-list-info-iter-start. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| records | | integer | This tells you how many records are being returned from this particular call to volume-list-info-iter-next. When this value is 0, you have retrieved everything. |
| volumes | | volume-info[] | List of volumes and their status information. See volume-list-info for a description of type volume-info. |

| Vfiler-enabled |
| --- |
| Yes |

## volume-list-info-iter-start

[top]

Starts an iteration through the list of volumes.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| verbose | | boolean optional | If set to "true", more detailed volume information is returned. If not supplied or set to "false", this extra information is not returned. |
| volume | | string optional | The name of the volume for which we want status information. If not supplied, then we want status for all volumes on the filer. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| records | | integer | This tells you the number of items that have been saved for future retrieval with volume-list-info-iter-next. |
| tag | | string | Tag to be used in subsequent iterations. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |
| EVOLUMEDOESNOTEXIST | |

| Vfiler-enabled |
| --- |
| Yes |

# volume-mediascrub-list-info

[top]

Get the RAID media scrubbing status on the named traditional volume, plex, or RAID group. If no name is given, then status is provided for all RAID groups currently undergoing media scrubbing.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string optional | Name of traditional volume, plex or RAID group for which media scrub status is desired. If no name is given, then status is provided for all RAID groups currently undergoing media scrubbing. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **mediascrub-details** | | mediascrub-detail-info[] | List of RAID groups and their media scrub status. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-mirror

[top]

Turns an unmirrored traditional volume into a mirrored traditional volume by adding a plex to it. The plex is either newly formed from disks chosen from a spare pool or, if the "victim-volume" option is specified, is taken from another existing unmirrored volume. The volume must currently be unmirrored. Disks may be specified explicitly using the "mirror-disks" argument list option in the same way as with the 'volume-create' and 'volume-add' APIs. The number of disks specified must exactly match the number present in the existing traditional volume. If the disks to use are not explicitly specified, then the appropriate disks are automatically selected to match those already in the traditional volume's existing plex. It is not possible to directly mirror a flexible volume; if that is the goal, then consider using 'volume-container' to find the flexible volume's containing aggregate, then use 'aggr-mirror' to mirror that aggregate (which, of course, will case all other volumes contained in the given aggregate to become mirrored as well).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force the mirroring operation through, past the normal roadblocks that would otherwise cause it to be aborted. For example, disks in a plex are not normally permitted to span spare pools. This safety-drive behavior is overridden when the 'force' option is provided and set to 'true'. |
| **mirror-disks** | | disk-info[] optional | Specific list of mirror disks to use. It must have the same number of disks as are present in the given traditional volume. The specified disks are not permitted to span disk pools; this behavior can be overridden with the "force" argument. |
| **victim-volume** | | string optional | The "victim" traditional volume to cannibalize in order to mirror the given traditional volume. The result is a mirrored traditional volume that is otherwise identical to the original volume before the operation. The "victim-volume" is effectively destroyed. "victim-volume" must have been previously mirrored with this volume, then separated via the "volume-split" command. "victim-volume" must be offline. |
| **volume** | | string | Name of the traditional volume to be mirrored. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **bad-disks** | | disk-info[] | List of disks that were not added. This is only returned if there are bad disks. |

| | | | |
|---|---|---|---|
| | | optional | |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMEDISKDUP** | |

# volume-modify-iter

[top]

Modify the attributes of a volume or a group of volume objects.

This API is not supported for Infinite Volumes or FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | volume-attributes | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple volume objects match a given query. If set to true, the API will continue modifying the next matching volume even when modification of a previous volume fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching volume even when the modification of a previous matching volume fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | volume-attributes | If modifying a specific volume, this input element must specify all keys. If modifying volume objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of volume objects (just keys) that were not modified due to some error. If set to false, the list of volume objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of volume objects (just keys) that were successfully updated. If set to false, the list of volume objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | volume-modify-iter-info[] optional | Information about volume objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching volume objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of volume objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of volume objects that matched the query and were successfully updated. |
| **success-list** | | volume-modify-iter-info[] optional | The volume objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |

# volume-modify-iter-async

[top]

Modify the attributes of an Infinite Volume, FlexGroup or a group of Infinite Volumes and FlexGroups.

Infinite Volume creation and expansion operations may involve creation and initialization of Namespace Mirrors. The initialization is started during the creation of expansion operation, but can continue after the Infinite Volume operation has completed. When this happens, the Infinite Volume will be in a 'mixed' state, until the Namespace Mirror initilization is complete. While in a 'mixed' state, further operations of the Infinite Volume are not possible.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents. This API does not require any license when operating on an Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | volume-attributes | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple volume objects match a given query. If set to true, the API will continue modifying the next matching volume even when modification of a previous volume fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching volume even when the modification of a previous matching volume fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | volume-attributes | If modifying a specific volume, this input element must specify all keys. If modifying volume objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of volume objects (just keys) that were not modified due to some error. If set to false, the list of volume objects not modified will not be returned. Default: true |

| | | | |
|---|---|---|---|
| **return-success-list** | | boolean optional | If set to true, the API will return the list of volume objects (just keys) that were successfully updated or scheduled for update. If set to false, the list of volume objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | volume-modify-iter-async-info[] optional | Information about volume objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching volume objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of volume objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of volume objects that matched the query and were successfully updated or scheduled for update. |
| **success-list** | | volume-modify-iter-async-info[] optional | The volume objects that were successfully updated or scheduled for update. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-mount

[top]

Mount a volume on another volume (parent) with a junction-path. This API is not supported on Infinite Volume constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **activate-junction** | | boolean optional | This field optionally specifies whether the mounted volume is accessible. The default is true. If the mounted path is not accessible, it does not appear in the owning Vserver's namespace. |
| **export-policy-override** | | boolean optional | This field optionally specifies whether the parent volume's export policy overrides the mounted volume's Export Policy. The default is false. |
| **junction-** | | | The Junction Path.<br><br>The fully-qualified pathname in the owning Vserver's namespace at which a volume is mounted. The pathname is case insensitive and must be unique within a Vserver's context. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'. An Infinite Volume has the additional restriction of allowing only one element. |

| | | | |
|---|---|---|---|
| **path** | | string | An example of a valid FlexVol or FlexGroup junction path is: '/user/my_volume'. An example of a valid Infinite Volume junction path is: '/repository'.<br><br>Only one volume can be mounted at any given junction path. If an incorrect junction path is specified, EINVALIDINPUTERROR is returned. If this volume is mounted at a different junction path, or if another volume is mounted at the specified junction path, EVOLALREADYMOUNTED is returned. |
| **volume-name** | | string | The name of the volume. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOL_ALREADY_MOUNTED** | |
| **EVOL_MOUNT_FAILED** | |
| **EJUNCTION_CREATE_FAILED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# volume-move-get-iter

[top]

Get status of move operation

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | volume-move-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | volume-move-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | volume-move-info[] optional | The list of attributes of volume objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more volume objects to return. |

| num-records | [0..2^32-1] | integer | The number of records returned in this call. |
|---|---|---|---|

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# volume-move-pause

[top]

Pause running volume move operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| volume | | string | Volume Name |
| vserver | | string | Vserver Name |

| Errno | Description |
|---|---|
| EAPIERROR | |
| EVOLUMEDOESNOTEXIST | |
| EVOLUME_MOVE_COMPLETED | |

# volume-move-resume

[top]

Resume running volume move operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| volume | | string | Volume Name |
| vserver | | string | Vserver Name |

| Errno | Description |
|---|---|
| EAPIERROR | |
| EVOLUMEDOESNOTEXIST | |
| EVOLUME_MOVE_COMPLETED | |

# volume-move-start

[top]

Initially this API will run a series of checks to determine if the volume can be moved. If any of the checks results in an error or warning, the API will return with an error. The user has to take the necessary corrective action before restarting the move. If all the checks pass, the API will return a success. If "perform-validation-only" is set to true, all the errors and warnings encountered from the checks will be returned in the errors-warnings output element. The API will return successfully, and the move will not be initiated. By default "perform-validation-only" is false, which means that the destination volume will be created and the move will start. A flexvol can be moved to any aggregate in the cluster, but if the flexvol is a member of an infinite volume it can only be moved to any eligible aggregate within the same vserver. The list of eligible aggregates can be obtained using the "volume-move-target-aggr-get-iter" API. The Cluster-mode API, supports the actions of "cutover-window",

"cutover-attempts" and "cutover-action".The status of the move job can be obtained by using the "volume-move-get-iter" API and "job-get" or "job-get-iter" APIs. If the move fails an EMS message will be generated. The reason for the failure can be obtained from the volume-move-get-iter API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allow-mixed-aggr-types** | | boolean optional | To allow FlexGroup volume constituents move from a FabricPool to a non-FabricPool, or vice versa. This option is not applicable for Flex Volume move. |
| **cutover-action** | | string optional | Specifies the action to be taken for cutover. Possible values are "abort_on_failure", "defer_on_failure", "force" and "wait". Default is "defer_on_failure". If "abort_on_failure" action is specified, the job will try cutover till the cutover-attempts are exhausted, and cleanup if it fails to cutover. If "defer_on_failure" action is specified, the job will try cutover till the cutover-attempts are exhausted and move into "cutover deferred" state if it fails to cutover. This is the default option. The volume move job waits for intervention to restart the cutover process again. If "force" action is specified, the job will try cutover till the cutover-attempts are exhausted and force the cutover at the expense of disrupting the clients. If "wait" action is specified, when the job hits the decision point, it will not go into cutover automatically, instead it will wait for the user to issue a "volume-move-trigger-cutover" command as the signal to try the cutover. |
| **cutover-attempts** | **[1..25]** | integer optional | Number of cutover attempts. Default value is 3 |
| **cutover-window** | **[30..300]** | integer optional | Time interval to complete cutover in seconds. Default value for Data ONTAP Cluster-Mode volume move is 30 seconds. Default value for Data ONTAP 7-mode volume move is 60 seconds. |
| **dest-aggr** | | string | Name of the destination aggregate |
| **encrypt-destination** | | boolean optional | To encrypt destination volume. |
| **encrypt-with-aggr-key** | | boolean optional | To encrypt destination volume as NAE (NetApp Aggregate Encryption). |
| **generate-destination-key** | | boolean optional | To generate new encryption key for destination volume. |
| **perform-validation-only** | | boolean optional | Run pre-checks for the move, return all the errors and warning messages encountered during the checks in the errors-warnings element and exit. The move will not be triggered. Default is false. |
| **source-volume** | | string | Name of the volume that must be moved |
| **tiering-policy** | | string optional | The tiering policy that is to be associated with the volume. This policy decides whether the blocks of a volume will be tiered to the capacity tier. The possible values for this field are:<br>• snapshot-only - This policy allows tiering of only the volume snapshot copies not associated with the active file system.<br>• 'auto' - This policy allows tiering of both snapshot and active file system user data to the capacity tier.<br>• none - Volume blocks will not be tiered to the capacity tier.<br>• backup - On DP volumes this policy allows all transferred user data blocks to start in the capacity tier.<br>Default tiering policy is snapshot-only. |
| **vserver** | | string optional | Name of the Vserver in which the volume to be moved resides. This value is required for C-Mode volumes. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded", "in_progress", "failed". |
| **volume-move-dedup-warnings** | | errors-warnings-info[] optional | Volume Move Dedup Warnings |
| **volume-move-error-codes** | | volume-move-error-code[] optional | Error codes |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMENOTONLINE** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |
| **EALREADYSTARTED** | |
| **EAPIMISSINGARGUMENT** | |
| **EINVALIDINPUTERROR** | |
| **EINVALIDSTATE** | |
| **ENOTSTARTED** | |
| **EONTAPI_EALREADY** | |
| **EVFILEROPNOTALLOWED** | |
| **EVOLAGGRISIRONING** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVOL_CIFS_ENABLED** | |
| **EVOL_ONLINE_ERROR** | |
| **EVOL_TOO_MANY** | |
| **EVOLUME_ADMINOP_NOT_FENCED** | |
| **EVOL_NFS_ENABLED** | |
| **EOP_DISALLOWED_ON_BUSY_MIRROR** | |
| **EOP_DISALLOWED_ON_LOADSHARING_VOL** | |
| **EOP_DISALLOWED_ON_CLONE_PARENT** | |
| **EOP_DISALLOWED_ON_BACKUP_ACTIVE_VOL** | |
| **EOP_DISALLOWED_ON_STRIPED_VOL** | |
| **EOP_DISALLOWED_ON_COMPRESSED_VOL** | |
| **EOP_DISALLOWED_ON_7MODE_VOL** | |
| **EOP_DISALLOWED_ON_STRIPED_AGGR** | |
| **EOP_DISALLOWED_ON_VOL_ALREADY_ON_AGGR** | |
| **EOP_DISALLOWED_ON_ROOT_AGGR** | |

| | |
|---|---|
| **ESNAPMIRROR_NOT_INITIALIZED** | |
| **EONTAPI_ENOSPCAGGR** | |
| **ENDMPRUNNING** | |
| **EVOLISGRIDIRONING** | |
| **EVOLMOVE_NDMP_DUMPS_RUNNING** | |
| **EVOLMOVE_NDMP_RESTORE_RUNNING** | |
| **EVOLMOVE_SIS_UNDO_RUNNING** | |
| **E_VOL_MOVE_INCOMPATIBLE_VERSION** | |
| **E_VOL_MOVE_DC_NOT_ALLOWED** | |
| **ENODENOTFOUND** | |
| **E_OP_DISALLOWED_ON_AGGR_NOT_IN_VSERVER_LIST** | |
| **E_OP_UNSUPPORTED_NO_SPACE_ON_DESTINATION_AGGR** | |
| **EVOLUME_RELSTATUS_UNKNOWN** | |
| **EINTERNALERROR** | |
| **ESNAPMIRRORNOTSUPPORT** | |
| **ESNAPMIRRORVOLNOTFOUND** | |
| **ESNAPMIRRORINVALIDINPUT** | |
| **ESNAPMIRRORINVALIDUUID** | |
| **EAPIMISSINGARGUMENT** | |
| **ENOMEM** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **ECANNOT_MOVE_TRANSITION_VOLUME** | |
| **EVOL_CLONE_BEING_SPLIT** | |
| **EVOLMOVE_CANNOT_MOVE_TO_CFO** | |
| **EVOLMOVE_CANNOT_MOVE_FROM_CFO_AGGR_IN_TAKEOVER** | |
| **E_SAN_MISSING_REQUIRED_LIFS** | |
| **E_SAN_NOT_READY** | |
| **EVOLMOVE_RECALLING_LOCKS** | |
| **EOP_NOTICE_CLONE_PARENT_MOVE** | |
| **EOP_NOTICE_NVFAILED_STATE_MOVE** | |
| **EOP_NOTICE_CLONE_MOVE_WITH_AUTODELETE_DESTROY** | |
| **EOP_NOTICE_CLONE_CHILD_MOVE** | |
| **EOP_NOTICE_MOVE_TO_NON_HYBRID_AGGR** | |
| **EOP_NOTICE_MOVE_TO_ENCRYPTION** | |
| **EOP_NOTICE_MOVE_FROM_ENCRYPTION** | |
| **EOP_NOTICE_IDEDUP_MOVE_TO_HYA** | |
| **EOP_NOTICE_NO_IDEDUP** | |
| **EOP_NOTICE_CROSSVOL_SAVING_LOSS** | |
| **EOP_NOTICE_NO_CROSSVOL_IDEDUP_ON_ENCRYPTED** | |
| **EOP_NOTICE_CROSSVOL_IDEDUP_MOVE_TO_NON_AFF** | |
| **EOP_NOTICE_CROSSVOL_RESUME** | |
| **EOP_NOTICE_AUTO_POLICY_MOVE_TO_NON_AFF** | |
| **EOP_MOVE_NOTICE_MOVE_DST_MIRROR** | |
| **E_FG_CONSTITUENT_MOVE_TIERING_POLICY_NOT_NONE** | |
| **EFULL_SYNC_WARNING** | |
| **EOP_NOTICE_MOVE_WITH_REKEY** | |
| **E_NVMF_LIF_REQUIRED** | |
| **E_VOL_MOVE_NVMF_NAMESPACE_NOT_SUPPORTED** | |
| | |

| | |
|---|---|
| **EOP_NOTICE_FC_ORIGIN_STATUS_CHANGE** | |
| **EOP_NOTICE_FC_TO_PLAIN_TEXT** | |

# volume-move-target-aggr-get-iter

[top]

Scans aggregates and returns a list of compatible target aggregates for the given volume move operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allow-mixed-aggr-types** | | boolean optional | Allow Mixing FabricPool and non-FabricPool |
| **desired-attributes** | | volume-move-target-aggr-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination-tiering-policy** | | string optional | Volume Tiering Policy |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | volume-move-target-aggr-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |
| **volume-name** | | string | Volume Name (Required field) |
| **vserver** | | string | Vserver Name (Required field) |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | volume-move-target-aggr-info[] optional | The list of attributes of volume objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more volume objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EOP_DISALLOWED_ON_7MODE_VOL** | |
| **EVOLUMENOTONLINE** | |

# volume-move-trigger-abort

[top]

Stop a running volume move operation.

This is an asynchrous API call and it does not wait for the abort to finish before returning. volume-move-get-iter can be used to monitor the progress of the abort and get the status. Unlike 'job stop', this API makes it possible to stop a move job by the vserver and volume name. If the specified volume has completed the volume move operation, an error is returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **source-volume** | | string | The volume that is part of a completed or running volume move operation. |
| **vserver** | | string | Vserver Name |

| Errno | Description |
|---|---|
| **EAPIERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUME_MOVE_COMPLETED** | |

# volume-move-trigger-cutover

[top]

Trigger cutover of a move job

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force cutover |
| **source-volume** | | string | The name of the volume. |
| **vserver** | | string optional | Name of the Vserver in which the volume to be moved resides. This value is required for C-Mode volumes. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EJOBNOTINCUTOVERDEFERRED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# volume-offline

[top]

Take the specified volume or plex offline, making it unavailable for both user-level data access and RAID-level access (unless it's a flexible volume, at which time its containing aggregate is not affected in any way, and will remain fully online). The operation takes effect before the API returns except in maintenance mode, when the current root volume may not be taken offline. A volume marked to become the root cannot be taken offline. Taking a flexible volume offline does not affect its containing aggregate in any way. A number of operations being performed on the given volume (or its containing aggregate) can prevent this operation from succeeding, either at all or for various lengths of time. If such operations are found, the system waits up to one second for them to finish. If they don't, the

command is aborted. A check is also made for files on the volume opened by internal ONTAP processes. The command is aborted if any are found. Plexes are not supported for Cluster-Mode volumes.

This API is not supported for Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cifs-delay** | | integer optional | If a volume contains CIFS shares, users should be warned before taking the volume offline. This argument specifies the number of minutes to delay before taking the volume offline, during which time CIFS users are warned of the pending loss of service. A 'cifs-delay' time of 0 means that the volume is to be taken offline immediately without issuing any warnings. CIFS users can lose data if they are not given a chance to terminate applications gracefully. By default, the value of 'cifs-delay' is 0. |
| **name** | | string | Name of an existing volume or plex. If a volume contains CIFS shares, users should be warned before taking the volume offline. Use "cifs-delay" to specify number of seconds to wait. If a plex is specified, the plex must be part of a mirrored volume, and both plexes must be online. Prior to offlining a plex, the system will flush all internally-buffered data associated with the plex and create a snapshot that is written out to both plexes. The snapshot allows for efficient resynchronization when the plex is subsequently brought back online. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMECIFSTERMINATE** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEOFFLINE** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOLUME_IS_ONDEMAND_SOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-offline-async

[top]

Take the specified volume offline, thereby making it unavailable for data access. The volume must be unmounted before it can be made offline.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string | Name of an existing volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |

| | | | |
|---|---|---|---|
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# volume-online

[top]

Bring the specified volume or the plex online. This command takes effect immediately. If there are CIFS shares associated with the volume, they are enabled. Plexes are not supported for Cluster-Mode volumes.

This API is not supported for Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of an existing volume or plex. If a volume is specified, it must be currently offline, restricted, or foreign. If the volume is foreign, it will be made native before being brought online. A ``foreign'' volume is a traditional volume that consists of disks moved from another filer and that has never been brought online on the current filer. Traditional volumes that are not foreign are considered ``native.'' If the volume is inconsistent, but has not lost data, it is advisable to run WAFL_check or wafliron (or do a 'snapmirror initialize' in case of a replica volume) prior to bringing an inconsistent volume online. Bringing an inconsistent volume online increases the risk of further file system corruption. If the volume is inconsistent and has experienced possible loss of data, it cannot be brought online unless WAFL_check or wafliron (or 'snapmirror initialize') has been run on the volume. If a plex is specified, the plex must be part of an online mirrored traditional volume or aggregate. The system will initiate resynchronization of the plex as part of online processing. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEPLEXINVALID** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOLUME_UNSUPPORTED_OPTION_VMALIGN** | |
| **EAGGR_UNSUPPORTED_OPTION_CONTROLLER_REPLACEMENT_TRANSITION** | |
| **EVOLUME_UNSUPPORTED_OPTION_SIDL** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-online-async

[top]

Bring the specified volume online.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string | Name of an existing volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEPLEXINVALID** | |
| **EVOLUME_HAS_VFILER_STORAGE** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# volume-options-list-info

[top]

Get the options that have been set for the specified volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the existing volume for which we want option information. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **options** | | volume-option-info[] | List of options set for this volume. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |

| Vfiler-enabled |
| --- |
| Yes |

# volume-rehost

[top]

Rehosts a volume from one Vserver into another Vserver. Since volume rehost is a disruptive operation, administrators must stop all data access on target volume before rehosting. On success, target volume is available for data access under destination Vserver. Upon failure the rehost operation is reverted and target volume is available under source Vserver.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **auto-remap-luns** | | boolean optional | Flag to control automatic map of LUNs. Default value for this flag is 'false' which means LUNs will not be mapped. Administrators may choose to either manually map LUNs or set this flag to 'true' for automatic map of LUNs. |
| **destination-vserver** | | string | Destination Vserver name where target volume must reside after successful volume rehost operation |
| **force-unmap-luns** | | boolean optional | Flag to control automatic unmap of LUNs. Default value for this flag is 'false' which means LUNs will not be unmapped. Administrators may choose to either manually unmap LUNs or set this flag to 'true' for automatic unmap of LUNs. |
| **volume** | | string | Target volume name |
| **vserver** | | string | Source Vserver name to which target volume belongs |

| Errno | Description |
| --- | --- |
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVOLUMEBUSY** | |
| **EVRH_PRECHECK** | |
| **EVRH_MAX_VOL** | |
| **EVRH_MAP_LUN** | |
| **EVRH_IN_RELATION** | |
| **EVRH_VOL_MOVE_IN_PROGRESS** | |
| **EVRH_VOL_NAME_COLLISION** | |
| **EVRH_VOL_JUNC_PRESENT** | |

# volume-rename

[top]

Renames the specified volume to a new name specified by "new-volume-name". If the volume is referenced in the /etc/exports file, remember to make the name change in /etc/exports also so that the affected file system can be exported by the filer after the filer reboots. The "volume-rename" command does not automatically update the /etc/exports file.

This API is not supported for Infinite Volumes or FlexGroups. This API is supported for FlexGroup constituents, but must be of the format __, where N is the FlexGroup-index of the constituent with leading 0's.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |

| | | | |
|---|---|---|---|
| **new-volume-name** | | string | New volume name. |
| **volume** | | string | Name of an existing volume. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-rename-async

[top]

Renames the specified volume to a new name specified by "new-volume-name".

This API is not supported for Flexible Volumes or Infinite Volume constituents. This API is supported for FlexGroup constituents, but must be of the format __, where N is the FlexGroup-index of the constituent with leading 0's.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-volume-name** | | string | New name of the volume. |
| **volume-name** | | string | Name of an existing volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# volume-restrict

[top]

Restrict the specified volume, making it unavailable for user-level data access but leaving it (or its containing aggregate, if it's a flexible volume) available to internal OnTAP RAID-level access.

This API is not supported for Infinite Volumes. This API is not supported on Infinite Volume constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cifs-delay** | | integer optional | If a volume contains CIFS shares, users should be warned before restricting the volume . This argument specifies the number of minutes to delay before restricting the volume, during which time CIFS users are warned of the pending loss of service. A 'cifs-delay' time of 0 means that the volume is to be restricted immediately without issuing any warnings. CIFS users can lose data if they are not given a chance to terminate applications gracefully. By default, the value of 'cifs-delay' is 0. |
| **name** | | string | Name of the volume to restrict. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMECIFSTERMINATE** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-restrict-async

[top]

Restrict the specified volume making it unavailable for data access.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string | Name of an existing volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EVOLUMEPLEXINVALID | |
| EVOLUME_HAS_VFILER_STORAGE | |
| EVSERVERNOTFOUND | |
| EVSERVER_OP_NOT_ALLOWED | |
| EOBJECTNOTFOUND | |
| EVOLUME_TYPE_NOT_SUPPORTED | |

# volume-scrub-list-info

[top]

Get the status of RAID parity scrubbing on the named traditional volume, plex, or RAID group. If no name is given, then status is provided for all RAID groups currently undergoing scrubbing. Scrubbing status includes a percent-complete value and its suspended status (if any).

| Input Name | Range | Type | Description |
|---|---|---|---|
| name | | string optional | Name of an existing traditional volume, plex, or RAID group. If no name is given, then status is generated for all RAID groups currently being scrubbed. |
| verbose | | boolean optional | If set to "true", this operation will be verbose. If not supplied or set to 'false', normal output levels will be used. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| scrub-details | | scrub-detail-info[] | List of RAID groups and their scrub status. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# volume-scrub-resume

[top]

Resume RAID parity scrubbing on the named traditional volume, plex, or RAID group. If no name is given, then resume scrubbing on all RAID groups for which it is suspended.

| Input Name | Range | Type | Description |
|---|---|---|---|
| name | | string optional | Name of the existing traditional volume, plex, or RAID group for which the scrubbing is to resume. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# volume-scrub-start

[top]

Start RAID parity scrubbing on the named traditional volume, plex, or RAID group. RAID parity scrubbing compares the data disks to the parity disk in a RAID group, correcting the parity disk's contents as necessary. If a plex name is given, then scrubbing is started on all RAID groups contained in the plex. If a RAID group name is given, then scrubbing is started only in that RAID group. If no name is given, then scrubbing is started on the RAID groups within all online traditional volumes and aggregates. Use 'volume-scrub-list-info' to check scrub status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | Name of an existing traditional volume, plex, or RAID group. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-scrub-stop

[top]

Stop RAID parity scrubbing on the named volume, plex, or group; if no name is given, on all RAID groups currently undergoing parity scrubbing.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | Name of an existing volume, plex, or raid-group. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-scrub-suspend

[top]

Suspend RAID parity scrubbing on the named traditional volume, plex, or RAID group. If no name is given, suspend scrubbing on all RAID groups currently being scrubbed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | Name of an existing traditional volume, plex, or RAID group. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-set-language

[top]

Set the given volume's language mapping.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **language-code** | | string | The new language mapping for the volume. For a list of legal language mapping values, see 'volume-create'. |

| | | | |
|---|---|---|---|
| **volume** | | string | Name of the volume that is to have its language mapping changed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-set-option

[top]

Set the option named 'option-name' to the value specified by 'option-value' in the specified volume. The change remains effective even after the filer is rebooted. Some options have values that are numbers or strings, and others have values that are 'on' (also expressible as 'yes', 'true', or '1' ) or "off" (also expressible as 'no', 'false', or '0'). A mixture of uppercase and lowercase characters may be used for an option's value. Note that the 'root' option is special in that it does not have an associated value. Also, note that some of these options can NOT be set for a flexible volume, as they relate only to aggregates (either free-standing ones or those embedded in traditional volumes). Other options may only apply for flexible volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Name of the option to be set. Possible values:<br><br>"convert_ucode" (value: "on" \| "off")<br>Setting this option to "on" forces conversion of all directories to UNICODE format when accessed from both NFS and CIFS. By default, it is set to "off", in which case access from CIFS causes conversion of pre-4.0 and 4.0- format directories. Access from NFS causes conversion of 4.0 format directories. This option cannot be set on a Cluster-Mode volume unless it was transitioned from 7-Mode.<br><br>"snapshot_clone_dependency" (value: "on" \| "off")<br>Setting this option "on" will unlock all initial and intermediate backing snapshots for all inactive LUN clones. For active LUN clones, only the backing snapshot will be locked. If the option is "off" the backing snapshot will remain locked until all intermediate backing snapshots are deleted. This option is not valid for a Cluster-Mode volume.<br><br>"create_reserved"<br>This option is no longer supported.<br><br>"create_ucode" (value: "on" \| "off")<br>Setting this option to "on" forces UNICODE format directories to be created by default, both from NFS and CIFS. The default value is "off", in which case all directories are created in pre-4.0 format and only converted to UNICODE format upon the first CIFS access. This option cannot be set on a Cluster-Mode volume.<br><br>"extent" (value: "on" \| "space_optimized" \| "off")<br>Setting this option to "on" enables extents in the volume. This causes application writes to be written in the volume as a write of a larger group of related data blocks called an extent. Using extents may help |

workloads that perform many small random writes followed by large sequential reads. However, using extents may increase the amount of disk operations performed on the filer, so this option should only be used where applicable. The default value is "off", in which case extents are not used. The value "space_optimized" indicates extent updates will not duplicate snapshot blocks into the active file system, thereby using space conservatively. The "space_optimized" value may result in degraded snapshot read performance; and may only be used for **flexible** volumes.

"fractional_reserve" (value: < number >)
This option decreases the amount of space reserved for overwrites of reserved objects (LUNs, files) in a volume. The option is set to 100 by default and indicates that 100% of the required reserved space will actually be reserved so the objects are fully protected for overwrites. The value can vary from 0 to 100. Using a value of less than 100 indicates what percentage of the required reserved space should actually be reserved. This returns the extra space to the available space for the volume, decreasing the total amount of space used. However, this does leave the protected objects in the volume vulnerable to out of space errors since less than 100% of the required reserved space is actually reserved. If reserved space becomes exhausted this will cause disruptions on the hosts using the objects. If the percentage is decreased below 100%, it is highly recommended that the administrator actively monitor the space usage on the volume and take corrective action if the reserved space nears exhaustion.

"fs_size_fixed" (value: "on" | "off")
Setting this option to "on" causes the file system to remain the same size (and not grow) when a SnapMirror relationship is broken, or when a "vol/aggr add" is performed on it. This option is automatically set to be "on" when a volume becomes a SnapMirrored. It remains "on" after the "snapmirror break" command is issued for the volume. This option allows a volume to be SnapMirrored back to the source without needing grow the source volume. If the volume size is larger than the file system size, turning off this option forces the file system to grow to the size of the volume.

"guarantee" (value: "none" | "file" | "volume")
**Flexible** volumes only. Setting this option controls the type of space reservation for the named flexible volume. There are three possible settings. The first, "none", provides no guarantee that there will be enough blocks in the containing aggregate to meet the flexible volume's needs. The second, "file", guarantees there will be enough blocks in the containing aggregate to meet the needs of the specified files in the flexible volume. The third, "volume", is the default setting and guarantees there will be enough blocks available in the containing aggregate to meet the entire flexible volume's needs. An error will be returned if an attempt is made to set this option on a traditional volume.

"ignore_inconsistent" (value: "on" | "off")
This option can only be set in maintenance mode. If set to "on", then the root volume may be brought online when booting even if it is marked as inconsistent. The user is cautioned that bringing it online prior to running WAFL_check or wafliron may result in further file system inconsistency.

"maxdirsize" (value: < number >)

Set the maximum size (in KBytes) to which any directory can grow. The default setting of 10240 limits directory size to 10 MBytes and allows it to hold up to approximately 300,000 files. The number of files that the directory actually can hold varies depending on such things as the length of the names and whether it needs to use double-byte UNICODE characters. Most users should not need to change this option's setting. This option is useful for environments where system users may grow a directory to a size that starts impacting system performance. When a user tries to create a file in a directory that is at the limit, the system returns a ENOSPC error and fails the create.

"max_write_alloc_blocks" (value: < number >)
Set the maximum number of blocks used for write allocation. The default setting, 0, uses the system-wide default number of blocks, which should be optimal for most users. Some sequential read workloads may benefit from increasing this value. On rare occasions, some multi-stream sequential write workloads may benefit from decreasing this value. Range: [0..2048].

"minra" (value: "on" | "off")
Setting this option to "on" causes the filer to perform minimal read-ahead on this volume. By default, this option is "off", causing the filer to perform very aggressive read-ahead on the volume.

"no_atime_update" (value: "on" | "off")
Setting this option to "on" prevents the update of inode access times when a file is read. This option is useful for volumes with extremely high read traffic, since it prevents writes to the inode file for the volume from contending with reads from other files. It should be used carefully. That is, use this option when you know in advance that the correct access time for inodes will not be needed for files on that volume.

"no_i2p" (value: "on" | "off")
Setting this option to "on" disables inode to parent pathname translations on the volume. The default setting is off.

"nosnap" (value: "on" | "off")
Setting this option to "on" disables automatic snapshots on the volume. This option is not supported for Cluster-Mode volumes.

"nosnapdir" (value: "on" | "off")
Setting this option to "on" disables the visible .snapshot directory that is normally present at system internal mount points. It also turns off access to all other .snapshot directories in the volume.

"nvfail" (value : "on" | "off")
If this option is on, the filer performs additional work at boot time if it finds that there has been any potential data loss due to an NVRAM failure. In such situations, it causes the invalidation of all NFS file handles on all volumes affected by the problem so that client-side users are forced to remount the affected file system (and thus not continue to use potentially incorrect data). It is also possible to specify a set of files per volume that are to be renamed out of the way in these cases. The filer sends error messages to the console whenever such problems are found.

"raid_cv" (value: "on" | "off")
**Traditional** volumes only. Setting the option to "off" disables block checksum protection on the volume. The default is "on". The user is

| | | | |
|---|---|---|---|
| **option-name** | | string | cautioned that turning off the option exposes the filesystem to inconsistency that could be caused by a misbehaving hardware component in the system.<br><br>"raidsize" (value: < number >)<br>**Traditional** volumes only. The maximum size of a RAID group within the traditional volume. Changing this option doesn't cause existing RAID groups to grow or shrink. Rather, it only affects whether more disks will be added to the last existing RAID group in the future, and how large new RAID groups will be.<br><br>"raidtype" (value: "raid4" \| "raid_dp" \| "raid_tec")<br>**Traditional** volumes only. The type of RAID group used for this traditional volume. The "raid4" setting provides one parity disk per RAID group, "raid_dp" provides two and "raid_tec" provides three. Changing this option immediately changes the RAID group type for all RAID groups in the traditional volume. When upgrading RAID groups from "raid4" to "raid_dp", each RAID group begins reconstruction onto a spare disk allocated for the second "dparity" parity disk. Similarly, when upgrading RAID groups from "raid_dp" to "raid_tec", each RAID group begins a reconstruction onto a spare disk allocated for the third "tparity" parity disk.<br><br>"read_realloc" (value: "on" \| "space_optimized" \| "off")<br>Setting this option to "on" enables read-reallocation in the volume. This causes application reads to optimize the layout of parts of a file or LUN after the data has been read from disk and is in the appliance memory. The default value is "off". The value "space_optimized" indicates read-reallocate updates will not duplicate blocks into the active file system, thereby using space conservatively. The "space_optimized" value may result in degraded snapshot read performance; and may only be used for **flexible** volumes.<br><br>"resyncsnaptime" (value: < number >)<br>**Traditional** volumes only. Sets the RAID mirror resynchronization snapshot frequency to be the given number of minutes. The default value is '60' (minutes).<br><br>"root" (value: < none >)<br>The specified volume is to become the root volume for the filer on the next reboot. This option can be used on only one volume at any given time. The existing root volume will become a non-root volume after the reboot. Until the system is rebooted, the current root volume will continue to show 'root' as one of its options, and the new root volume will show 'diskroot' as an option. In general, the volume that has the 'diskroot' option value is the one that becomes the root volume following the next reboot. The only way to remove the root status of a volume is to set it on another one.<br><br>"schedsnapname" (value: "create_time" \| "ordinal")<br>Setting the option to "ordinal" causes scheduled snapshots to be named in the hourly.n name format. Setting the value to "create_time" causes snapshots to use a hourly.yyyy-mm-dd_hhmm name format instead. The default is "ordinal".<br><br>"snapmirrored" (value : "off")<br>If SnapMirror is enabled, the filer automatically sets this option to "on". Set this option to "off" if SnapMirror should no longer be used to update the mirror. After setting this option to "off", the mirror becomes a regular writable volume. This option can only be set to |

"off" with this interface. Only the filer can change this option's value from "off" to "on". This option is not settable in Data ONTAP Cluster-Mode. Use "snapmirror-break" API instead.

"try_first" (value : "volume_grow" | "snap_delete")
If the flexible volume is configured to automatically reclaim space if the volume is running out of space, then setting this option to "volume_grow" will cause the volume to increase in size before deleting snapshots. If the option was set to "snap_delete", snapshots will be deleted before the volume size is increased.

"svo_enable" (value: "on" | "off")
Setting this option to "on" enables SnapValidator functionality on this volume. This option only applies to non-root volumes. This option is unsupported in Data ONTAP Cluster-Mode.

"svo_allow_rman" (value: "on" | "off")
Setting this option to "on" enables SnapValidator functionality on this volume to allow this volume to contain Oracle RMAN backup data. This option only applies to non-root volumes. This option is unsupported in Data ONTAP Cluster-Mode.

"svo_checksum" (value: "on" | "off")
Setting this option to "on" enables SnapValidator checksumming of all writes to this volume. This option only applies to non-root volumes. This option is unsupported in Data ONTAP Cluster-Mode.

"svo_reject_errors" (value: "on" | "off")
Setting this option to "on" enables SnapValidator functionality to reject any write to the volume which fails the SnapValidator checks. This option only applies to non-root volumes. This option is unsupported in Data ONTAP Cluster-Mode.

"thorough_scrub" (value: "on" | "off")
**Traditional** volumes only. Setting the option to "on" enables thorough scrub on a block checksum volume. That means that a scrub will initialize any zeroed checksum entries that it finds. If there are any checksum entries to be initialized, scrub will run slower than normal.

"snaplock_autocommit_period" (value: "none" | h|d|m|y)
**SnapLock** volumes only. This option defines the criteria for committing files to WORM on a SnapLock volume by the autocommit scanner. h, d, m, y denote hours, days, months and years respectively. The default value of this option is "none" that corresponds to autocommit being disabled in the SnapLock volume. The minimum autocommit period on a SnapLock volume is 2h. Any valid value other than "none", specified in hours (h), days (d), months (m) or years (y) would trigger the autocommit scanner on the Snaplock volume.

"snaplock_default_period" (value : min | max | infinite | s|h|d|m|y)
This option can be set only for **SnapLock** volumes and specifies the default retention period that will be applied to files committed to WORM state without an associated retention period. If this option value is **min** then snaplock_minimum_period is used as the default retention period. If this option value is **max** then snaplock_maximum_period is used as the default retention period. If this option value is **infinite** then infinite retention period will be used as the default retention period. WORM files with infinite retention

| | | | |
|---|---|---|---|
| | | | period are retained forever. The retention period can also be explicitly specified as a number followed by a suffix. The valid suffixes are **s** for seconds, **h** for hours, **d** for days, **m** for months and **y** for years. For example, a value of **6m** represents a retention period of 6 months. The maximum valid retention period is 70 years. This option is not applicable while extending retention period of an already committed WORM file<br><br>"snaplock_maximum_period" (value: infinite \| s\|h\|d\|m\|y)<br>This option can be set only for **SnapLock** volumes and specifies the maximum allowed retention period for files committed to WORM state on the volume. Any file committed with a retention period longer than snaplock_maximum_period will be assigned a retention period equal to snaplock_maximum_period. If this option value is **infinite** then files can be committed for infinite retention period in the volume. WORM files with infinite retention period are retained forever. The retention period can also be explicitly specified as a number followed by a suffix. The valid suffixes are **s** for seconds, **h** for hours, **d** for days, **m** for months and **y** for years. For example, a value of **6m** represents a retention period of 6 months. The maximum valid retention period is 70 years. This option is not applicable while extending retention period of an already committed WORM file<br><br>"snaplock_minimum_period" (value: infinite \| s\|h\|d\|m\|y)<br>This option can only be set for **SnapLock** volumes and specifies the minimum allowed retention period for files committed to WORM state on the volume. Any file committed with a retention period shorter than snaplock_minimum_period will be assigned a retention period equal to snaplock_minimum_period. If this option value is **infinite** then every file committed to the volume will have a infinite retention period. WORM files with infinite retention period are retained forever. The retention period can also be explicitly specified as a number followed by a suffix. The valid suffixes are **s** for seconds, **h** for hours, **d** for days, **m** for months and **y** for years. For example, a value of **6m** represents a retention period of 6 months. The maximum valid retention period is 70 years. This option is not applicable while extending retention period of an already committed WORM file |
| **option-value** | | string | The value to set the named option (except for option 'root', which has no associated value). |
| **volume** | | string | Name of the volume for which we want to set an option. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ESWAPFILENOSPACE** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |
| **EONTAPI_EVOLOPNOTSUPP** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINCOMPATIBLE_AUTOSHRINK_AUTODELETE_TRY_FIRST** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-set-total-files

[top]

Set a volume's 'files-total' value to the given quantity. This specifies the maximum number of user-visible files that the given volume can hold, as reported by the 'files-total' value within: - the 'volumes' output parameter of the Data ONTAP 7-Mode 'volume-list-info' API, and - the 'attributes-list' output parameter of the Data ONTAP Cluster-Mode 'volume-get-iter' API. Note that this interface corresponds to the following Data ONTAP 7-Mode 'maxfiles' console command and Data ONTAP Cluster-Mode 'volume modify' console command: 'maxfiles <vol-name> <requested_new_max>' 'volume modify -vserver <vserver-name> -volume <volume-name%gt -files <requested_new_max>'

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Indicates whether the filer should reject a legal but "unreasonable" (seemingly too large) value for 'requested-total-files', or accept it without question. By default, legal but "unreasonable" values are rejected. |
| **requested-total-files** | | integer validate | Specifies the new value for the volume's 'files-total' field. This value must be larger than the volume's current 'files-total' value, and can never be larger than the number of 4KB blocks in the volume. The filer may actually choose a smaller value so as to comply with certain internal accounting and alignment requirements. Once this value has been increased for a volume, it cannot be reduced below the value of 'inodefile-public-capacity' for that volume. Range : [0..2^31-1] |
| **volume** | | string | The name of the volume whose 'files-total' field we wish to set. The chosen volume must be online and not read-only for this operation to succeed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **resulting-total-files** | | integer | The quantity to which the given volume's 'files-total' field was actually set after all internal requirements and alignments were computed. This quantity will never be larger than 'requested-total-files', and never be smaller than the volume's 'inodefile-public-capacity' value before the request. Range : [0..2^31-1] |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVEROPNOTALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-size

[top]

Given the name of a flexible volume, either return its current size or set the volume's size to the stated amount.

This API is not supported for FlexGroups, FlexGroup constituents, Infinite Volumes or Infinite Volume constituents. Also, this API does not allow to set the volume's size from vFiler context.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-size** | | string optional | Specify the flexible volume's new size using the following format: [+\|-] < number > k\|m\|g\|t] If a leading '+' or '-' appears, it indicates that the given flexible volume's size is to be increased or decreased (respectively) by the indicated amount, else the amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The file system size of a readonly replica flexible volume, such as a snapmirror destination, is determined from the replica source. In such cases, the value set using "volume-size" is interpreted as an upper limit on the size. A flexible volume that's not a readonly replica which has the "fs_size_fixed" option set may have its size displayed, but not changed. Attempting to set the volume size in this case will result in failure and a EINTERNALERROR error code. Users must be able to adjust readonly replica flexible volume size in order to maintain enough capacity to accommodate transfers from the replica source. Attempting to set a readonly replica destination size to be less than that of its source will result in a failure indicated by the EONTAPI_ENOSPC error code. This option is not applicable from vFiler context. Attempting to set volume size from vfiler context will result in failure with EINTERNALERROR error code being returned. |
| **volume** | | string | The name of the flexible volume for which we want to get or set its size. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-fixed-size-flex-volume** | | boolean optional | Is the flexible volume filesystem size fixed? |
| **is-readonly-flex-volume** | | boolean optional | Is this flexible volume read only? |
| **is-replica-flex-volume** | | boolean optional | Is this flexible volume a replica volume? |
| **volume-size** | | string | Either the size we found the given volume to be or the size to which the volume was set (if we're setting its size via the 'new-size' argument above). |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EONTAPI_ENOSPC** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-size-async

[top]

Given the name of a volume, either return its current size or set the volume's size to the stated amount.

This API is not supported for flexible volumes, Infinite Volume constituents or FlexGroup constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-size** | | string optional | Specify the volume's new size using the following format: [+\|-]< number > [k\|m\|g\|t\|p] If a leading '+' or '-' appears, it indicates that the given volume's size is to be increased or decreased (respectively) by the indicated amount, else the amount is the absolute size to set. The optional trailing 'k', 'm', 'g', 't', and 'p' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', 'terabytes', and 'petabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of kilobytes desired. The file system size of a readonly volume, such as a snapmirror destination, is determined from the snapmirror source. In such cases, the value set using this API is interpreted as an upper limit on the size. An volume that's not a snapmirror destination which has the "fs_size_fixed" option set may have its size displayed, but not changed. Attempting to set the volume size in this case will result in failure and a EINTERNALERROR error code. Users must be able to adjust readonly snapmirror destination volume size in order to maintain enough capacity to accommodate transfers from the replica source. Attempting to set a readonly snapmirror destination size to be less than that of its source will result in a failure indicated by the EONTAPI_ENOSPC error code. If this input is specified, the size modification occurs asynchronously, and the 'volume-size' output is not returned to the caller. Infinite Volume creation and expansion operations may involve creation and initialization of Namespace Mirrors. The initialization is started during the creation or expansion operation, but can continue after the Infinite Volume operation has completed. When this happens, the Infinite Volume will be in a 'mixed' state, until the Namespace Mirror initialization is complete. While in a 'mixed' further operations of the Infinite Volume are not possible. This parameter is not supported on Infinite Volumes that are managed by storage services. |
| **volume-name** | | string | The name of the volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |
| **volume-size** | | string optional | The size of the volume. This output is returned only if the caller is querying the the size and is not modifying it by specifying the 'new-size' input parameter. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| | |
|---|---|
| **EONTAPI_ENOSPC** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_OLV_CONSTITUENT_SIZE_TOO_BIG** | |
| **E_OLV_CONSTITUENT_SIZE_TOO_SMALL** | |
| **E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE** | |
| **E_OLV_FG_DOESNT_EXIST** | |
| **E_OLV_FG_SHRINK_UNSUPPORTED** | |

# volume-space-get-iter

[top]

Display a list of volumes and a breakup of their used space. This information is only available when the volume is online. Some fields are expensive to compute, if the system is under load, the information may not be returned. Best practise would be to only request the fields needed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | space-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | space-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the volume-space object. All volume-space objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | space-info[] optional | The list of attributes of volume-space objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more volume-space objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-split

[top]

Remove the specified plex from a mirrored traditional volume and create a new unmirrored traditional volume with the specified name that contains the split-off plex. The original mirrored traditional volume becomes unmirrored. The plex to be split from the original traditional volume must be functional (not partial), but it could be inactive, resyncing, or out-of-date. A 'volume-split' operation can therefore be used to gain access to a plex that is not up to date with respect to its partner plex if its partner plex is currently failed. If the plex is offline at the time of the split, the resulting traditional volume will also be offline. Otherwise, the resulting traditional volume will be in the same online/offline/restricted state as the original traditional volume. Note that a split mirror can be joined back together via the "victim-volume" option to "volume-mirror".

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-volume-name** | | string | Name of the new traditional volume to create from the split plex. |
| **plex** | | string | Name of the plex to split out of its traditional volume. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEPLEXINVALID** | |

# volume-tiering-policies-list

[top]

Displays the list of names and descriptions of tiering policies supported in the cluster

| Output Name | Range | Type | Description |
|---|---|---|---|
| **tiering-policies** | | system-api-enum-value-info[] | Enumeration type name/value pair |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-transition-check

[top]

Check to see if a desired volume transition can be performed from one volume type to another. Only 7-mode flexible volume to cluster-mode flexible volume and vice versa with limited options are supported at this time.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-vserver-name** | | string optional | The name of the vserver into which a volume is being transitioned. |
| **non-disruptive** | | boolean optional | A 'true' value indicates that only a non-disruptive transition will be accepted. This is not available for all volume configurations. If a value is not specified, this field will default to true - non-disruptive desired. |
| **operation-type** | | string optional | The type of transition operation; Possible values are: "copy_based" (default) "in_place" "untransition" Copy Based Transition is currently the only supported mode for transition; "in_place" and "untransition" should only be used in testing scenarios. |
| **override-warnings** | | boolean optional | A 'true' value indicates that all warnings will be ignored as a part of the transition process. The system will select default values as appropriate. If not specified, values will not be overridden. |

| | | | |
|---|---|---|---|
| **source-node** | | string | The name of the node where the target volumes reside. |
| **volumes** | | volume-transition-volinfo[] | Volumes to check for the ability to transition to Cluster-Mode. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVOLUMENOTONLINE** | |
| **EVOL_TOO_MANY** | |
| **EONTAPI_ENOSPC** | |
| **EONTAPI_ESYSTEMERR** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOLTRANSERROR** | |
| **EVOLTRANWARNING** | |

# volume-transition-prepare-to-downgrade

[top]

Verifies that there are no volumes actively transitioning from 7-mode to clustered Data ONTAP, and configures the transition feature for downgrade.

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **CANNOT_DISABLE_TRANSITION_TDP_VOLUME_EXISTS** | |

# volume-transition-protect

[top]

Fence access to volume during Transition.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean | Protection Enabled |
| **volume** | | string | The name of the volume. |
| **vserver** | | string | The name of the Vserver which owns the volume. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMENOTONLINE** | |
| **EONTAPI_EINPROGESS** | |
| **EVOLTRANSERROR** | |
| **EVOLTRANSWARNING** | |
| **EVOLTRANSNOTALLOWED** | |

| | |
|---|---|
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# volume-unmount

[top]

Unmount a volume from its parent volume and delete the junction path at which the volume is mounted. This API is not supported on Infinite Volume constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | This specifies whether the volume unmount operation is forced or not. The default value is false.<br><br>Under certain circumstances, such as an unexpected reboot while in the middle of unmounting, the unmount operation might find that after the reboot, it is unable to delete the junction path at which the volume is mounted in the file system. In this situation, if the force option is set to false, the unmount operation is failed (EJUNCTIONDELETEFAILED), leaving the junction path information intact in the Volume Management Database. Instead, if the force option is set to true, the unmount operation proceeds to delete the junction path information in the Volume Management Database, irrespective of any failure to delete the junction path in the file system. |
| **volume-name** | | string | The name of the volume. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOL_NOT_MOUNTED** | |
| **EVOL_UNMOUNT_FAILED** | |
| **EJUNCTION_DELETE_FAILED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# volume-verify-list-info

[top]

Get the status of RAID mirror verification on the named traditional volume. Status includes percentage complete and whether it's currently suspended.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string optional | Name of an existing mirrored traditional volume. If no name is given, then mirror verification status is generated for all aggregates currently being verified (including the ones embedded in traditional volumes). |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **verify-details** | | verify-detail-info[] | List of aggregates (including the ones embedded in traditional volumes) and their RAID mirror verification status. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-verify-resume

[top]

Resume RAID mirror verification on the named traditional volume. If no name is given, then resume RAID mirror verification on all aggregates (including those embedded in traditional volumes) that have been suspended.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string optional | Name of the existing traditional volume for which RAID mirror verification is to resume. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-verify-start

[top]

Start RAID mirror verification on the named traditional volume. RAID mirror verification compares the data in both plexes of a mirrored aggregate (whether it's free-standing or embedded in a traditional volume). In the default case, any blocks that differ are logged and no changes are made. The fix-plex option is used to fix any mismatches. It specifies which plex to fix. If no name is given, then RAID mirror verification is started on all online aggregates (including those embedded in traditional volumes). Use either the "aggr-verify-list-info" or "volume-verify-list-info" API to check RAID mirror verification status. If the fix-plex option is used, then a name must be specified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fix-plex** | | integer optional | If provided, this specifies the plex to fix in case the two plexes do not match. The default is to log any discrepancies instead of fixing them. |
| **log-only** | | boolean optional | If provided, and if the value is "true", then simply log any discrepancies instead of fixing them. The default value is "true". If log-only is "false", then the fix-plex option must also be specified. If log-only is "true" and fix-plex is also specified, then the log-only option will be ignored. |
| **volume** | | string optional | Name of the mirrored traditional volume to verify. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-verify-stop

[top]

Stop RAID mirror verification on the named traditional volume. If no name is given, stop RAID mirror verification on all aggregates (including those embedded in traditional volumes) currently being verified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string optional | Name of the traditional volume for which we are to stop RAID mirror verification. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-verify-suspend

[top]

Suspend RAID mirror verification on the named traditional volume. If no name is given, suspend mirror verification on all aggregates (including those embedded in traditional volumes) currently being verified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string optional | Name of the traditional volume for which we are to suspend RAID mirror verification. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-wafl-info

[top]

DEFINED HERE FOR BACKWARDS COMPATIBILITY ONLY. CHANGE OVER TO USING THE NEW 'volume-get-filer-info' AS SOON AS POSSIBLE. Get WAFL status information.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **checksum-types** | | string | Checksum type. The possible values:<br>• "zoned" - if all volumes are Fixed VBN,<br>• "block" - if all volumes are Block Appended,<br>• "mixed" - if volumes are mixed Fixed VBN and Block Appended and Advanced Zoned,<br>• "none" - if no volumes have zoned or block or advanced_zoned checksum (azcs) or mixed,<br>• "advanced_zoned" - if all volumes in the system have Advanced Zoned Checksum scheme. |
| **disk-types** | | string | Type of disks. Possible values: 512, 520, 4096, mixed, none. "512" if all disks 512 BPS, "520" if all disks 520 BPS, "4096" if all disks 4096 BPS, "mixed" if disks are mixed 512 BPS, 520 BPS and 4096 BPS, "none" if no disks have 512 or 520 or 4096 BPS. |
| **root-volume** | | string | Current root volume. |
| **snapshots-max** | | integer | Maximum number of snapshots available. Range : [0..2^31-1]. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **clone-split-detail-info**

[top]

Status information about an active clone split.

| Name | Range | Type | Description |
|---|---|---|---|
| **block-percentage-complete** | | integer | Percent of the clone's blocks processed to date by the split. |
| **blocks-scanned** | | integer | Number of the clone's blocks that have been scanned to date by the split. |
| **blocks-updated** | | integer | Total number of the clone's blocks that have been updated to date by the split. |
| **inode-percentage-complete** | | integer optional | Percent of the clone's inodes processed to date by the split. |
| **inodes-processed** | | integer optional | Number of the clone's inodes processed to date by the split. |
| **inodes-total** | | integer optional | Total number of inodes in the clone. |
| **name** | | string | Name of the clone being split. |

# Element definition: **clone-split-estimate-info**

[top]

Estimate information about a future clone split.

| Name | Range | Type | Description |
|---|---|---|---|
| **estimate-blocks** | | integer | The estimated number of 4kb blocks required to perform the volume clone split. |

# Element definition: **disk-info**

[top]

Information for each disk in the plex.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of a member disk. |
| **vbn-end** | **[0..2^64-1].** | integer optional | VBN end value of a disk. |

| | | | |
|---|---|---|---|
| **vbn-start** | **[0..2^64-1].** | integer optional | VBN start value of a disk. |

## Element definition: **errors-warnings-info** [top]

The complete list of errors and warnings if perform-validation-only is true or all the warnings if is-override-warnings is true.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-warning** | | string | Error or warning |

## Element definition: **flexgroup-max-size-entry** [top]

The maximum FlexGroup size that can be created for an existing disk type.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-type** | | string | The disk type of the aggregates for this maximum size. |
| **max-size** | **[0..2^64-1]** | integer | The maximum FlexGroup size that can be created. |
| **provider-type** | | string | The object store provider type of the FabricPools for this maximum size. This parameter is only supported when getting the create limits of a FlexGroup where the support-tiering parameter is true. |

## Element definition: **footprint-info** [top]

Space configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **dedupe-metafiles-footprint** | **[0..2^63-1]** | integer optional | This field represents temporary deduplication metadata footprint in bytes. Attributes: non-creatable, non-modifiable |
| **dedupe-metafiles-footprint-percent** | **[0..100]** | integer optional | This field represents deduplication metadata footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **dedupe-** | | | |

| | | | |
|---|---|---|---|
| **metafiles-temporary-footprint** | **[0..2^63-1]** | integer optional | This field represents temporary deduplication metadata footprint in bytes. Attributes: non-creatable, non-modifiable |
| **dedupe-metafiles-temporary-footprint-percent** | **[0..100]** | integer optional | This field represents deduplication metadata footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **delayed-free-footprint** | **[0..2^63-1]** | integer optional | This field represents the delayed free blocks footprint in bytes. This system is used to improve delete performance by batching delete requests. Attributes: non-creatable, non-modifiable |
| **delayed-free-footprint-percent** | **[0..100]** | integer optional | This field represents the delayed free blocks footprint as a percentage of aggregate size. This system is used to improve delete performance by batching delete requests. Attributes: non-creatable, non-modifiable |
| **file-operation-metadata** | **[0..2^63-1]** | integer optional | This field represents the file operation metadata footprint in bytes. Attributes: non-creatable, non-modifiable |
| **file-operation-metadata-percent** | **[0..100]** | integer optional | This field represents the file operation metadata footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **flexvol-metadata-footprint** | **[0..2^63-1]** | integer optional | This field represents flexible volume metadata in bytes. Attributes: non-creatable, non-modifiable |
| **flexvol-metadata-footprint-percent** | **[0..100]** | integer optional | This field represents flexible volume metadata as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **snapmirror-destination-footprint** | **[0..2^63-1]** | integer optional | This field represents the SnapMirror destination footprint in bytes. Attributes: non-creatable, non-modifiable |
| **snapmirror-destination-footprint-percent** | **[0..100]** | integer optional | This field represents the SnapMirror destination footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **tape-backup-metafiles-footprint** | **[0..2^63-1]** | integer optional | This fields represents the tape backup metadata footprint in bytes. Attributes: non-creatable, non-modifiable |
| **tape-backup-metafiles-footprint-percent** | **[0..100]** | integer optional | This field represents the tape backup metadata footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **total-footprint** | **[0..2^63-1]** | integer optional | This field represents the total footprint in bytes. Attributes: non-creatable, non-modifiable |
| **total-footprint-percent** | **[0..2^32-1]** | integer optional | This field represents the total footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **volume** | | string optional | Name of the volume for which the space usage is requested. Attributes: key, non-creatable, non-modifiable |
| **volume-blocks-footprint** | **[0..2^63-1]** | integer optional | This field represents the footprint of blocks written to the volume in bytes. Attributes: non-creatable, non-modifiable |
| **volume-blocks-footprint-bin0** | **[0..2^63-1]** | integer optional | This field represents the footprint of blocks written to the volume in bytes for the performance tier (bin 0). Attributes: non-creatable, non-modifiable |
| **volume-blocks-footprint-bin0-percent** | **[0..100]** | integer optional | This field represents the footprint of blocks written to the volume in bin 0 as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **volume-blocks-** | **[0..2^63-** | integer | This field represents the footprint of blocks written to the volume |

| | | | |
|---|---|---|---|
| **footprint-bin1** | **1]** | optional | in bytes for bin 1. Attributes: non-creatable, non-modifiable |
| **volume-blocks-footprint-bin1-percent** | **[0..100]** | integer optional | This field represents the footprint of blocks written to the volume in bin 1 as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **volume-blocks-footprint-percent** | **[0..2^32-1]** | integer optional | This field represents the footprint of blocks written to the volume as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **volume-guarantee-footprint** | **[0..2^63-1]** | integer optional | This field represents the volume guarantee footprint in bytes. Alternatively, it is the space reserved for future writes in the volume. Attributes: non-creatable, non-modifiable |
| **volume-guarantee-footprint-percent** | **[0..100]** | integer optional | This field represents the volume guarantee footprint as a percentage of aggregate size. Alternatively, it is the percentage of space reserved for future writes in the volume. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Name of the Vserver that contains the volumes for which the space usage is requested. Attributes: key, non-creatable, non-modifiable |

# Element definition: **guarantee**

[top]

Type of guarantee

| Name | Range | Type | Description |
|---|---|---|---|
| **type** | | string | guarantee that is supported on a given volume. Possible values are: "volume", "file", "partial", "none" |

# Element definition: **mediascrub-detail-info**

[top]

Information about media scrubbing.

| Name | Range | Type | Description |
|---|---|---|---|
| **mediascrub-status** | | string | Possible values are "suspended", "disabled" and "enabled" "suspended": Media scrub is enabled but temporarily paused because another task is running or it is in the idle cycle of its periodic run. It will resume automatically when the task is done or the idle cycle ends. "disabled": Media scrub feature is turned off. "enabled": Media scrub feature is active. |
| **percentage-complete** | | integer optional | Media scrubbing percentage complete. Range: [0..100]. |
| **raid-group** | | string | Name of the RAID group. |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **raidgroup-size-info**

[top]

Default, minimum and maximum raidgroup size for each RAID type supported on this filer.

| Name | Range | Type | Description |
|---|---|---|---|
| **default-size** | | integer | Default size of a RAID group of this type in aggregates. Range : [6..16]. |
| **disktype** | | string optional | Name of the Disk type present on this controller. Possible values include FCAL, ATA, LUN, SAS, SSD, BSAS, FSAS, MSATA and VMDISK. |
| **maximum-disk-capacity** | | size optional | Maximum capacity (in TB) of the disk for which the raidgroup sizes are specified. This appears only for FSAS family disks of size less than or equal to 4TB. If this field is not present in output then there is no restriction on maximum disk capacity for this raidtype and disktype combination. |
| **maximum-size** | | integer | Maximum size of a RAID group of this type in aggregates. Range : [6..28]. |
| **minimum-disk-capacity** | | size optional | Minimum capacity (in TB) of the disk for which the raidgroup sizes are specified. This appears only for FSAS family disks of size greater than 4TB. If this field is not present in output then there is no restriction on minimum disk capacity for this raidtype and disktype combination. |
| **minimum-size** | | integer | Minimum size of a RAID group of this type in aggregates. Possible values: 2, 3, 5, 7. |
| **raidtype** | | string | Name of the RAID type allowed on this filer. Possible values: raid0, raid4, raid_dp, raid_tec. |

# Element definition: **raidtype-info**

[top]

RAID types allowed on this filer.

| Name | Range | Type | Description |
|---|---|---|---|
| **raidtype** | | string | Name of an allowed RAID type. Possible values: raid0, raid4, raid_dp, raid_tec. |

# Element definition: **scrub-detail-info**

[top]

Scrubbing information.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-suspended** | | boolean | Suspended state of the scrub on that RAID group. |
| **last-scrub-timestamp** | | integer optional | Time at which the last full scrub completed. If a scrub has never been performed, this value will not be returned. The time value is in seconds since January 1, 1970. Range : [0..2^31-1]. |
| **percentage-complete** | | integer optional | Scrubbing percentage complete. I scrubbing is not active, this value will not be returned. Range : [0..100]. |
| **raid-group** | | string | Name of the RAID group involved in the scrub. |

# Element definition: **space-info**

[top]

Space configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **dedupe-metafiles** | **[0..2^63-1]** | integer optional | This field represents space used by deduplication metafiles in bytes. Attributes: non-creatable, non-modifiable |
| **dedupe-metafiles-percent** | **[0..100]** | integer optional | This field represents space used by deduplication metafiles as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **dedupe-metafiles-temporary** | **[0..2^63-1]** | integer optional | This field represents space used by temporary deduplication metafiles in bytes. Attributes: non-creatable, non-modifiable |
| **dedupe-metafiles-temporary-percent** | **[0..100]** | integer optional | This field represents space used by temporary deduplication metafiles as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **filesystem-metadata** | **[0..2^63-1]** | integer optional | This field represents volume filesystem metadata in bytes. Attributes: non-creatable, non-modifiable |
| **filesystem-metadata-percent** | **[0..100]** | integer optional | This field represents volume filesystem metadata as a percentage of volume size Attributes: non-creatable, non-modifiable |
| **inodes** | **[0..2^63-1]** | integer optional | This field represents space used by inode metadata in bytes. Attributes: non-creatable, non-modifiable |
| **inodes-percent** | **[0..100]** | integer optional | This field represents space used by inode metadata as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **inodes-upgrade** | **[0..2^63-1]** | integer optional | This field represents space used by inode metadata for upgrade in bytes. Attributes: non-creatable, non-modifiable |
| **inodes-upgrade-percent** | **[0..100]** | integer optional | This field represents space used by inode metadata for upgrade as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **logical-available** | **[0..2^63-1]** | integer optional | The size (in bytes) that is logically available in the volume. Attributes: non-creatable, non-modifiable |
| **logical-used** | **[0..2^63-1]** | integer optional | The size (in bytes) that is logically used in the volume. This value includes all the space saved by the storage efficiency features along with the physically used space. This does not include Snapshot reserve but does consider Snapshot spill. Attributes: non-creatable, non-modifiable |
| **logical-used-percent** | **[0..2^32-1]** | integer optional | This field represents the logical used as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **performance-metadata** | **[0..2^63-1]** | integer optional | This field represents metadata in bytes used for performance optimization. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **performance-metadata-percent** | **[0..100]** | integer optional | This field represents metadata used for performance optimization as a percentage of volume size Attributes: non-creatable, non-modifiable |
| **physical-used** | **[0..2^63-1]** | integer optional | The size in bytes that is physically used in the volume. This differs from 'total-used' space by the space that is reserved for future writes. The value includes blocks in use by Snapshot copies. Attributes: non-creatable, non-modifiable |
| **physical-used-percent** | **[0..2^32-1]** | integer optional | The size (in percent) that is physically used in the volume. The percentage is based on volume size including the space reserved for Snapshot copies. Attributes: non-creatable, non-modifiable |
| **quota-metafiles** | **[0..2^63-1]** | integer optional | This field represents space used by quota metafiles in bytes. Attributes: non-creatable, non-modifiable |
| **quota-metafiles-percent** | **[0..100]** | integer optional | This field represents space used by quota metafiles as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **snapmirror-metadata** | **[0..2^63-1]** | integer optional | This field represents space used by metafiles during SnapMirror operations in bytes. Attributes: non-creatable, non-modifiable |
| **snapmirror-metadata-percent** | **[0..100]** | integer optional | This field represents space used by metafiles during SnapMirror operations as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **snapshot-reserve** | **[0..2^63-1]** | integer optional | The size (in bytes) in the volume that has been set aside as reserve for snapshot usage. Attributes: non-creatable, non-modifiable |
| **snapshot-reserve-percent** | **[0..100]** | integer optional | This field represents the snapshot reserve as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **snapshot-reserve-unusable** | **[0..2^63-1]** | integer optional | This field represents Snapshot reserve that is not available in bytes. Attributes: non-creatable, non-modifiable |
| **snapshot-reserve-unusable-percent** | **[-2^31..2^31-1]** | integer optional | This field represents Snapshot reserve that is not available as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **snapshot-spill** | **[0..2^63-1]** | integer optional | This field represents space used by Snapshot copies when it exceeds the size of the Snapshot reserve in bytes. It is computed as Snapshot used minus Snapshot reserve when Snapshot used exceeds Snapshot reserve. Attributes: non-creatable, non-modifiable |
| **snapshot-spill-percent** | **[0..100]** | integer optional | This field represents Snapshot spill as a percentage of volume size. It is computed as Snapshot used minus Snapshot reserve when Snapshot used exceeds Snapshot reserve. Attributes: non-creatable, non-modifiable |
| **tape-backup-metadata** | **[0..2^63-1]** | integer optional | This fields represents the tape backup metadata in bytes. Attributes: non-creatable, non-modifiable |
| **tape-backup-metadata-percent** | **[0..100]** | integer optional | This field represents the tape backup metadata as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **total-used** | **[0..2^63-1]** | integer optional | Total used space in the volume including snapshot reserve in bytes. Attributes: non-creatable, non-modifiable |
| **total-used-percent** | **[0..2^32-1]** | integer optional | Total used space in the volume including snapshot reserve as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **user-data** | **[0..2^63-1]** | integer optional | This field represents user data in bytes. Alternatively, this is the space reserved to overwrite the data in the volume. |

| | | | |
|---|---|---|---|
| | | | Attributes: non-creatable, non-modifiable |
| **user-data-percent** | **[0..2^32-1]** | integer optional | This field represents user data as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **volume** | | string optional | Name of the volume for which the space usage is requested. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Name of the Vserver that contains the volumes for which the space usage is requested. Attributes: key, non-creatable, non-modifiable |

# Element definition: **system-api-enum-value-info**

[top]

Enumeration type name/value pair When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | Description of the enumeration value Attributes: non-creatable, non-modifiable |
| **value** | | string optional | Name of the enumeration value Attributes: key, non-creatable, non-modifiable |

# Element definition: **verify-detail-info**

[top]

Information about mirror verification.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-suspended** | | boolean | Is mirror verification suspended for this aggregate? |
| **name** | | string | Name of the aggregate. |
| **pct-with-precision** | | string optional | Mirror verification percentage complete floored to two decimal place. If verification isn't active, this value won't be returned. (e.g. "13.12") |
| **percentage-complete** | | integer optional | Mirror verification percentage complete. If verification isn't active, this value won't be returned. Range: [0..100]. |

# Element definition: **volume-attributes**

[top]

Attributes of a volume. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **encrypt** | | boolean<br>optional | To create an encrypted Volume.<br><br>This option when set to 'true', it will generate a new key and create an encrypted volume using that key. Before that, the vserver should be configured with the key-manager. When set to 'false', the volume created will not be encrypted.<br><br>Attributes: optional-for-create, non-modifiable |
| **encryption-state** | | string<br>optional | The encryption state of a volume.<br><br>Possible values:<br><br>• 'none' ... plain-text volume,<br>• 'full' ... encrypted volume,<br>• 'partial' ... volume are in mixed encryption state(valid for FlexGroup only),<br>• 'converting_to_encrypted' ... conversion to encryption operation is in progress,<br>• 'converting_to_plaintext' ... conversion to plain-text operation is in progress(depricated),<br>• 'rekeying' ... rekey of volume is in progress<br><br>Attributes: non-creatable, non-modifiable |
| **encryption-type** | | encryptiontype<br>optional | Encryption type of a volume.<br><br>Possible values:<br><br>• 'none' ... plain-text volume,<br>• 'volume' ... NVE (NetApp Volume Encryption) volume,<br>• 'aggregate' ... NAE (NetApp Aggregate Encryption) volume<br><br>Attributes: optional-for-create, non-modifiable Possible values:<br><br>• "undefined" - Not defined,<br>• "none" - Plain-text volume,<br>• "volume" - NVE (NetApp Volume Encryption) volume,<br>• "aggregate" - NAE (NetApp Aggregate Encryption) volume,<br>• "mixed" - A FlexGroup volume with a mixture of plain-text, NetApp Volume Encryption (NVE) or NetApp Aggregate Encryption (NAE) |
| **key-creation-time** | | string<br>optional | The creation date and time of the key-id.<br><br>The creation date and time of current key-id of the volume.<br><br>Attributes: non-creatable, non-modifiable |
| **key-id** | | string<br>optional | The key-id used for creating encrypted volume.<br><br>A new key will be generated for creating an encrypted volume. This key-id is associated with the generated key.<br><br>Attributes: non-creatable, non-modifiable |

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| **volume-antivirus-attributes** | | volume-antivirus-attributes optional | This field contains information about Antivirus On-Access settings for the volume. |
| **volume-autobalance-attributes** | | volume-autobalance-attributes optional | This field contains information about the state of Auto Balance Aggregate for a volume. |
| **volume-autosize-attributes** | | volume-autosize-attributes optional | This field contains information about the autosize settings of the volume. |
| **volume-clone-attributes** | | volume-clone-attributes optional | This field contains information applying exclusively to clone volumes. |
| **volume-comp-aggr-attributes** | | volume-comp-aggr-attributes optional | This field contains information about composite aggregate attributes of a volume. |
| **volume-directory-attributes** | | volume-directory-attributes optional | This field contains information related to directories in a volume. |
| **volume-export-attributes** | | volume-export-attributes optional | This field contains information about export settings of the volume. |
| **volume-flexcache-attributes** | | volume-flexcache-attributes optional | This field contains information applying exclusively to flexcache volumes. |
| **volume-hybrid-cache-attributes** | | volume-hybrid-cache-attributes optional | This field contains information on Flash Pool caching attributes on a volume |
| **volume-id-attributes** | | volume-id-attributes optional | This field contains identification information about the volume. |
| **volume-infinitevol-attributes** | | volume-infinitevol-attributes optional | This field contains information about the state of an Infinite Volume. |
| **volume-inode-attributes** | | volume-inode-attributes optional | This field contains information about inodes in a volume. |
| **volume-language-attributes** | | volume-language-attributes optional | This field contains information about volume language-related settings. |
| **volume-mirror-attributes** | | volume-mirror-attributes optional | This field contains information applying exclusive to volume mirror. |
| **volume-performance-attributes** | | volume-performance-attributes optional | This field contains information that relates to the performance of the volume. |

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| **volume-qos-attributes** | | volume-qos-attributes optional | This field contains the information that relates to QoS. |
| **volume-security-attributes** | | volume-security-attributes optional | This field contains information about volume security settings. |
| **volume-sis-attributes** | | volume-sis-attributes optional | This field contains information about Deduplication, file clone, compression, etc. |
| **volume-snaplock-attributes** | | volume-snaplock-attributes optional | This field contains information about snaplock attributes of the volume. |
| **volume-snapshot-attributes** | | volume-snapshot-attributes optional | This field contains information applying exclusively to all the snapshots in the volume. Volume disk space-related settings are excluded. |
| **volume-snapshot-autodelete-attributes** | | volume-snapshot-autodelete-attributes optional | This field contains information about snapshot autodelete policy settings. |
| **volume-space-attributes** | | volume-space-attributes optional | This field contains information related to volume disk space management including on-disk layout. |
| **volume-state-attributes** | | volume-state-attributes optional | This field contains information about the state or status of a volume or its features. |
| **volume-transition-attributes** | | volume-transition-attributes optional | This field contains information applying exclusively to transitioned or transitioning volumes. |
| **volume-vm-align-attributes** | | volume-vm-align-attributes optional | This field contains information related to the Virtual Machine alignment settings on a volume |
| **volume-vserver-dr-protection-attributes** | | volume-vserver-dr-protection-attributes optional | This fields contains information about protection type for the volume in a Vserver DR setup. |

# Element definition: **volume-clone-info**

[top]

Volume FlexClone typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | FlexClone Aggregate Attributes: non-creatable, non-modifiable |
| **block-percentage-complete** | **[0..2^64-1]** | integer optional | Percentage Complete Attributes: non-creatable, non-modifiable |
| **blocks-scanned** | **[0..2^64-1]** | integer optional | Blocks Scanned Attributes: non-creatable, non-modifiable |
| **blocks-updated** | **[0..2^64-1]** | integer optional | Blocks Updated Attributes: non-creatable, non-modifiable |
| **dsid** | **[0..2^64-1]** | integer optional | FlexClone Data Set ID Attributes: non-creatable, non-modifiable |
| **flexclone-used-percent** | **[0..100]** | integer optional | FlexClone Used Percentage Attributes: non-creatable, non-modifiable |
| **inherited-physical-used** | **[0..2^63-1]** | integer optional | Inherited Physical Used from Base Snapshot Attributes: non-creatable, non-modifiable |
| **inherited-savings** | **[0..2^63-1]** | integer optional | Inherited Savings from Base Snapshot Attributes: non-creatable, non-modifiable |
| **junction-active** | | boolean optional | Junction Active Attributes: optional-for-create, non-modifiable |
| **junction-path** | | string optional | Junction Path Attributes: optional-for-create, non-modifiable |
| **match-parent-storage-tier** | | boolean optional | (DEPRECATED)-Match Split Data to Parent Storage Tier Attributes: optional-for-create, non-modifiable |
| **msid** | **[0..2^64-1]** | integer optional | FlexClone Master Data Set ID Attributes: non-creatable, non-modifiable |
| **parent-snapshot** | | string optional | FlexClone Parent Snapshot Attributes: optional-for-create, non-modifiable |
| **parent-volume** | | string optional | FlexClone Parent Volume Attributes: required-for-create, non-modifiable |
| **parent-vserver** | | string optional | FlexClone Parent Vserver Attributes: optional-for-create, non-modifiable |
| **qos-adaptive-policy-group-name** | | string optional | QoS Adaptive Policy Group Name Attributes: optional-for-create, non-modifiable |
| **qos-policy-group-name** | | string optional | QoS Policy Group Name Attributes: optional-for-create, non-modifiable |
| **size** | **[0..2^63-1]** | integer optional | FlexClone Size Attributes: non-creatable, non-modifiable |
| **space-guarantee-enabled** | | boolean optional | Space Guarantee In Effect Attributes: non-creatable, non-modifiable |
| **space-reserve** | | string optional | Space Guarantee Style Attributes: optional-for-create, non-modifiable Possible values:<br>• "none" ,<br>• "volume" |
| **split-estimate** | | integer optional | Split Estimate Attributes: non-creatable, non-modifiable |
| **state** | | string optional | FlexClone Volume State Possible values are:<br>• 'online',<br>• 'offline',<br>• 'restricted'. |

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|---|---|---|---|
| | | | Attributes: non-creatable, non-modifiable |
| **used** | **[0..2^63-1]** | integer optional | Used Size Attributes: non-creatable, non-modifiable |
| **volume** | | string optional | FlexClone Volume Attributes: key, required-for-create, non-modifiable |
| **volume-type** | | string optional | The type of the volume to be created.<br><br>Possible values:<br><br>• 'rw' ... read-write volume,<br>• 'dp' ... data-protection volume<br><br>Default value is 'rw'.<br><br>Attributes: optional-for-create, non-modifiable |
| **vserver** | | string optional | Vserver Name Attributes: key, non-creatable, non-modifiable |
| **vserver-dr-protection** | | string optional | Indicates whether the volume will be replicated to the destination in a Vserver DR setup. Possible values are:<br><br>• 'protected'<br>• 'unprotected'<br><br>Attributes: optional-for-create, modifiable Possible values:<br><br>• "protected" - Volume is protected by Vserver DR,<br>• "unprotected" - Volume is not protected by Vserver DR |

# Element definition: **volume-encryption-conversion-info**

[top]

Volume Encryption Conversion typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **percentage-completed** | | string optional | Percentage Completed Attributes: non-creatable, non-modifiable |
| **start-time** | | datetime optional | Start Time Attributes: non-creatable, non-modifiable |
| **status** | | string optional | Status Attributes: non-creatable, non-modifiable |
| **volume** | | volume-name optional | Volume Name Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **volume-encryption-rekey-info**

[top]

Volume Encryption Rekey typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **percentage-completed** | | string optional | Percentage Completed Attributes: non-creatable, non-modifiable |
| **start-time** | | datetime optional | Start Time Attributes: non-creatable, non-modifiable |
| **status** | | string optional | Status Attributes: non-creatable, non-modifiable |
| **volume** | | volume-name optional | Volume Name Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **volume-flexgroup-capacity-tier-footprint-info**

[top]

FlexGroup Capacity Tier Footprint When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **volume-capacity-tier-footprint** | | size optional | This field represents the footprint of blocks written to the capacity tier, in bytes, for the FlexGroup. Attributes: non-creatable, non-modifiable |
| **volume-name** | | volume-name optional | This specifies the name of the FlexGroup for the capacity tier footprint. Attributes: key, non-creatable, non-modifiable |
| **vserver-name** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **volume-info**

[top]

Volume status information.

| Name | Range | Type | Description |
|---|---|---|---|
| **autosize** | | autosize-info optional | Display autosize settings of the volume. Appears only under "verbose" mode. |
| **block-type** | | string | The indirect block format of the volume. Possible values: 32_bit, 64_bit. |
| **checksum-style** | | string | The style of RAID checksum used (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). The possible values:<br>• "advanced_zoned" - advanced_zoned checksum (azcs),<br>• "block" - block,<br>• "mixed" - mixed,<br>• "none" - none,<br>• "unknown" - unknown<br>• "wafl" - wafl,<br>• "zoned" - zoned. |
| **clone-children** | | clone-child-info[] optional | **Flexible** volumes only. This field appears for a flexible volume if it is the parent of one or more clones. |
| **clone-parent** | | clone-parent-info[] optional | **Flexible** volumes only. This field appears for a flexible volume if it is a clone of another flexible volume, describing the clone's parentage. |
| **compression** | | compression-info | Note that the use of this element is deprecated, refer to the 'dense-status' element for compression status instead. |
| **containing-aggregate** | | string optional | **Flexible** volumes only. The name of the aggregate in which the given flexible volume resides. |
| **disk-count** | | integer | Total number of associated disks (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). Range : [0..2^31-1] |
| **encrypt** | | boolean optional | Specifies whether a volume is encrypted or not. |
| **encryption-state** | | integer optional | Encryption state of a volume. |
| **encryption-type** | | integer optional | Specifies whether a volume is encrypted as NAE (NetApp Aggregate Encryption) volume or not. |
| **expiry-date** | | integer optional | Expiry date of the SnapLock volume in seconds in the standard UNIX format (since 01/01/1970 00:00:00) is displayed. Range: [0..2^64-1]. The flag is-wraparound indicates if this date is in the normal format or is wrapped around. This field is not included if 1. the volume has an infinite expiry-date 2. the volume is offline 3. the volume has scan in progress 4. the volume is regular volume 5. the volume has no expiry date. The volume is SnapLock volume (is-snaplock is "true") with no WORM files and no WORM snapshots. |
| **files-private-used** | | integer | Number of system (not user-visible) files (inodes) used. If the volume is restricted or offline, a a value of 0 is returned. Range : [0..2^64-1]. |
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|---|---|---|---|
| **files-total** | | integer | Total user-visible file (inode) count, i.e., current maximum number of user-visible files (inodes) that this volume can currently hold. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]. |
| **files-used** | | integer | Number of user-visible files (inodes) used. If the volume is restricted or offline, a value 0 returned. Range : [0..2^64-1]. |
| **filesystem-size** | | integer | Filesystem size (in bytes) of the volume. This is the total usable size of the volume, not including WAFL reserve. This value is the same as Size except for certain SnapMirror destination volumes. It is possible for destination volumes to have a different filesystem-size because the filesystem-size is sent across from the source volume. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]. |
| **formatted-expiry-date** | | string optional | Expiry date of the SnapLock volume in a human-readable format :: is displayed. A value of "infinite" indicates that the volume has an infinite expiry date. A value of "scan_in_progress" indicates that expiry date is not displayed since worm scan on the volume is in progress. A value of "no_expiry_date" indicates that expiry date is not displayed since the SnapLock volume has no WORM files and WORM snapshots. This field is not included if the volume is offline or the volume is regular volume (is-snaplock is "false"). |
| **formatted-snaplock-volume-compliance-clock** | | string optional | If Compliance Clock is initialized then human readable time :: is displayed. This field will be present only for SnapLock volumes. |
| **hybrid-cache-eligibility** | | string | hybrid cache eligibility. Valid values are "read","read-write" and "none". Volumes which report "read" can support only read caching. Volumes which report "read-write" support both read and write caching. "none" means no hybrid caching support. |
| **hybrid-cache-write-caching-ineligibility-reason** | | string optional | informs why the volume cannot participate in write caching. This field is valid only if the volume can participate in read caching but not write caching. |
| **inodefile-private-capacity** | | integer | Number of inodes that can currently be stored on disk for system (not user-visible) files. This number will dynamically increase as more system files are created. If the volume is restricted or offline, a value of zero is returned. Range : [0..2^64-1]. |
| **inodefile-public-capacity** | | integer | Number of inodes that can currently be stored on disk for user-visible files. This number will dynamically increase as more user-visible files are created. If the volume is restricted or offline, a value of zero is returned. Range : [0..2^64-1]. |
| **inofile-version** | | integer | The inofile-version of the volume. If the volume is restricted or offline, a value of 0 returned. Range : [0..2^32-1]. |
| **is-checksum-enabled** | | boolean | Whether RAID checksums are enabled (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). |
| **is-in-snapmirror-jumpahead** | | boolean optional | True when the volume is in the process of SnapMirror jump ahead. Default value is false. This field is returned only for online volumes. |
| **is-inconsistent** | | boolean | Whether or not there is known inconsistency in the associated file system. |
| **is-invalid** | | boolean optional | Whether or not this volume is invalid. Volumes typically become invalid as a result of an aborted 'vol copy' or SnapMirror(R) initial transfer. In such a case a volume is in a half created state and cannot be recovered. |

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| | | | By default, this field is FALSE. |
| **is-snaplock** | | boolean | Whether or not this is a SnapLock volume. |
| **is-space-enforcement-logical** | | boolean optional | This parameter specifies whether to perform logical space accounting on the volume. When space is enforced logically, ONTAP enforces volume settings such that all the physical space saved by the storage efficiency features will be calculated as used. This parameter is not supported on FlexGroups or Infinite Volumes. The default setting is false. |
| **is-space-reporting-logical** | | boolean optional | This parameter specifies whether to report space logically on the volume. When space is reported logically, ONTAP reports the volume space such that all the physical space saved by the storage efficiency features are also as reported as used. This parameter is not supported on FlexGroups or Infinite Volumes. The default setting is false. |
| **is-space-slo-enabled** | | boolean optional | **Flexible** volumes only. Whether or not the space SLO type associated with the flexible volume is in effect. Possible values: enabled and disabled. This field does not appear if the flexible volume is restricted or offline. |
| **is-unrecoverable** | | boolean optional | Whether or not there is known inconsistency in the associated file system and it is not recoverable. This value is only present for flexible volumes.<br><br>By default, this field is FALSE. |
| **is-wraparound** | | boolean optional | True if the date represented in expiry-date is a wrap around date. SnapLock wraps around the expiry date to indicate dates after 01/19/2038. It remaps 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. This field is not included if 1. the volume has an infinite expiry date 2. the volume is offline 3. the volume has scan in progress 4. the volume is regular volume (is-snaplock is "false") 5. the volume has no expiry date. The volume is SnapLock volume (is-snaplock is "true") with no WORM files and no WORM snapshots. |
| **key-id** | | string optional | If the volume is encrypted, key associated with this key-id is used for encrypting the volume. |
| **logical-used-percent** | | integer | This field represents the percentage of logical used size in the volume. This parameter is not supported on FlexGroups or Infinite Volumes. Range : [0..2^32-1]. |
| **mirror-status** | | string | The RAID mirror status (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). Possible values: CP count check in progress, failed, invalid, limbo, mirror degraded, mirror resynchronizing, mirrored, needs CP count check, uninitialized, <unknown mirror state>, and unmirrored. |
| **name** | | string | Name of the volume. |
| **owning-vfiler** | | string optional | Name of the vfiler which owns this volume. This value will be returned only if the request is coming to vfiler0 and MultiStore is licensed. |
| **percentage-used** | | integer optional | Percentage of the volume size that is used. If the volume is restricted or offline, a value of 0 is returned. Range : [0..100]. |
| **plex-count** | | integer | Number of plexes (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). This is also the size of the "plex" array that appears below. A plex is composed of one or more RAID groups that have been lashed together to serve as the unit for RAID mirroring. Range : [0..2^31-1] |
| | | | List of plexes for this volume (for a traditional volume; for a |

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| **plexes** | | plex-info[] | flexible volume, the corresponding value of its containing aggregate). |
| **quota-init** | | integer | Quota state and percent initialized. 100% means that quotas are on, 0% means quotas are off, and anywhere inbetween means that quotas are initializing. Range : [0..100]. |
| **raid-size** | | integer | The current RAID group size (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). Range : [0..2^31-1]. |
| **raid-status** | | string | The current RAID status (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). Possible values: copying, degraded, foreign, growing, initializing, invalid, ironing, mirror degraded, mirrored, needs check, noparity, normal, out-of-date, partial, raid0, raid4, raid_dp, raid_tec, reconstruct, resyncing, snapmirrored, verifying, unrecoverable. This field can contain a combination of the above status values in a comma separated list; for example: "reconstruct,growing". |
| **remote-location** | | string optional | Displays the remote host and remote volume where the origin of the cache is located. Returned in format: : Present only if flex volume is a FlexCache. Remote Host: Should be formatted as either the DNS hostname or as an IP address. Remote Volume: Should be formatted the same as a volume name. |
| **reserve** | | integer | Number of bytes reserved for overwriting snapshotted data in an otherwise full volume. This space is usable only by space-reserved LUNs and files, and then only when the volume is full. It is equal to reserve-required if the value of the fractional_reserve option is set to the default value of 100%, but otherwise may be less than reserve-required. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1] |
| **reserve-required** | | integer | The number of reserved bytes that are required to ensure that the reserved space is sufficient to allow all space reserved files and LUNs to be overwritten when the volume is full. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]. |
| **reserve-used** | | integer | Number of reserved bytes that is not available for new overwrites. The number includes both reserved bytes which have actually been used for overwrites as well as bytes which were never allocated in the first place. On a volume without free space, the "never allocated" component can become non-zero when reserve-required increases as holes are filled in. Because of this, the reserve-used value can exceed the number of snapshotted bytes. The reserve-used value can also exceed the value of reserve-required, as the filer maintains a small hidden reserve of last resort. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]. |
| **reserve-used-actual** | | integer | Number of reserved bytes that have been used. This value is computed as the smaller of: (1) snapshotted bytes not in the active filesystem, and (2) reserve-used. This formula comes from the observation that you cannot have used more overwrite reserved than have actually overwritten data. This value can exceed the value of reserve-required, as the filer maintains a small hidden reserve of last resort. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]. |
| **sis** | | sis-info optional | Display the Single Instance Storage (SIS) related status and statistics if the volume is a SIS volume. |
| **size-available** | | integer | Number of bytes still available in the volume. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]. |

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| **size-expected-available** | | integer | Number of bytes that should be available in the volume irrespective of available in the aggregate for a thin provisioned volume. This is same as size-available for 'volume' guaranteed volumes. For 'none' guaranteed volumes this value is calculated as if the aggregate has enough backing disk space to fully support the volumes's size. Similar to the size-available property, this does not include Snapshot reserve. This count gets reduced if snapshots consume space above Snapshot reserve threshold. This parameter is not supported on Infinite Volumes. Range : [0..2^64-1]. |
| **size-logical-available** | | integer | Number of bytes that are logically available in the volume i.e. amount of free space available considering space saved by the storage efficiency features as being used. This does not include Snapshot reserve. This parameter is not supported on FlexGroups or Infinite Volumes. Range : [0..2^64-1]. |
| **size-logical-used** | | integer | Number of bytes logically used in the volume. This value includes all the space saved by the storage efficiency features along with the physically used space. This does not include Snapshot reserve but does consider Snapshot spill. This parameter is not supported on FlexGroups or Infinite Volumes. Range : [0..2^64-1]. |
| **size-logical-used-by-afs** | | integer | Number of bytes that are logically used by the active filesystem of the volume. This value differs from 'size-logical-used' by the amount of Snapshot spill that exceeds Snapshot reserve. This parameter is not supported of FlexGroups or Infinite Volumes. Range : [0..2^64-1]. |
| **size-logical-used-by-snapshots** | | integer | Number of bytes that are logically used across all Snapshots copies in the volume. This value differs from 'size-used-by-snapshots' by the space saved by the storage efficiency features across the Snapshot copies. This parameter is not supported on FlexGroups or Infinite Volumes. Range : [0..2^64-1]. |
| **size-over-provisioned** | | integer | Number of bytes not available in the aggregate for a volume. This will be non-zero only in case of none guaranteed volume when it's unused size exceeds available space in the aggregate. For guarantee enabled volume this field will always report zero. This parameter is not supported on Infinite Volumes. Range : [0..2^64-1]. |
| **size-physical-used** | | integer | The size in bytes that is physically used in the volume. This differs from 'total-used' space by the space that is reserved for future writes. The value includes blocks in use by Snapshot copies. Range : [0..2^64-1]. |
| **size-snapshot-reserve-available** | | integer | Number of bytes available for Snapshot copies inside the Snapshot reserve. This value is zero if Snapshot spill is present. For none guaranteed volumes, this may get reduced due to less available space in the aggregate. This parameter is not supported on Infinite Volumes. Range : [0..2^64-1]. |
| **size-total** | | integer | Total usable size (in bytes) of the volume, not including WAFL reserve or volume snapshot reserve. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]. |
| **size-used** | | integer | Number of bytes used in the volume. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]. |
| **snap-autodelete** | | snap-autodelete-info optional | Display the snapshot autodelete policy related status of the volume. Appears only under "verbose" mode. |
| **snaplock-type** | | string optional | The type of the snaplock volume. It is present for snaplock volumes only, i.e. volumes for which is-snaplock is "true". Possible values - "compliance" or "enterprise" |
| | | | |

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|---|---|---|---|
| **snaplock-volume-compliance-clock** | | integer optional | If Compliance Clock is initialized then time in seconds in the standard UNIX format (since 01/01/1970 00:00:00) is displayed. This field will be present only for SnapLock volumes. Range: [0..2^64-1]. |
| **snapshot-blocks-reserved** | | integer | The number of 1024 byte blocks that has been set aside as reserve for snapshot usage. This is same as "blocks-reserved" in snapshot-get-reserve API output. Range : [0..2^64-1]. |
| **snapshot-percent-reserved** | | integer | The percentage of disk space that has been set aside as reserve for snapshot usage. This is same as "percent-reserved" in snapshot-get-reserve API output. Range : [0..100]. |
| **space-reserve** | | string optional | **Flexible** volumes only. The storage guarantee associated with the flexible volume. Possible values: none, file, volume. This field does not appear if the flexible volume is restricted or offline. |
| **space-reserve-enabled** | | boolean optional | **Flexible** volumes only. Whether or not the storage guarantee associated with the flexible volume is currently in effect. This field does not appear if the flexible volume is restricted or offline. |
| **space-slo** | | string optional | **Flexible** volumes only. The space SLO type associated with the flexible volume. The space SLO type is the Service Level Objective for space management for the volume. Possible values: none, thick, semi-thick. This field does not appear if the flexible volume is restricted or offline. |
| **state** | | string | State of the volume. Possible values: "offline", "online", "restricted" and "unknown" for both flexible and traditional volumes, and "creating", "failed", and "partial" specifically for traditional volumes. The "mixed" state applies to both FlexGroups and Infinite Volumes. If the state of a FlexGroup or Infinite Volume is mixed, that indicates that not all of the constituents are in the same state. |
| **transition** | | transition-info optional | Information relating to any transition jobs running or previously run on this volume. |
| **type** | | string | The type of volume. Possible values: "flex" for flexible volumes, and "trad" for traditional volumes. |
| **uuid** | | string | Universal unique identifier (UUID) for the volume. |
| **vm-align** | | vm-align-info optional | Information related to the Virtual Machine alignment settings on the volume. |
| **volume-64bit-upgrade** | | volume-64bit-upgrade-info optional | Information related to 64-bit upgrade. After 64-bit upgrade completes, this information is no longer available. |

# Element definition: **volume-modify-iter-async-info**

[top]

Information about the modify operation that was attempted/performed against volume object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| | | | |

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|---|---|---|---|
| **status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |
| **volume-key** | | volume-attributes | The keys for the volume object to which the modify operation applies. |

# Element definition: **volume-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against volume object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **volume-key** | | volume-attributes | The keys for the volume object to which the modify operation applies. |

# Element definition: **volume-move-error-code**

[top]

The complete list of error codes if perform-validation-only is true.

| Name | Range | Type | Description |
|---|---|---|---|
| **volume-move-error** | | integer | Error |

# Element definition: **volume-move-info**

[top]

Status of the move operation When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **actual-completion-timestamp** | **[0..2^31-1]** | integer optional | The date and time in cluster timezone when the volume move completed (successfully or otherwise). If the volume move operation completed successfully, this is the time when the volume on the destination aggregate has been made master and the original volume on the source aggregate has been deleted or is no longer a master copy.<br><br>Attributes: non-creatable, non-modifiable |
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|---|---|---|---|
| **actual-duration** | **[0..2^32-1]** | integer optional | The duration in days, hours, minutes and seconds for which the volume move was or is in progress.<br><br>Attributes: non-creatable, non-modifiable |
| **bypass-throttling** | | boolean optional | This specifies whether this move should be throttled so protocol operations latencies are not affected by move. If this parameter is specified with true, the move will not be throttled by the transfer engine. The default is false.<br><br>Attributes: non-creatable, modifiable |
| **bytes-remaining** | **[0..2^63-1]** | integer optional | The number of bytes remaining to be sent during volume move. This is an approximate number and lags the current status by a few (3) minutes while the volume move is in operation. The bytes-remaining is applicable only for ongoing volume moves. It is not applicable to completed or failed moves. The data inside the volume is considered to be much much larger than data outside the volume. This value most of the time will track data inside the volume yet to be sent. Note that the bytes-remaining can increase over a period of time depending on the rate of change of volume by protocols or other consumers of the volume.<br><br>Attributes: non-creatable, non-modifiable |
| **bytes-sent** | **[0..2^63-1]** | integer optional | The number of bytes sent thus far as part of volume move. This is an approximate number and lags the current status by a few seconds while the volume move is in operation. The bytes-sent is applicable only for ongoing and successful volume moves. The bytes-sent counter is mononotonically increasing in most cases. It is stored in memory. As a result, any reboots or failover of the move operation can lead to resetting of this counter to a lesser value than reported earlier. The data inside the volume is considered to be much much larger than metadata of the volume, mostly stored outside the volume. This value most of the time will track data inside the volume sent at the time of retreiving status.<br><br>Attributes: non-creatable, non-modifiable |
| **completion-code** | **[0..2^64-1]** | integer optional | The status code of the move operation. The status code will be 0 while the job is running or is successful. It will be non-zero if it is not successful. The code field will be the same as job show's 'status job' field. This field will be in diag mode of the UI.<br><br>Attributes: non-creatable, non-modifiable |
| **completion-status** | | string optional | Once a volume move is complete, the final state of the volume move operation. This is available in diag mode only.<br><br>Attributes: non-creatable, non-modifiable |
| **cutover-action** | | string optional | The action to be taken for cutover or during cutover failure. Can be one of abort_on_failure, defer_on_failure, force or wait. This is the input given during the start of volume move.<br><br>Attributes: non-creatable, modifiable |
| **cutover-attempted-count** | **[0..2^32-1]** | integer optional | Number of times cutover has been attempted during the move operation. This is a diag only field.<br><br>Attributes: non-creatable, non-modifiable |
| **cutover-attempts** | **[1..25]** | integer optional | The number of attempts to be used by the move operation to cutover to the destination volume. This is the input by the upper layers. If the number of attempts is exhausted, the cutover-action input determines the next course of action for the move operation. |

| | | | |
|---|---|---|---|
| | | | Attributes: non-creatable, modifiable |
| **cutover-hard-deferred-count** | **[0..2^32-1]** | integer optional | Number of times cutover has been hard deferred during the move operation due to non-transient, intervention-necessary conditions. This is a diag only field.<br><br>Attributes: non-creatable, non-modifiable |
| **cutover-trigger-timestamp** | **[0..2^31-1]** | integer optional | The time when move operation last accepted a trigger to initiate cutover. This is applicable when the move operation is waiting for a cutover to be triggered because of a hard cutover deferred state or because the cutover-action was wait.<br><br>Attributes: non-creatable, non-modifiable |
| **cutover-window** | **[30..300]** | integer optional | The time window in seconds given as input for the cutover phase of volume move.<br><br>Attributes: non-creatable, modifiable |
| **cutovers-soft-deferred-count** | **[0..2^32-1]** | integer optional | Number of times cutover has been soft deferred during the move operation due to transient conditions. This is a diag only field.<br><br>Attributes: non-creatable, non-modifiable |
| **destination-aggregate** | | string optional | The name of the aggregate where the volume is being moved to.<br><br>Attributes: non-creatable, non-modifiable |
| **destination-key-id** | | string optional | This is the encryption key-id of the destination volume.<br><br>Attributes: non-creatable, non-modifiable |
| **destination-node** | | string optional | The name of the node where the destination aggregate is. This will be a diagnostic only field.<br><br>Attributes: non-creatable, non-modifiable |
| **details** | | string optional | This field contains details about any warnings, errors and state of the move operation. This is a string field.<br><br>Attributes: non-creatable, non-modifiable |
| **enforce-network-throttling** | | boolean optional | This specifies whether this move should enforce replication engine node level network throttling. If this parameter is specified with true, the move will be throttled by the replication engine. The default is false.<br><br>Attributes: non-creatable, modifiable |
| **estimated-completion-time** | **[0..2^31-1]** | integer optional | The approximate date and time in the cluster time zone when the entire volume move operation is expected to complete. The move operation completes when the volume instance on the destination aggregate has become the master copy and the volume instance on the source aggregate has been deleted or is no longer the master copy. The format will be in Ontap's Date format. Note that this time may keep increasing when the move goes into Cutover-Deferrred mode. In those cases where the input for cutover-action is wait, during data copy phase, estimated time of completion will approximate the time to reach cutover point and wait for user intervention.<br><br>Attributes: non-creatable, non-modifiable |
| **estimated-remaining-** | **[0..2^32-1]** | integer optional | The approximate amount of time in terms of days, hours, minutes and seconds remaining to complete the volume move. Note that this duration will not go down to zero when the move goes into Cutover-Deferrred mode. The duration displayed in the examples is not |

| | | | |
|---|---|---|---|
| **duration** | | | correct. cutover.<br><br>Attributes: non-creatable, non-modifiable |
| **execution-progress** | | string optional | The execution progress of the job as reported by the job. This is used for debugging purposes only and is only available in diag mode.<br><br>Attributes: non-creatable, non-modifiable |
| **internal-state** | | string optional | This is the actual internal state of the move job. This is used for debugging purposes only and is only available in diag mode.<br><br>Attributes: non-creatable, non-modifiable |
| **is-destination-encrypted** | | boolean optional | This value is 'true' if the destination volume is an encrypted volume.<br><br>Attributes: non-creatable, non-modifiable |
| **is-source-encrypted** | | boolean optional | This value will be 'true' if the source volume is an encrypted volume.<br><br>Attributes: non-creatable, non-modifiable |
| **job-id** | **[0..2^64-1]** | integer optional | The ui job id of the move job. This is available in diag mode only.<br><br>Attributes: non-creatable, non-modifiable |
| **job-uuid** | | uuid optional | The job uuid of the move job. This is available in diag mode only.<br><br>Attributes: non-creatable, non-modifiable |
| **last-cutover-trigger-timestamp** | **[0..2^31-1]** | integer optional | The time when move operation initiated cutover.<br><br>Attributes: non-creatable, non-modifiable |
| **managing-node** | | string optional | The node in the cluster on which the move operation/job is or was running. This is usually on the node hosting the volume to be moved.<br><br>Attributes: non-creatable, non-modifiable |
| **moved-by-autobalance** | | boolean optional | This value will be 'true' if the move has been initiated by Auto Balance aggregate and 'false' if the move is not related to Auto Balance Aggregate.<br><br>Attributes: non-creatable, non-modifiable |
| **original-job-id** | **[0..2^64-1]** | integer optional | This field will be populated when the move job is restarted with a new Job identifier.<br><br>Attributes: non-creatable, non-modifiable |
| **percent-complete** | **[0..100]** | integer optional | The amount of work to move the volume completed thus far in terms of percentage.<br><br>Attributes: non-creatable, non-modifiable |
| | | | The phase of the move operation. The move operation can have the following phases:<br><br>• Queued - Phase where the move operation is queued for execution by the cluster.<br>• Initializing - Phase where the move operation is setting up resources and initializing them for moving the volume.<br>• Replicating - Phase in which move operation is doing data copy from source volume to destination aggregate.<br>• Cutover - Phase in which the move operation is attempting to switch over volume to the destination aggregate and ensuring client i/o and system operations go to the volume on the destination aggregate. In this phase client i/o and system operations are temporarily suspended while a final data copy is |

| | | | |
|---|---|---|---|
| **phase** | | string optional | taking place from the current volume to the destination aggregate.<br>• cutover_hard_deferred - Phase in which the move operation is deferring cutover due to some errors in the system during move. The move operation is waiting for corrective action from the admin or MEI tools to take place. The details field contains the reason for the error.<br>• cutover_soft_deferred - Phase in which the move operation is deferring cutover due to some transient errors in the system during move. The move operation is replicating in the background and waiting for the transient error which is causing the soft deferral to clear up. If the move operation has not yet started the replication in the background, the 'Detailed Status' field will contain the reason for soft deferral.<br>• Completed - The move operation has completed successfully and the volume is now on destination aggregate.<br>• Finishing - The move operation performs a cleaning up before completing succesfully and the volume is now on destination aggregate.<br>• cleaning_up - The move operation aborted and is in the process of cleaning up. This is a transient condition that will eventually lead to Failed phase.<br>• Failed - The move operation was not successful. The details field and the code indicates the reason for the failure.<br>• Failed - The move operation did not complete successfully.<br>• Restarting - The move operation is restarting.<br><br>Attributes: non-creatable, non-modifiable |
| **prior-issues** | | string optional | The list of issues or transient errors encountered causing the move operation to retry the data copy phase or the cutover phase. For RR.1, there will be only one transient error reported. For later releases, there can be many transient errors seperated by newlines reported, with the order being earliest at top and latest error at the bottom of the list. This is a diag only field.<br><br>Attributes: non-creatable, non-modifiable |
| **replication-throughput** | | string optional | The current replication throughput of the move operation in terms of Kb/s, Mb/s or Gb/s.<br><br>Attributes: non-creatable, non-modifiable |
| **skip-delta-calculation** | | boolean optional | Indicates that the move should skip delta calculation.<br><br>Attributes: non-creatable, non-modifiable |
| **source-aggregate** | | string optional | The name of the aggregate where the volume being moved originally resides or resided.<br><br>Attributes: non-creatable, non-modifiable |
| **source-key-id** | | string optional | This is the encryption key-id of the source volume.<br><br>Attributes: non-creatable, non-modifiable |
| **source-node** | | string optional | The name of the node where the source aggregate is.<br><br>Attributes: non-creatable, non-modifiable |
| **start-timestamp** | **[0..2^31-1]** | integer optional | The date and time in cluster timezone when the volume move started.<br><br>Attributes: non-creatable, non-modifiable |
| | | | The state of the volume move at the time of issuing the command |

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|---|---|---|---|
| **state** | | string optional | and the system gathering up the information about the move. The states can have the following values:<br><br>• Healthy - Volume move is proceeding as planned, with no issues so far<br>• Done - Volume move has finished successfully.<br>• Failed - Volume move has failed due to some reason, with the reason being available in the Detailed Status section.<br>• Warning - Volume move has encountered a transient error condition during its operation, but is continuing on since then. The details and phase section has more context into the cause of the error.<br>• Alert - Volume move has encountered a serious condition that cannot be rectified by the system alone and needs input from the upper layers (admin or tools) before proceeding. The volume move will go into Cutover-Deferred phase waiting for user intervention in case of errors, with volume move trigger-cutover being the way the move operation can be restarted.<br><br>Attributes: non-creatable, non-modifiable |
| **volume** | | volume-name optional | This is the name of the vserver-scoped volume being moved.<br><br>Attributes: key, non-creatable, non-modifiable |
| **volume-instance-uuid** | | uuid optional | This is the instance uuid of the vserver-scoped volume being moved.<br><br>Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | This is the name of the vserver in which the volume being moved is part of.<br><br>Attributes: key, non-creatable, non-modifiable |

# Element definition: **volume-move-target-aggr-info**

[top]

Compatible target aggregate information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-name** | | aggr-name optional | Aggregate Name Attributes: key, non-creatable, non-modifiable |
| **available-size** | | size optional | Available size Attributes: non-creatable, non-modifiable |
| **current-dest-capacity-tier-usage** | | size optional | Current Destination Capacity Tier Usage Attributes: non-creatable, non-modifiable |
| **current-dest-performance-tier-availsize** | | size optional | Current Destination Performance Tier Available Size Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **current-source-capacity-tier-usage** | | size optional | Current Source Capacity Tier Usage Attributes: non-creatable, non-modifiable |
| **current-source-performance-tier-availsize** | | size optional | Current Source Performance Tier Available Size Attributes: non-creatable, non-modifiable |
| **projected-dest-capacity-tier-usage** | | size optional | Projected Destination Capacity Tier Usage After Move Attributes: non-creatable, non-modifiable |
| **projected-dest-performance-tier-availsize** | | size optional | Projected Destination Performance Tier Available Size After Move Attributes: non-creatable, non-modifiable |
| **projected-source-capacity-tier-usage** | | size optional | Projected Source Capacity Tier Usage After Move Attributes: non-creatable, non-modifiable |
| **projected-source-performance-tier-availsize** | | size optional | Projected Source Performance Tier Available Size After Move Attributes: non-creatable, non-modifiable |
| **storage-type** | | string optional | Storage Type Attributes: non-creatable, non-modifiable |

# Element definition: **volume-option-info**

[top]

Option key and value.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Option key. |
| **value** | | string | Option value. |

# Element definition: **volume-transition-volinfo**

[top]

Information describing the volume and how to transition it.

| Name | Range | Type | Description |
|---|---|---|---|
| **junction-path** | | string optional | The path in the vserver into which the volume should be mounted. Note that this is only valid for transitions from 7-mode to Cluster-mode and not untransition. Path should be of the format "/". |
| **volume-name** | | string | The name of the volume which is to be transitioned. |

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **autosize-info**

[top]

Autosize settings of the volume This appears only if the "verbose" parameter above is set to "true".

| Name | Range | Type | Description |
|---|---|---|---|
| **grow-threshold-percent** | **[0..100]** | integer optional | The trigger capacity percentage at which the volume automatically grows. |
| **increment-size** | **[0..2^63-1]** | integer optional | The increment size by which the volume would be grown, in kbytes. |
| **is-enabled** | | boolean optional | This element is deprecated in Data ONTAP 8.2 and later. Please use autosize-mode instead. The value of 'true' means that autosize is enabled, while 'false' means that the autosize mode is 'off'. |
| **maximum-size** | **[0..2^63-1]** | integer optional | The maximum size to which the volume would be grown automatically, in kbytes. |
| **minimum-size** | **[0..2^63-1]** | integer optional | The minimim size to which the volume can be shrunk automatically, in kbytes. |
| **mode** | | string optional | Defines the current mode of volume autosize. Legal modes include "grow", "grow_shrink", and "off". |
| **shrink-threshold-percent** | **[0..100]** | integer optional | The trigger capacity percentage at which the volume automatically shrinks. |

# Element definition: **clone-child-info**

[top]

Information describing each of the clones that are children of the current flexible volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **clone-child-name** | | string | The name of a clone volume whose parent is the given flexible volume. |

# Element definition: **clone-parent-info**

[top]

Information describing the parentage of a flexible volume clone.

| Name | Range | Type | Description |
|---|---|---|---|
| **parent-snapshot-name** | | string | The name of the snapshot in 'parent-volume-name' serving as the parent of this clone. |
| **parent-volume-name** | | string | The name of the flexible volume serving as the parent of this clone. |

# Element definition: **compression-info**

[top]

Note that the use of this element is deprecated, refer to the 'dense-status' element for compression

status instead.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-compression-enabled** | | string | Note that the use of this field is deprecated, refer to the 'is-compression-enabled' field in the 'dense-status' element instead. |

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **encryptiontype**

[top]

none|volume|aggregate Possible values:

- "undefined" - Not defined,
- "none" - Plain-text volume,
- "volume" - NVE (NetApp Volume Encryption) volume,
- "aggregate" - NAE (NetApp Aggregate Encryption) volume,
- "mixed" - A FlexGroup volume with a mixture of plain-text, NetApp Volume Encryption (NVE) or NetApp Aggregate Encryption (NAE)

[none]

# Element definition: **plex-info**

[top]

Information for a plex.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-online** | | boolean | "true" if the plex is online, "false" otherwise. |
| **is-resyncing** | | boolean | "true" if the plex is currently resyncing, "false" otherwise. |
| **name** | | string | Plex name, e.g. /myvol/plex0 |
| **plex-resync-pct-with-precision** | | string optional | If the plex is currently being resynced, then the completion percentage floored to two decimal places. (e.g. "13.12") |
| **plex-status** | | string optional | Plex status. Possible values: "normal", "failed", "empty", "invalid", "uninitialized", "failed assimilation", "limbo", "active", "inactive", "resyncing", These values may appear by themselves or in combination separated by commas (e.g., "normal,active") |
| **pool** | **[0..1]** | integer optional | The pool to which the majority of disks in the plex belong. |
| | | raid- | |

| | | | |
|---|---|---|---|
| **raid-groups** | | group-info[] optional | List of all RAID groups in the plex. This appears only if the "verbose" parameter above is set to "true". |
| **resync-level** | **[0..1]** | integer optional | If the plex is currently being resynced, then the resync level. |
| **resyncing-percentage** | | integer optional | If the plex is currently being resynced, then the completion percentage. Range : [0..100]. |

# Element definition: **sis-info**

[top]

Status and statistics for the SIS volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **compress-saved** | | integer | The total disk space saved due to compression in KB (1024 Bytes) on the referenced file system. Range: [0 - 2^64-1] |
| **dedup-saved** | | integer | The total disk space saved due to deduplication in KB (1024 Bytes) on the referenced file system. Range: [0 - 2^64-1] |
| **last-operation-begin** | | string | Start timestamp of the last SIS operation. |
| **last-operation-end** | | string | End timestamp of the last SIS operation. |
| **last-operation-error** | | string | A human readable error message of the last SIS operation. Present when there was an error. |
| **last-operation-size** | | integer | The size in bytes of the last SIS operation. Range : [0..2^64-1]. |
| **percent-compress-saved** | | integer | The percentage of disk space saved by compression on the referenced file system. Range: [0 - 100] |
| **percent-dedup-saved** | | integer | The percentage of disk space saved by deduplication on the referenced file system. Range: [0 - 100] |
| **percent-total-saved** | | integer | The percentage of disk space saved by compression & deduplication on the referenced file system. Range: [0 - 100] |
| **percentage-saved** | | integer | Percentage of space savings generated by the shared space. This is calculated as [size-saved / (size-saved + size-used)]. This field appears if the SIS volume is online. Range : [0..100]. |
| **progress** | | string | The progress of the current SIS operation. |
| **schedule** | | string | The schedule for SIS operation on the volume. See sis-set-config for the format of the schedule. |
| **size-saved** | | integer | The disk space savings generated by the shared space. The size is in bytes. The size-saved plus the size-used would be the total space usage, if no space is shared. This field appears if the SIS volume is online. Range : [0..2^64-1]. |
| **size-shared** | | integer | Number of bytes in the used space that is shared. This field appears if this SIS volume is online. Range : [0..2^64-1]. |
| **state** | | string | Possible values: "enabled", or "disabled". |
| **status** | | string | Possible values: "idle", "active", "pending", or "undoing". |
| | | | |

| | | | |
|---|---|---|---|
| **total-saved** | | integer | The total disk space saved by compression & deduplication in KB (1024 Bytes) on the referenced file system. Range: [0 - 2^64-1] |
| **type** | | string | Possible values: "regular" or "snapvault". |

## Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **snap-autodelete-info**

[top]

Snapshot autodelete policy settings. This appears only if the "verbose" parameter above is set to "true".

| Name | Range | Type | Description |
|---|---|---|---|
| **commitment** | | string | Possible values: "try", "disrupt", or "destroy". This option determines the snapshots which snapshot autodelete is allowed to delete to get back space. Setting this option to "try" only permits the snapshots which are not locked by data protection utilities (dump, mirroring, NDMPcopy) and data backing functionalities (volume and LUN clones) to be deleted. Setting this option to "disrupt" only permits the snapshots which are not locked by data backing functionalities (volume and LUN clones) to be deleted. |
| **defer-delete** | | string | Possible values "scheduled", "user_created", "prefix", or "none". This option determines which kind of snapshots to delete in the end. Setting this option value to "scheduled" will delete the snapshots created by the snapshot scheduler last. Setting this option value to "user_created" will delete the snapshots not created by the snapshot scheduler last. Setting this option value to "prefix" will delete the snapshots matching the prefix string to be deleted last. Setting this option value to "none" will disable the above choices. |
| **delete-order** | | string | Possible values "oldest_first", "newest_first". This option determines if the oldest or newest snapshot is deleted first. |
| **destroy-list** | | string | Possible values are the combination of "lun_clone", "vol_clone", "cifs_share", "file_clone" or "none". These options specify the list of service that can be destroyed if the snapshot is backing that service. This option is valid only when the commitment is set to destroy. |
| **prefix** | | string | This option provides the prefix string for the "prefix" value of the "defer_delete" option. |
| **state** | | string | Possible values: "on" or "off". This option determines if the snapshot autodelete is currently enabled for the volume. |
| **target-free-space** | | integer | This option determines when snapshot autodelete should stop deleting snapshot. Depending on the trigger, snapshots are deleted till we reach the target free space percentage. Range: [1..100] |
| **trigger** | | string | Possible values: "volume", "snap_reserve", or "(DEPRECATED)-space_reserve". This option determines the condition in which snapshots should be automatically deleted. Setting this option to "volume" triggers snapshot autodelete to run when the volume is near full. Setting this option to "snap_reseve" triggers snapshot autodelete to run when the snap reserve of the volume is near full. Setting this option to |

| | | | |
|---|---|---|---|
| | | | "space_reserve" triggers snapshot autodelete to run when the space reserved in the volume is near full. NOTE: The option "space_reserve" is deprecated. |

# Element definition: **transition-info**

[top]

Information relating to any transition jobs running or previously run on this volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **transition-state** | | string optional | Indicates the current state of the volume transition operation. |
| **transitioned** | | boolean optional | Indicates whether the volume has gone through a transition operation. |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **vm-align-info**

[top]

Information relating to Virtual Machine alignment settings on the volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **tsse-local-savings** | | integer | The auto adaptive compression local savings. Range : [0..2^64-1]. |
| **tsse-migrate-savings** | | integer | The auto adaptive compression migrate savings. Range : [0..2^64-1]. |
| **vm-align-sector** | **[1..7]** | integer optional | The Virtual Machine alignment 512 byte sector number. All files created with the suffix specified in the 'vm-align-suffix' input parameter will have zero-filled <512 * 'vm-align-sector'> bytes data at the beginning so that it's actual data starts at a different offset instead of zero. This is done so that the read & writes to such files are aligned to WAFL's 4k block boundary |
| **vm-align-suffix** | | string optional | The Virtual Machine alignment suffix. The suffix such as '.xyz' is used to identify the files which needs to be aligned. See the description for 'vm-align-sector' above for more information on this. |

# Element definition: **volume-64bit-upgrade-info**

[top]

Information related to 64-bit upgrade.

| Name | Range | Type | Description |
|---|---|---|---|
| **check** | | volume-64bit-upgrade-check-info optional | Information returned when upgrade-64bit-mode in aggr-add is "check". |

# Element definition: **volume-antivirus-attributes**

[top]

{Deprecated, this field does not have any effect on the operation of the volume.} Information about Antivirus settings for the volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **on-access-policy** | | string optional | {Deprecated, this field does not have any effect on the operation of the volume.} The name of the Antivirus On-Access policy. The default policy name is 'default'.<br><br>If not specified when creating a volume, the Antivirus On-Access Policy is inherited from the owning vserver. Currently, this policy can only be managed using the 'antivirus' command line interfaces.<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **volume-attributes**

[top]

Attributes of a volume. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **encrypt** | | boolean optional | To create an encrypted Volume.<br><br>This option when set to 'true', it will generate a new key and create an encrypted volume using that key. Before that, the vserver should be configured with the key-manager. When set to 'false', the volume created will not be encrypted.<br><br>Attributes: optional-for-create, non-modifiable |
| | | | The encryption state of a volume. |

| | | | |
|---|---|---|---|
| **encryption-state** | | string optional | Possible values:<br><br>• 'none' ... plain-text volume,<br>• 'full' ... encrypted volume,<br>• 'partial' ... volume are in mixed encryption state(valid for FlexGroup only),<br>• 'converting_to_encrypted' ... conversion to encryption operation is in progress,<br>• 'converting_to_plaintext' ... conversion to plain-text operation is in progress(depricated),<br>• 'rekeying' ... rekey of volume is in progress<br><br>Attributes: non-creatable, non-modifiable |
| **encryption-type** | | encryptiontype optional | Encryption type of a volume.<br><br>Possible values:<br><br>• 'none' ... plain-text volume,<br>• 'volume' ... NVE (NetApp Volume Encryption) volume,<br>• 'aggregate' ... NAE (NetApp Aggregate Encryption) volume<br><br>Attributes: optional-for-create, non-modifiable Possible values:<br><br>• "undefined" - Not defined,<br>• "none" - Plain-text volume,<br>• "volume" - NVE (NetApp Volume Encryption) volume,<br>• "aggregate" - NAE (NetApp Aggregate Encryption) volume,<br>• "mixed" - A FlexGroup volume with a mixture of plain-text, NetApp Volume Encryption (NVE) or NetApp Aggregate Encryption (NAE) |
| **key-creation-time** | | string optional | The creation date and time of the key-id.<br><br>The creation date and time of current key-id of the volume.<br><br>Attributes: non-creatable, non-modifiable |
| **key-id** | | string optional | The key-id used for creating encrypted volume.<br><br>A new key will be generated for creating an encrypted volume. This key-id is associated with the generated key.<br><br>Attributes: non-creatable, non-modifiable |
| **volume-antivirus-attributes** | | volume-antivirus-attributes optional | This field contains information about Antivirus On-Access settings for the volume. |
| **volume-autobalance-attributes** | | volume-autobalance-attributes optional | This field contains information about the state of Auto Balance Aggregate for a volume. |
| **volume-autosize-attributes** | | volume-autosize-attributes optional | This field contains information about the autosize settings of the volume. |
| **volume-clone-attributes** | | volume-clone-attributes optional | This field contains information applying exclusively to clone volumes. |
| **volume-comp-aggr-** | | volume-comp-aggr-attributes | This field contains information about composite aggregate attributes of a volume. |

| | | | |
|---|---|---|---|
| **attributes** | | optional | |
| **volume-directory-attributes** | | volume-directory-attributes optional | This field contains information related to directories in a volume. |
| **volume-export-attributes** | | volume-export-attributes optional | This field contains information about export settings of the volume. |
| **volume-flexcache-attributes** | | volume-flexcache-attributes optional | This field contains information applying exclusively to flexcache volumes. |
| **volume-hybrid-cache-attributes** | | volume-hybrid-cache-attributes optional | This field contains information on Flash Pool caching attributes on a volume |
| **volume-id-attributes** | | volume-id-attributes optional | This field contains identification information about the volume. |
| **volume-infinitevol-attributes** | | volume-infinitevol-attributes optional | This field contains information about the state of an Infinite Volume. |
| **volume-inode-attributes** | | volume-inode-attributes optional | This field contains information about inodes in a volume. |
| **volume-language-attributes** | | volume-language-attributes optional | This field contains information about volume language-related settings. |
| **volume-mirror-attributes** | | volume-mirror-attributes optional | This field contains information applying exclusive to volume mirror. |
| **volume-performance-attributes** | | volume-performance-attributes optional | This field contains information that relates to the performance of the volume. |
| **volume-qos-attributes** | | volume-qos-attributes optional | This field contains the information that relates to QoS. |
| **volume-security-attributes** | | volume-security-attributes optional | This field contains information about volume security settings. |
| **volume-sis-attributes** | | volume-sis-attributes optional | This field contains information about Deduplication, file clone, compression, etc. |
| **volume-snaplock-attributes** | | volume-snaplock-attributes optional | This field contains information about snaplock attributes of the volume. |
| **volume-snapshot-attributes** | | volume-snapshot-attributes | This field contains information applying exclusively to all the snapshots in the volume. Volume disk space-related settings are excluded. |

| | | | |
|---|---|---|---|
| | | optional | |
| **volume-snapshot-autodelete-attributes** | | volume-snapshot-autodelete-attributes optional | This field contains information about snapshot autodelete policy settings. |
| **volume-space-attributes** | | volume-space-attributes optional | This field contains information related to volume disk space management including on-disk layout. |
| **volume-state-attributes** | | volume-state-attributes optional | This field contains information about the state or status of a volume or its features. |
| **volume-transition-attributes** | | volume-transition-attributes optional | This field contains information applying exclusively to transitioned or transitioning volumes. |
| **volume-vm-align-attributes** | | volume-vm-align-attributes optional | This field contains information related to the Virtual Machine alignment settings on a volume |
| **volume-vserver-dr-protection-attributes** | | volume-vserver-dr-protection-attributes optional | This fields contains information about protection type for the volume in a Vserver DR setup. |

# Element definition: **volume-autobalance-attributes**

[top]

Information about the Auto Balance Aggregate state of a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-autobalance-eligible** | | boolean optional | When set to 'true', the volume is included in Auto Balance aggregate processing. When set to 'false', the volume is excluded from Auto Balance aggregate processing. This field is not set on FlexGroups.<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **volume-autosize-attributes**

[top]

Information about autosize settings of the volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **grow-threshold-percent** | **[0..100]** | integer optional | Used space threshold which triggers autogrow. When the volume-info.size-used is greater than this percent of volume-info.size-total, the volume will be grown. The computed value is rounded down. The default value of this element varies from 85% to 98%, depending on the volume size. It is an error for the grow threshold to be less than or equal to the shrink threshold.<br><br>Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **is-enabled** | | boolean optional | This element is deprecated in Data ONTAP 8.2 and later. Please use autosize-mode instead. Setting this parameter to 'true' enables the 'grow' mode, while setting it to 'false' disables autosize and sets the autosize mode to 'off'. The default value is 'false'.<br><br>Attributes: optional-for-create, modifiable |
| **maximum-size** | **[0..2^63-1]** | integer optional | The maximum size (in bytes) to which the volume would be grown automatically. The default value is 20% greater than the volume size. It is an error for the maximum volume size to be less than the current volume size. It is also an error for the maximum size to be less than or equal to the minimum size.<br><br>Attributes: optional-for-create, modifiable |
| **minimum-size** | **[0..2^63-1]** | integer optional | The minimum size (in bytes) below which the volume would not be shrunk automatically. The default value is the initial size of the volume. It is an error for the minimum size to be greater than or equal to the maximum size.<br><br>Attributes: optional-for-create, modifiable |
| **mode** | | string optional | The current mode of operation of volume autosize. Valid modes are 'off', 'grow', and 'grow_shrink'. The default mode is 'off'.<br><br>Attributes: optional-for-create, modifiable Possible values:<br><br>• "off" ,<br>• "grow" ,<br>• "grow_shrink" |
| **reset** | | boolean optional | Resets the values of autosize, max-autosize, min-autosize, autosize-shrink-threshold-percent, autosize-grow-threshold-percent and autosize-mode to their defaults.<br><br>Attributes: non-creatable, modifiable |
| **shrink-threshold-percent** | **[0..100]** | integer optional | The used space threshold below which autoshrink is triggered. When the volume-info.size-used is less than this percent of volume-info.size-total, the volume will be shrunk. The computed value is rounded down. The default shrink theshold is 50%. It is an error for the shrink threshold to be greater than or equal to the grow threshold.<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **volume-clone-attributes**

[top]

Information about volume clones.

| Name | Range | Type | Description |
|---|---|---|---|
| **clone-child-count** | **[0..2^32-1]** | integer optional | Number of clones for which this volume is the parent. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, non-modifiable |
| **inherited-physical-used** | | size optional | Inherited Physical Used from Clone's Base Snapshot.<br><br>Attributes: non-creatable, non-modifiable |
| **inherited-** | | size | Inherited Savings from Clone's Base Snapshot. |

| | | | |
|---|---|---|---|
| **savings** | | optional | Attributes: non-creatable, non-modifiable |
| **volume-clone-parent-attributes** | | volume-clone-parent-attributes optional | This field appears for a flexible volume if it is a clone of another flexible volume, describing the clone's parentage. This field is not set on FlexGroups. |

# Element definition: **volume-comp-aggr-attributes**

[top]

Information related to composite aggregate attributes of a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **cloud-retrieval-policy** | | string optional | This optional parameter specifies the cloud retrieval policy for the volume.This policy determines which tiered out blocks to retrieve from the capacity tier to the performance tier.<br><br>The available cloud retrieval policies are:<br><br>• default - This policy retrieves tiered data based on the underlying tiering policy. If the tiering policy is 'auto', tiered data is retrieved only for random client driven data reads. If the tiering policy is 'none' or 'snapshot-only', tiered data is retrieved for random and sequential client driven data reads. If the tiering policy is 'all', tiered data is not retrieved.<br>• on-read - This policy retrieves tiered data for all client driven data reads.<br>• never - This policy never retrieves tiered data.<br>• promote - This policy retrieves all eligible tiered data automatically during the next scheduled scan. It is only supported when the tiering policy is 'none' or 'snapshot-only'. If the tiering policy is 'snapshot-only', the only data brought back is the data in the AFS. Data that is only in a snapshot copy stays in the cloud and if tiering policy is 'none' then all data is retrieved.<br><br>Attributes: optional-for-create, modifiable |
| **needs-object-retagging** | | boolean optional | Does the object tagging scanner need to run on this volume.<br><br>This parameter is only supported if the volume is in an aggregate that is attached to an object store.<br><br>Attributes: non-creatable, non-modifiable |
| **tiering-minimum-cooling-days** | **[2..183]** | integer optional | The minimum number of cooling days for user data.<br><br>This field specifies the minimum number of days that user data blocks of the volume must be cooled before they can be considered cold and tiered out to the capacity tier. The value specified should be greater than the frequency that applications in the volume shift between different sets of data. Valid values are between 2 and 183.<br><br>Attributes: optional-for-create, modifiable |
| **tiering-object-tags** | | string[] optional | Tags to be associated with objects stored on a fabricpool.<br><br>Attributes: optional-for-create, modifiable |
| | | | The tiering policy associated with this volume. |

| | | | |
|---|---|---|---|
| **tiering-policy** | | string optional | This policy decides whether the blocks of a volume will be tiered to the capacity tier when they become cold. The possible values for this field are:<br><br>• 'snapshot-only' - This policy allows tiering of only the volume snapshot copies not associated with the active file system.<br>• 'auto' - This policy allows tiering of both snapshot and active file system user data to the capacity tier.<br>• 'none' - Volume blocks will not be tiered to the capacity tier.<br>• 'backup' - On DP volumes this policy allows all transferred user data blocks to start in the capacity tier.<br><br>Default tiering policy is 'snapshot-only' for flexible volumes and 'none' for FlexGroups.<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **volume-directory-attributes**

[top]

Information related to directories in the volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **i2p-enabled** | | boolean optional | If true, native inode-to-parent information is kept for inodes. By default, this field is true.<br><br>Attributes: non-creatable, non-modifiable |
| **max-dir-size** | **[0..2^63-1]** | integer optional | The maximum size (in bytes) to which any directory in this volume can grow.<br><br>The default maximum directory size is set to 1% of the system memory. So if the system memory is 1GB, then the maximum directory size value will be 10MB which allows upto 300,000 files. The number of files that the directory actually can hold varies depending on such things as the length of the names and whether it needs to use double-byte UNICODE characters.<br><br>Most users should not need to change this field's default setting. It is useful for environments where system users may grow a directory to a size that starts impacting system performance. When a user tries to create a file in a directory that is at the limit, the system returns a ENOSPC error and fails the create.<br><br>Attributes: optional-for-create, modifiable |
| **root-dir-gen** | | string optional | This field contains the generation number of the root directory.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **volume-export-attributes**

[top]

Information about export settings of the volume.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **policy** | | string optional | The name of the Export Policy to be used by NFS/CIFS protocols. The default policy name is 'default'. FlexGroups do not support policies that allow NFSv4 protocol access.<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **volume-flexcache-attributes**

[top]

Information about FlexCache volumes.

| Name | Range | Type | Description |
|---|---|---|---|
| **cache-policy** | | cache-policy optional | The name of the cache policy.<br><br>The default policy name is 'default'.<br><br>This policy applies only to FlexCache volumes and can be created using the 'flexcache-cache-policy-create' API.<br><br>Attributes: optional-for-create, modifiable |
| **fill-policy** | | cache-policy optional | The name of the fill policy.<br><br>The default policy name is 'default'.<br><br>This policy applies only to FlexCache volumes and can be created using the 'flexcache-fill-policy-create' API.<br><br>Attributes: optional-for-create, modifiable |
| **min-reserve** | | size optional | The amount of space requested to be preallocated in the aggregate hosting the FlexCache volume.<br><br>Attributes: optional-for-create, modifiable |
| **origin** | | volume-name optional | The name of the origin volume that contains the authoritative data. This field is valid only for a FlexCache volume. The origin volume must belong to the same vserver that owns this volume.<br><br>Attributes: optional-for-create, non-modifiable |

# Element definition: **volume-hybrid-cache-attributes**

[top]

Information about the Flash Pool caching attributes of a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **cache-retention-priority** | | string optional | The cache retention priority policy associated with this volume.<br><br>The cache retention priority that is to be associated with the volume. This policy decides how long blocks of a volume will be cached in flash pool once they become cold. The possible values for this field are:<br><br>• low - Cache the cold blocks for the lowest time.<br>• normal - Cache the cold blocks for the default time.<br>• high - Cache the cold blocks for the highest time. |

| | | | |
|---|---|---|---|
| | | | Default cache retention priority is normal.<br><br>Attributes: optional-for-create, modifiable |
| **caching-policy** | | string<br>optional | The caching policy associated with this volume.<br><br>The caching policy that is to be associated with the volume. The policy decides how the flash pool caching has to happen for the volume. The possible values for this value are:<br><br>• none - Does not cache any user data or metadata blocks.<br>• auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks.<br>• meta - Read caches only metadata blocks.<br>• random_read - Read caches all metadata and randomly read user data blocks.<br>• random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.<br>• all_read - Read caches all metadata, randomly read and sequentially read user data blocks.<br>• all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data.<br>• all - Read caches all data blocks read and written. It does not do any write caching.<br>• noread-random_write - Write caches all randomly overwritten user data blocks. It does not do any read caching.<br>• meta-random_write - Same as meta and noread-random_write.<br>• random_read_write-random_write - Same as random_read_write and noread-random_write.<br>• all_read-random_write - Same as all_read and noread-random_write.<br>• all_read_random_write-random_write - Same as all_read_random_write and noread-random_write.<br>• all-random_write - Same as all and noread-random_write.<br><br>Note that in a caching-policy name, a hyphen (-) separates read and write policies. Default caching-policy is auto.<br><br>Attributes: optional-for-create, modifiable |
| **eligibility** | | string<br>optional | Flash Pool caching eligibility of a volume<br><br>Possible values:<br><br>• 'read' ... Indicates that the volume cannot participate in write caching,<br>• 'read-write' ... Indicates that the volume can participate in read and write caching,<br><br>Attributes: non-creatable, non-modifiable |
| **write-cache-ineligibility-reason** | | string<br>optional | If the volume cannot participate in write caching, then this field explains the reason. Attributes: non-creatable, non-modifiable |

# Element definition: **volume-id-attributes**

[top]

Identification information about a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] optional | The array of aggregates which are used for FlexGroup constituents. Each aggregate in the array will host at least one FlexGroup constituent.<br><br>This field is returned only if it is explicitly requested using desired-attributes.<br><br>This parameter is only supported on FlexGroups.<br><br>Attributes: optional-for-create, non-modifiable |
| **application** | | string optional | The application with which the Volume is associated.<br><br>Attributes: non-creatable, non-modifiable |
| **application-uuid** | | uuid optional | The unique identifier of the volume's application.<br><br>Attributes: non-creatable, non-modifiable |
| **comment** | | string optional | A description for the volume. Range:[0..1023]<br><br>Attributes: optional-for-create, modifiable |
| **containing-aggregate-name** | | string optional | The name of the aggregate in which the given flexible volume resides. This field is not set on FlexGroups.<br><br>Attributes: optional-for-create, non-modifiable |
| **containing-aggregate-uuid** | | uuid optional | The 128-bit universally-unique identifier of the aggregate in which the given volume resides. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, non-modifiable |
| **creation-time** | **[0..2^31-1]** | integer optional | Creation time of the volume in seconds since January 1, 1970.<br><br>Attributes: non-creatable, non-modifiable |
| **dsid** | **[0..2^64-1]** | integer optional | The volume's Data Set ID. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, non-modifiable |
| **extent-size** | | string optional | Default extent size of a volume.<br><br>Possible values:<br><br>• '4K' 4K,<br>• '8K' 8K<br>• '16K' 16K<br>• '32K' 32K<br><br>Attributes: optional-for-create, modifiable |
| **flexcache-endpoint-type** | | string optional | The FlexCache endpoint type of the volume. Volumes that are not part of a FlexCache realtionship will have the 'none' type. FlexCache origin volumes have the 'none' type however, this may change in a future release. type in a future release. FlexCache cache volumes have the 'cache' type.<br><br>Possible values:<br><br>• 'undefined' Undefined,<br>• 'none' None<br>• 'cache' Cache<br><br>Attributes: non-creatable, non-modifiable |
| | | | The index of the constituent within its FlexGroup. |

| | | | |
|---|---|---|---|
| **flexgroup-index** | **[0..2^32-1]** | integer optional | Attributes: non-creatable, modifiable |
| **flexgroup-msid** | **[0..2^64-1]** | integer optional | The Mirror Set ID of a FlexGroup or a constituent's FlexGroup.<br><br>Attributes: non-creatable, non-modifiable |
| **flexgroup-uuid** | | uuid optional | Universal unique identifier (UUID) for the constituent's FlexGroup or the FlexGroup itself. This value only applies to FlexGroups and FlexGroup constituents.<br><br>Attributes: non-creatable, non-modifiable |
| **fsid** | | string optional | The File System Identifier (FSID) value that serves as one of this volume's internal indicies. This field is not set on FlexGroups.<br><br>This value serves as an internal index for a volume. All volumes on a given controller must have unique FSIDs, except for the two special values described below:<br><br>A value of 0 indicates that this volume does not currently have a legal FSID for some unexpected reason. Such volumes are forcibly kept offline until this attribute is assigned a legal value.<br><br>A value of 1 indicates that this volume has recently appeared on its current controller due to having its aggregate be copied from a different controller. All volumes in this newly-created aggregate must be assigned legal, controller-unique IDs when they are onlined. That will be handled automatically by WAFL upon mount.<br><br>If modifiable, this field may be set only when the volume is restricted. It may be set to any value that is not currently being used by any other volume on the same controller. If a request to set this value to '0' is received, the system will select a new value that is currently unused. Note that setting a volume's FSID sometimes has external effects. In particular, a 7-Mode volume's FSID is part of the NFS file handles constructed for its files.<br><br>Attributes: non-creatable, non-modifiable |
| **instance-uuid** | | uuid optional | Universal unique identifier (UUID) for the volume that remains unchanged when the volume is moved to a new location. This differs from the volume's regular UUID which changes after a move. The instance UUID can be used to identify a volume even after it is moved. This field is valid for flexible volumes only.<br><br>UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.<br><br>Here is an example of an actual UUID:<br><br>49e370d6-5b5a-11d9-9eb5-000100000529<br><br>Attributes: non-creatable, non-modifiable |
| **junction-parent-name** | | volume-name optional | The name of the parent volume that contains the junction inode of this volume.<br><br>The junction parent volume must belong to the same vserver that owns this volume. |

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|---|---|---|---|
| | | | Attributes: non-creatable, non-modifiable |
| **junction-path** | | junction-path optional | The Junction Path at which this volume is mounted. This field is valid only for a Cluster-Mode volume.<br><br>Attributes: optional-for-create, non-modifiable |
| **msid** | **[0..2^64-1]** | integer optional | The volume's Mirror Set ID.<br><br>This field is valid only for a Cluster-Mode volume.<br><br>Attributes: non-creatable, non-modifiable |
| **name** | | volume-name optional | The name of the volume.<br><br>Attributes: key, required-for-create, non-modifiable |
| **name-ordinal** | | string optional | The ordinal assignment used in relation to this volume's name. This field is not set on FlexGroups.<br><br>Ordinals are used to disambiguate volumes that have the same base name on the same controller. A value of zero indicates that the base volume name is unique on a controller. A value greater than zero indicates that the volume's base name is used by two or more volumes on the same controller, and that appending '(n)' to this volume's name uniquely identifies it on that controller. A value of -1 indicates that the name ordinal has not yet been determined.<br><br>Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | The current node name the volume is associated with. The node name can change due to a volume move. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, non-modifiable |
| **nodes** | | node-name[] optional | The array of nodes which host one or more of this FlexGroup's constituents.<br><br>This field is returned only if it is explicitly requested using desired-attributes.<br><br>This parameter is only supported on FlexGroups.<br><br>Attributes: optional-for-create, non-modifiable |
| **owning-vserver-name** | | string optional | The name of the Vserver that owns this volume.<br><br>Attributes: key, non-creatable, non-modifiable |
| **owning-vserver-uuid** | | uuid optional | The 128-bit universally-unique identifier for the vserver that currently owns this volume.<br><br>Attributes: non-creatable, non-modifiable |
| **provenance-uuid** | | uuid optional | Universal unique identifier (UUID) for the volume that is used to identify the source volume in a mirroring relationship. When the mirroring relationship is broken, a volume's Instance UUID and Provenance UUID are made identical. An unmirrored volume's Provenance UUID is the same as its Instance UUID. This field is valid for flexible volumes only.<br><br>UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used. |

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|---|---|---|---|
| | | | Here is an example of an actual UUID:<br><br>49e370d6-5b5a-11d9-9eb5-000100000529<br><br>Attributes: non-creatable, non-modifiable |
| **style** | | volstyle<br>optional | The style of the volume.<br><br>Possible values:<br><br>• 'flex' ... FlexVol,<br>• 'infinitevol' . Infinite Volume<br><br>Default value is 'flex'.<br><br>Attributes: non-creatable, non-modifiable Possible values:<br><br>• "flex" - Flexible Volume,<br>• "infinitevol" - Infinite Volume |
| **style-extended** | | string<br>optional | The extended style of the volume.<br><br>Possible values:<br><br>• 'flexvol' FlexVol,<br>• 'infinitevol' Infinite Volume<br>• 'infinitevol-constituent' Infinite Volume constituent<br>• 'flexgroup' FlexGroup<br>• 'flexgroup-constituent' FlexGroup constituent<br><br>Attributes: non-creatable, non-modifiable |
| **type** | | string<br>optional | The type of the volume.<br><br>Possible values:<br><br>• 'rw' ... read-write volume,<br>• 'ls' ... load-sharing volume,<br>• 'dp' ... data-protection volume,<br>• 'dc' ... data-cache volume (FlexCache),<br>• 'tmp' ... temporary volume (not valid for create)<br><br>Default value is 'rw'.<br><br>Attributes: optional-for-create, non-modifiable |
| **uuid** | | uuid<br>optional | Universal unique identifier (UUID) for this volume.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **volume-infinitevol-attributes**

[top]

Information about the state of an Infinite Volume.

| Name | Range | Type | Description |
|---|---|---|---|
| | | repos- | This field specifies the role of a constituent within a FlexGroup or an Infinite Volume. This field is only supported for FlexGroup and Infinite Volume constituents.<br><br>Attributes: optional-for-create, non-modifiable Possible values: |

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|---|---|---|---|
| **constituent-role** | | constituent-role optional | • "none" ,<br>• "namespace" ,<br>• "data" ,<br>• "root" ,<br>• "ns_mirror" ,<br>• "member" |
| **enable-snapdiff** | | boolean optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>Whether to enable Snapdiff. If enabled, the namespace mirrors will be created for Snapdiff use. The default value is false.<br><br>Attributes: optional-for-create, modifiable |
| **is-managed-by-service** | | boolean optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>Specifies if the volume is managed by GUI services. The deafult value is false.<br><br>Attributes: optional-for-create, modifiable |
| **max-data-constituent-size** | | size optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>The maximum size of each data constituent in bytes. The default value is determined by checking the maximum FlexVol size setting on all nodes used by the Infinite Volume. The smallest value found is chosen as the default for the max-data-constituent-size for the Infinite Volume.<br><br>Attributes: optional-for-create, modifiable |
| **max-namespace-constituent-size** | | size optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>The maximum size of the namespace constituent. The default value is 10TB.<br><br>Attributes: optional-for-create, modifiable |
| **namespace-mirror-aggr-list** | | aggr-name[] optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>Specifies an array of names of aggregates to be used for Infinite Volume Namespace Mirror constituents. If this input is not specified all the aggregates assigned to the Vserver are used. If the argument 'enable-snapdiff' is being set to 'true', and the Infinite Volume is managed by storage services, a value must be provided.<br><br>Attributes: optional-for-create, modifiable |
| **storage-service** | | string optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>The name of the initial storage service for the Infinite Volume. This can only be provided if is-managed-by-service is true.<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **volume-inode-attributes**

[top]

Information about inodes in the volume.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | |

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|---|---|---|---|
| **block-type** | | string optional | The indirect block format of the volume.<br><br>Possible values:<br><br>• '32_bit',<br>• '64_bit'<br><br>Attributes: non-creatable, non-modifiable |
| **files-private-used** | **[0..2^64-1]** | integer optional | Number of system (not user-visible) files (inodes) used. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **files-set-maximum** | | boolean optional | Whether the volume's inode count is set to the highest value the volume can hold.<br><br>Attributes: optional-for-create, modifiable |
| **files-total** | **[0..2^64-1]** | integer optional | Total user-visible file (inode) count, i.e., current maximum number of user-visible files (inodes) that this volume can currently hold.<br><br>Attributes: non-creatable, modifiable |
| **files-used** | **[0..2^64-1]** | integer optional | Number of user-visible files (inodes) used. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **inodefile-private-capacity** | **[0..2^64-1]** | integer optional | Number of inodes that can currently be stored on disk for system (not user-visible) files. This number will dynamically increase as more system files are created. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **inodefile-public-capacity** | **[0..2^64-1]** | integer optional | Number of inodes that can currently be stored on disk for user-visible files. This number will dynamically increase as more user-visible files are created. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **inofile-version** | **[0..2^32-1]** | integer optional | The inofile version. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **volume-language-attributes**

[top]

Information about the volume language settings.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-convert-ucode-enabled** | | boolean optional | This field controls whether all directories in this volume are forcibly converted to UNICODE format when accessed from both NFS and CIFS. The default value for 7-Mode volumes is false, in which case access from CIFS causes conversion of pre-4.0 and 4.0-format directories, and access from NFS causes conversion to 4.0-format directories. The default value for Cluster-Mode volumes is true.<br><br>Note that this field can be set to false if and only if the volume is a 7-Mode volume, or a Cluster-Mode volume that was transitioned from 7-Mode. |

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| | | | Attributes: non-creatable, modifiable |
| **is-create-ucode-enabled** | | boolean optional | This field controls whether all directories in this volume are forced to use the UNICODE format when they are created, both from NFS and CIFS. The default value is false for 7-Mode volumes, in which case all directories are created in pre-4.0 format and only converted to UNICODE format upon the first CIFS access. The default value is true for Cluster-Mode volumes.<br><br>Note that this field can be set to false if and only if the volume is a 7-Mode volume.<br><br>Attributes: non-creatable, non-modifiable |
| **language** | | string optional | The volume's fully-qualified language mapping, in the form: 'LanguageCode (Full Name).'<br><br>Example: 'en_US (English (US)).'<br><br>Attributes: non-creatable, non-modifiable |
| **language-code** | | language-code optional | The volume's language code (e.g. 'en_US').<br><br>Volume language can be specified using 'language-code' parameter.<br><br>Attributes: optional-for-create, modifiable |
| **nfs-character-set** | | string optional | The NFS language mapping character set that is currently in effect for the volume.<br><br>This field is of the following format:<br><br>• '<nfs-character-set>\|<display-name>\|<asctime>'<br><br>Note that '\|' is not an OR syntax.<br><br><asctime> is the timestamp in the language configuration file header and its format is based on the standard: 'A la ISO/IEC 9945-1, ANSI/IEEE Std 1003.1, Second Edition, 1996-07-12.'<br><br>It uses the C Programming Language Printf format:<br><br>• '%.3s %.3s%3d %02d:%02d:%02d %s %d'<br><br>This format takes the following parameters in order:<br><br>• <weekday name>,<br>• <month name>,<br>• <month day>,<br>• <hour>,<br>• <minute>,<br>• <second><br>• <timezone> OR <''>,<br>• <year><br><br>E.g., If the volume language code is set to 'en_US,' the default NFS character set is as follows:<br><br>• 'iso-8859-1\|iso-8859-1\|Thu Oct 1 15:00:53 PDT 1998'<br><br>Attributes: non-creatable, non-modifiable |
| | | | The OEM language mapping character set that is currently in effect for the volume.<br><br>This field is of the following format: |

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|---|---|---|---|
| **oem-character-set** | | string optional | • '<oem-code-page>\|<display-name>\|<asctime>'<br><br>Note that '\|' is not an OR syntax.<br><br><asctime> is the timestamp in the language configuration file header and its format is based on the standard: 'A la ISO/IEC 9945-1, ANSI/IEEE Std 1003.1, Second Edition, 1996-07-12.'<br><br>It uses the C Programming Language Printf format:<br><br>• '%.3s %.3s%3d %02d:%02d:%02d %s %d'<br><br>This format takes the following parameters in order:<br><br>• <weekday name>,<br>• <month name>,<br>• <month day>,<br>• <hour>,<br>• <minute>,<br>• <second>,<br>• <timezone> OR <''>,<br>• <year><br><br>E.g., If the volume language code is set to 'en_US,' the default OEM character set is as follows:<br><br>• 'cp437\|cp437\|Thu Oct 1 15:00:53 PDT 1998'<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **volume-mirror-attributes**

[top]

Information about the volume mirror.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-data-protection-mirror** | | boolean optional | True if this is a data protection mirror.<br><br>Attributes: non-creatable, non-modifiable |
| **is-load-sharing-mirror** | | boolean optional | True if this is a load sharing mirror.<br><br>Attributes: non-creatable, non-modifiable |
| **is-move-mirror** | | boolean optional | True if this is a volume move mirror.<br><br>Attributes: non-creatable, non-modifiable |
| **is-replica-volume** | | boolean optional | True if this is a read only replica volume.<br><br>Attributes: non-creatable, non-modifiable |
| **is-snapmirror-source** | | boolean optional | True if this is a SnapMirror source.<br><br>For load-sharing relationships a volume becomes a SnapMirror source at the time a SnapMirror relationship with the volume as the source is created. For all other relationship types, a volume does not become a SnapMirror source until just after a snapmirror-initialize of the relationship begins. Also if a snapmirror-release is performed on the relationship, the volume will no longer be considered a SnapMirror source. |

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| | | | Attributes: non-creatable, non-modifiable |
| **is-snapmirror-source-to-object-store** | | boolean optional | True if this is a SnapMirror source to object store.<br><br>For SnapMirror relationships with object store destinations, a volume does not become a SnapMirror source until just after a snapmirror-initialize of the relationship begins. Also if a snapmirror-release is performed on the relationship, the volume will no longer be considered a SnapMirror source for object store.<br><br>Attributes: non-creatable, non-modifiable |
| **is-snapmirror-source-to-ontap** | | boolean optional | True if this is a SnapMirror source to ONTAP.<br><br>For load-sharing relationships a volume becomes a SnapMirror source to ontap at the time a SnapMirror relationship with the volume as the source is created. For all other relationship types with ONTAP destinations, a volume does not become a SnapMirror source until just after a snapmirror-initialize of the relationship begins. Also if a snapmirror-release is performed on the relationship, the volume will no longer be considered a SnapMirror source to ONTAP.<br><br>Attributes: non-creatable, non-modifiable |
| **mirror-transfer-in-progress** | | boolean optional | True if a SnapMirror transfer is in progress on this mirrored volume.<br><br>This mirror's active filesystem can be inconsistent during snapmirror transfer. As a result, snapshot create operation is temporary disabled on this mirror until the current transfer session finishes.<br><br>This field is set to true at the start of a SnapMirror transfer session and set to false at the end of that session.<br><br>Attributes: non-creatable, non-modifiable |
| **redirect-snapshot-id** | **[0..255]** | integer optional | If the volume is a logical mirror destination or is in the process of being made one, this field indicates the logical-id of the snapshot to which clients are to be redirected.<br><br>If modifiable, when setting this attribute, invalid snapshot id or a non-existent snapshot id specified will be rejected with error ESNAPSHOTDOESNOTEXIST. Failure to set ('stamp') the attribute in the volume will cause error ESTAMPREDIRECTSNAPIDERROR to be returned. This field can be set only for online volumes. This option is valid only in Cluster-Mode. The volume can be set to have no redirection snapshot by using a value of 0. This option can be set only for Cluster-Mode volumes participating in a logical-mirror relationship. Setting this field on a Cluster-Mode volume which is not a logical mirror destination (yet) will not have any impact on client access or the volume's behavior. The client access will be impacted with regard to this value only when the volume is converted to a logical-mirror destination.<br><br>When reading this attribute, the value of 0 indicates volume has no redirection snapshot. The field cannot be interpreted authoritatively if the volume is offline or restricted.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **volume-performance-attributes**

[top]

Information about performance settings on a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **atime-update-period** | **[0..2^32-1]** | integer optional | The periodical value to know when to update the atime.<br><br>By default, the value is 0 seconds but for FlexCache and origin volumes, it is 86400 seconds.<br><br>Attributes: optional-for-create, modifiable |
| **extent-enabled** | | string optional | This parameter has been deprecated and may be removed in a future release of Data ONTAP. If turned on, this field enables extents in the volume. This causes application writes to be written in the volume as a write of a larger group of related data blocks called an extent.<br><br>The following values are recognized:<br><br>• 'on' ... Perform this optimization on this volume. This option may duplicate blocks from snapshots into the active file system, thereby using additional disk space. Read performance from snapshots will not be changed.<br>• 'space-optimized' ... Perform this optimization on this volume, but do not duplicate blocks from snapshots into the active file system, thereby using space conservatively. Read performance from snapshots may be degraded.<br>• 'off' ... Don't perform this optimization on this volume.<br><br>By default, it is set to 'off'.<br><br>Using extents may help workloads that perform many small random writes followed by a large sequential read. However, using extents may increase the number of disk operations performed on the controller, so this field should only be turned on when applicable.<br><br>Attributes: non-creatable, modifiable |
| **fc-delegs-enabled** | | boolean optional | If true, FlexCache Read Delegations are turned on for this volume.<br><br>On by default, only settable in Diag mode.<br><br>Attributes: non-creatable, modifiable |

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|---|---|---|---|
| **is-atime-update-enabled** | | boolean optional | If false, prevent the update of inode access times when a file is read.<br><br>This value is useful for volumes with extremely high read traffic, since it prevents writes to the inode file for the volume from contending with reads from other files.<br><br>By default, this value is true.<br><br>This field should be used carefully. That is, use this field when you know in advance that the correct access time for inodes will not be needed for files on that volume.<br><br>Attributes: non-creatable, modifiable |
| **max-write-alloc-blocks** | **[0..2048]** | integer optional | The maximum number of blocks used for write allocation.<br><br>This option is deprecated.<br><br>Attributes: optional-for-create, modifiable |
| **minimal-read-ahead** | | boolean optional | If true, the node performs minimal read-ahead for the volume.<br><br>By default, this field is false, causing the node that contains this volume to perform very aggressive read-ahead.<br><br>Attributes: non-creatable, modifiable |
| **read-realloc** | | string optional | Controls whether application reads cause optimization of the layout of parts of a file or LUN after the data has been read from disk and is in the controller's memory. This optimization is only supported for flexible volumes.<br><br>The following values are recognized:<br><br>• 'on' ... Perform this optimization on this volume. This option may duplicate blocks from snapshots into the active file system, thereby using additional disk space. Read performance from snapshots will not be changed.<br>• 'space-optimized' ... Perform this optimization on this volume, but do not duplicated blocks from snapshots into the active file system, thereby using space conservatively. Read performance from snapshots may be degraded.<br>• 'off' ... Don't perform this optimization on this volume.<br><br>By default, it is set to 'off'.<br><br>Using read reallocation may help workloads that perform a mixture of random writes and large sequential reads.<br><br>Attributes: non-creatable, modifiable |
| **single-instance-data-logging** | | string optional | Indicates whether Single Instance Data Logging is enabled on the volume. This feature is supported only on Cloud ONTAP.<br><br>Possible values:<br><br>• 'on' : Single Instance Data Logging enabled.<br>• 'off' : Single Instance Data Logging disabled.<br><br>The default value is 'off'. Attributes: non-creatable, non-modifiable |

## Element definition: **volume-qos-attributes**

[top]

QoS policy group or adaptive policy group attached with a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **adaptive-policy-group-name** | | string optional | The QoS adaptive policy group associated with this volume.<br><br>This optionally specifies which QoS adaptive policy group to apply to the volume. This policy group defines measurable service level objectives (SLOs) that adjust based on the volume allocated space or used space. This parameter is not supported on Infinite Volumes.<br><br>Attributes: optional-for-create, modifiable |
| **policy-group-name** | | string optional | The QoS policy group associated with this volume.<br><br>This optionally specifies which QoS policy group to apply to the volume. This policy group defines measurable service level objectives (SLOs) that do not adjust based on the volume allocated space or used space. If you do not assign a policy group to a volume, the system will not monitor and control the traffic to it. This parameter is not supported on Infinite Volumes.<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **volume-security-attributes**

[top]

All security aspects of a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **style** | | string optional | The security style associated with this volume.<br><br>Possible values:<br><br>• 'mixed' ... Mixed-style security,<br>• 'ntfs' ... NTFS/Windows-style security,<br>• 'unified' .Unified-style security, Unified UNIX, NFS and CIFS permissions (default for Infinite Volume)<br>• 'unix' ... Unix-style security (default for Flexible Volume, FlexGroup and FlexGroup Constituent)<br><br>This field is only returned if this volume is online. If this field is empty ('') or not present for an online volume, this attribute isn't applicable to the volume. Only Infinite Volumes can use the 'unified' security style. All other volumes cannot use the 'unified' security style. Using 'unified' for a non-Infinite Volume will result in an error. FlexGroups and FlexGroup Constituents can only have 'unix' security style. Setting other security styles for FlexGroups or FlexGroup Constituents will result in an error.<br><br>Attributes: optional-for-create, modifiable |
| **volume-security-unix-attributes** | | volume-security-unix-attributes optional | The Unix-oriented security settings associated with this volume. |

# Element definition: **volume-sis-attributes**

[top]

Statistics for Deduplication, file clone, compression, etc.

| Name | Range | Type | Description |
|---|---|---|---|
| **compression-space-saved** | **[0..2^63-1]** | integer optional | The total disk space (in bytes) that is saved by compressing blocks on the referenced file system.<br><br>Attributes: non-creatable, non-modifiable |
| **deduplication-space-saved** | **[0..2^63-1]** | integer optional | The total disk space (in bytes) that is saved by deduplication and file cloning.<br><br>Attributes: non-creatable, non-modifiable |
| **deduplication-space-shared** | | size optional | The total disk space shared due to deduplication and file cloning.<br><br>Attributes: non-creatable, non-modifiable |
| **is-sis-logging-enabled** | | boolean optional | If true, it means that sis is enabled on the volume and fingerprints of newly-written data are being logged.<br><br>Attributes: non-creatable, non-modifiable |
| **is-sis-state-enabled** | | boolean optional | If true, it means that the current sis state is enabled on the volume.<br><br>Attributes: non-creatable, non-modifiable |
| **is-sis-volume** | | boolean optional | If true, it means that the volume contains shared (deduplication, file clones) or compressed data. If SIS is disabled, this field is false.<br><br>Attributes: non-creatable, non-modifiable |
| **percentage-compression-space-saved** | **[0..100]** | integer optional | Percentage of the total disk space that is saved by compressing blocks on the referenced file system.<br><br>Attributes: non-creatable, non-modifiable |
| **percentage-deduplication-space-saved** | **[0..100]** | integer optional | Percentage of the total disk space that is saved by deduplication and file cloning.<br><br>Attributes: non-creatable, non-modifiable |
| **percentage-total-space-saved** | **[0..100]** | integer optional | Percentage of total disk space that is saved by compressing blocks, deduplication and file cloning.<br><br>Attributes: non-creatable, non-modifiable |
| **total-space-saved** | **[0..2^63-1]** | integer optional | Total space saved (in bytes) in the volume due to deduplication, compression, and file cloning.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **volume-snaplock-attributes**

[top]

Information about the snaplock volumes.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **snaplock-type** | | snaplocktype<br>optional | SnapLock type of the volume.<br><br>Attributes: optional-for-create, non-modifiable Possible values:<br><br>• "non_snaplock" - Non SnapLock,<br>• "compliance" - SnapLock Compliance,<br>• "enterprise" - SnapLock Enterprise |

# Element definition: **volume-snapshot-attributes**

[top]

Information about snapshot-related attributes in a volume. Volume disk space-related settings are excluded.

| Name | Range | Type | Description |
|---|---|---|---|
| **auto-snapshots-enabled** | | boolean<br>optional | If true, enable automatic snapshots on the volume.<br><br>The default value is true.<br><br>Attributes: non-creatable, non-modifiable |
| **snapdir-access-enabled** | | boolean<br>optional | If true, enable the visible '.snapshot' directory that is normally present at system internal mount points. This value also turns on access to all other '.snapshot' directories in the volume.<br><br>The default value is true.<br><br>Attributes: non-creatable, modifiable |
| **snapshot-clone-dependency-enabled** | | boolean<br>optional | Controls the locking of LUN clones.<br><br>If true, all initial and intermediate backing snapshots are unlocked for all inactive LUN clones. For active LUN clones, only the backing snapshot will be locked.<br><br>If false, the backing snapshot will remain locked until all intermediate backing snapshots are deleted.<br><br>This field is deprecated and will always be false in Data ONTAP 8.3 and later.<br><br>Attributes: non-creatable, modifiable |
| **snapshot-count** | **[0..1023]** | integer<br>optional | Number of Snapshot Copies in the volume.<br><br>Attributes: non-creatable, non-modifiable |
| **snapshot-policy** | | string<br>optional | The name of the snapshot policy.<br><br>The default policy name is 'default'.<br><br>This policy can be created using the 'snapshot-policy-create' API. It can be managed using the 'snapshot-policy-*' APIs.<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **volume-snapshot-autodelete-attributes**

[top]

Snapshot autodelete policy settings.

| Name | Range | Type | Description |
|---|---|---|---|
| **commitment** | | string optional | Possible values:<br>• 'try',<br>• 'disrupt', or<br>• 'destroy'<br><br>This option determines the snapshots that 'snapshot autodelete' is allowed to delete to get back space. Setting this option to 'try' only permits the snapshots which are not locked by data protection utilities (dump, mirroring, NDMPcopy) and data-backing functionalities (volume and LUN clones) to be deleted. Setting this option to 'disrupt' permits all snapshots including the snapshots which are locked by data-backing functionalities (volume and LUN clones) to be deleted. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, modifiable |
| **defer-delete** | | string optional | Possible values:<br>• 'scheduled',<br>• 'user_created',<br>• 'prefix', or<br>• 'none'<br><br>This option determines which kind of snapshots to delete. Setting this option value to 'scheduled' will delete the snapshots created by the snapshot scheduler last. Setting this option value to 'user_created' will delete the snapshots not created by the snapshot scheduler last. Setting this option value to 'prefix' will delete the snapshots matching the prefix string to be deleted last. Setting this option value to 'none' will disable the above choices. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, modifiable |
| **delete-order** | | string optional | Possible values:<br>• 'oldest_first',<br>• 'newest_first'<br><br>This option determines if the oldest or newest snapshot is deleted first. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, modifiable |
| **destroy-list** | | string optional | Possible values are the combination of:<br>• 'lun_clone',<br>• 'vol_clone',<br>• 'cifs_share',<br>• 'file_clone',<br>• 'sfsr', or<br>• 'none'<br><br>This options specifies the list of service that can be destroyed if the snapshot is backing that service. This option is valid only when the commitment is set to 'destroy'. The option 'lun_clone,file_clone' should be used for deleting snapshot backing LUN clone and/or File clone. The option 'lun_clone,sfsr' should be used for deleting snapshot backing LUN clone and/or SFSR. It must be noted that 'lun_clone', 'file_clone' and 'sfsr' individually are not valid values. Only pairs of |

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| | | | 'lun_clone,file_clone' and 'lun_clone,sfsr' are supported. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, modifiable |
| **is-autodelete-enabled** | | boolean optional | This option determines if the snapshot autodelete is currently enabled for the volume. The default value is false.<br><br>Attributes: non-creatable, modifiable |
| **prefix** | | string optional | This option provides the prefix string for the 'prefix' field value of the 'defer-delete' option. If the null prefix is set, the string '(not specified)' is returned. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, modifiable |
| **target-free-space** | **[0..100]** | integer optional | This option determines when snapshot autodelete should stop deleting snapshot. Depending on the trigger, snapshots are deleted until we reach the target free space percentage. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, modifiable |
| **trigger** | | string optional | Possible values:<br><br>• 'volume',<br>• 'snap_reserve', or<br>• '(DEPRECATED)-space_reserve'<br><br>This option determines the condition in which snapshots should be automatically deleted. This field is not set on FlexGroups.<br><br>If modifiable, setting this option to 'volume' triggers snapshot autodelete to run when the volume is near full. Setting this option to 'snap_reserve' triggers snapshot autodelete to run when the snap reserve of the volume is near full. Setting this option to 'space_reserve' triggers snapshot autodelete to run when the space reserved in the volume is near full.<br><br>Attributes: non-creatable, modifiable |

# Element definition: **volume-space-attributes**

[top]

Information about volume space management-related settings including on-disk layout.

| Name | Range | Type | Description |
|---|---|---|---|
| **expected-available** | **[0..2^63-1]** | integer optional | The size (in bytes) that should be available for the volume irrespective of available size in the aggregate. This is same as size-available for 'volume' guaranteed volumes. For 'none' guaranteed volumes this value is calculated as if the aggregate has enough backing disk space to fully support the volume's size. Similar to the size-available property, this does not include Snapshot reserve. This count gets reduced if snapshots consume space above Snapshot reserve threshold. This parameteris not supported on Infinite Volumes.<br><br>Attributes: non-creatable, non-modifiable |
| | | | Filesystem size (in bytes) of the volume. This is the total usable size of the volume, not including WAFL reserve. This value is the same |

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| **filesystem-size** | **[0..2^63-1]** | integer optional | as Size except for certain SnapMirror destination volumes. It is possible for destination volumes to have a different filesystem-size because the filesystem-size is sent across from the source volume. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **is-filesys-size-fixed** | | boolean optional | If true, this field causes the file system to remain the same size (and not grow) when a SnapMirror relationship is broken.<br><br>This option is automatically set to 'true' when a volume becomes SnapMirrored. It remains true after the SnapMirror relationship is broken for the volume. This field allows a volume to be SnapMirrored back to the source without needing to grow the source volume. If the volume size is larger than the file system size, setting this field to false forces the file system to grow to the size of the volume.<br><br>Attributes: non-creatable, modifiable |
| **is-space-enforcement-logical** | | boolean optional | This parameter specifies whether to perform logical space accounting on the volume. When space is enforced logically, ONTAP enforces volume settings such that all the physical space saved by the storage efficiency features will be calculated as used. The default setting is false.<br><br>Attributes: optional-for-create, modifiable |
| **is-space-guarantee-enabled** | | boolean optional | Whether or not the storage guarantee associated with the flexible volume is currently in effect. This field is valid only if this is a flexible volume and it is online.<br><br>By default, space guarantee is enabled.<br><br>Attributes: non-creatable, non-modifiable |
| **is-space-reporting-logical** | | boolean optional | This parameter specifies whether to report space logically on the volume. When space is reported logically, ONTAP reports the volume space such that all the physical space saved by the storage efficiency features are also as reported as used. The default setting is false.<br><br>Attributes: optional-for-create, modifiable |
| **is-space-slo-enabled** | | boolean optional | Whether or not the space SLO type associated with the flexible volume is currently in effect. Space SLO is not enabled if space guarantee is not enabled. Try enabling the space guarantee or set the volume's space SLO setting to 'none'. This field is valid only if this is a flexible volume and it is online.<br><br>By default, space SLO type is none and is enabled.<br><br>Attributes: non-creatable, non-modifiable |
| **is-used-stale** | | string optional | If true, the used counter is stale.<br><br>By default, this field is false.<br><br>Attributes: non-creatable, non-modifiable |
| **logical-available** | **[0..2^63-1]** | integer optional | The size (in bytes) that is logically available in the volume. This is the amount of free space available considering space saved by the storage efficiency features as being used. This does not include Snapshot reserve. This parameter is not supported on FlexGroups or Infinite Volumes. |

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| | | | Attributes: non-creatable, non-modifiable |
| **logical-used** | **[0..2^63-1]** | integer optional | The size (in bytes) that is logically used in the volume. This value includes all the space saved by the storage efficiency features along with the physically used space. This does not include Snapshot reserve but does consider Snapshot spill. This parameter is not supported on FlexGroups or Infinite Volumes.<br><br>Attributes: non-creatable, non-modifiable |
| **logical-used-by-afs** | **[0..2^63-1]** | integer optional | The size (in bytes) that is logically used by the active filesystem of the volume. This value differs from 'logical-used' by the amount of Snapshot spill that exceeds Snapshot reserve. This parameter is not supported on FlexGroups or Infinite Volumes.<br><br>Attributes: non-creatable, non-modifiable |
| **logical-used-by-snapshots** | **[0..2^63-1]** | integer optional | The size (in bytes) that is logically used across all Snapshot copies in the volume. This value differs from 'size-used-by-snapshots' by the space saved by the storage efficiency features across the Snapshot copies. This parameter is not supported on FlexGroups or Infinite Volumes.<br><br>Attributes: non-creatable, non-modifiable |
| **logical-used-percent** | **[0..2^32-1]** | integer optional | Percentage of the logical used size of the volume. This parameter is not supported on FlexGroups or Infinite Volumes.<br><br>Attributes: non-creatable, non-modifiable |
| **max-constituent-size** | | size optional | The maximum size of each constituent in bytes. The default value is determined by first checking the maximum FlexVol size setting on all nodes used by the FlexGroup, and then selecting the smallest value found.<br><br>This parameter is only supported on FlexGroups.<br><br>Attributes: optional-for-create, modifiable |
| **over-provisioned** | **[0..2^63-1]** | integer optional | The size (in bytes) that is not available in the aggregate for a volume. This applies only for a 'none' guaranteed volume when it's unused size exceeds available space in the aggregate. This value is always zero for 'volume' guaranteed volumes. This parameter is not supported on Infinite Volumes.<br><br>Attributes: non-creatable, non-modifiable |
| **overwrite-reserve** | **[0..2^63-1]** | integer optional | The size (in bytes) that is reserved for overwriting snapshotted data in an otherwise full volume. This space is usable only by space-reserved LUNs and files, and then only when the volume is full. It is equal to 'overwrite-reserve-required' if the value of 'percentage-fractional-reserve' is set to the default value of 100%, but otherwise may be less than 'overwrite-reserve-required'. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **overwrite-reserve-required** | **[0..2^63-1]** | integer optional | The reserved size (in bytes) that is required to ensure that the reserved space is sufficient to allow all space-reserved files and LUNs to be overwritten when the volume is full. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| | | | The reserved size (in bytes) that is not available for new overwrites. The number includes both the reserved size which has actually been used for overwrites as well as the size which was never allocated in |

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| **overwrite-reserve-used** | **[0..2^63-1]** | integer optional | the first place. On a volume without free space, the 'never allocated' component can become non-zero when 'overwrite-reserve-required' increases as holes are filled in. Because of this, the 'overwrite-reserve-used' value can exceed the snapshotted size. The 'overwrite-reserve-used' value can also exceed the value of 'overwrite-reserve-required', as the filer maintains a small hidden reserve of last resort. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **overwrite-reserve-used-actual** | **[0..2^63-1]** | integer optional | The reserved size (in bytes) that has been used. This value is computed as the smaller of: (1) snapshotted size not in the active filesystem, and (2) 'overwrite-reserve-used'. This formula comes from the observation that you cannot have used more overwrite reserved than have actually overwritten data. This value can exceed the value of 'overwrite-reserve-required', as the filer maintains a small hidden reserve of last resort. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **percentage-fractional-reserve** | **[0..100]** | integer optional | This field can be used to change the amount of space reserved for overwrites of reserved objects (e.g., files, LUNs) in a volume. This field is expressed as a percent.<br><br>By default, it is set to 100, indicating that 100% of the required reserved space will actually be reserved so the objects are fully protected for overwrites.<br><br>Using a value of less than 100 indicates the percentage of the required reserved space should actually be reserved. This returns the extra space to the available space for the volume, decreasing the total amount of space used. However, this does leave the protected objects in the volume vulnerable to out of space errors, since less than 100% of the required reserved space is actually reserved. If reserved space becomes exhausted, this will cause disruptions on the hosts using the objects. If the percentage is decreased below 100%, it is highly recommended that the administrator actively monitor the space usage on the volume and take corrective action if the reserved space nears exhaustion.<br><br>Attributes: non-creatable, modifiable |
| **percentage-size-used** | **[0..100]** | integer optional | Percentage of the volume size that is used. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **percentage-snapshot-reserve** | **[0..100]** | integer optional | The percentage of volume disk space that has been set aside as reserve for snapshot usage.<br><br>Attributes: optional-for-create, modifiable |
| **percentage-snapshot-reserve-used** | **[0..2^32-1]** | integer optional | Percentage of the volume reserved for snapshots that has been used. Note that in some scenarios, it is possible to pass 100% of the space allocated.<br><br>Attributes: non-creatable, non-modifiable |
| **performance-tier-inactive-user-data** | **[0..2^63-1]** | integer optional | The size (in bytes) that is physically used in the performance tier of the volume and has a cold temperature.<br><br>This parameter is only supported if the volume is in an aggregate that is either attached to object store or could be attached to an |

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| | | | object store.<br><br>Attributes: non-creatable, non-modifiable |
| **performance-tier-inactive-user-data-percent** | **[0..100]** | integer optional | The size (in percent) that is physically used in the performance tier of the volume and has a cold temperature. The percentage is based on volume size including the space reserved for Snapshot copies.<br><br>This parameter is only supported if the volume is in an aggregate that is either attached to object store or could be attached to an object store.<br><br>Attributes: non-creatable, non-modifiable |
| **physical-used** | **[0..2^63-1]** | integer optional | The size (in bytes) that is physically used in the volume. This differs from 'total-used' space by the space that is reserved for future writes. The value includes blocks in use by Snapshot copies.<br><br>This field is valid only if the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **physical-used-percent** | **[0..2^32-1]** | integer optional | The size (in percent) that is physically used in the volume. The percentage is based on volume size including the space reserved for Snapshot copies.<br><br>This field is valid only if the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **size** | **[0..2^63-1]** | integer optional | Filesystem size (in bytes) of the volume. This is the total usable size of the volume, not including WAFL reserve.<br><br>This field can not be set on Infinite Volumes that are managed by storage services.<br><br>Attributes: optional-for-create, modifiable |
| **size-available** | **[0..2^63-1]** | integer optional | The size (in bytes) that is still available in the volume. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **size-available-for-snapshots** | **[0..2^63-1]** | integer optional | Total free space (in bytes) available in the volume and the snapshot reserve. If this value is 0 or negative, a new snapshot cannot be created.<br><br>Attributes: non-creatable, non-modifiable |
| **size-total** | **[0..2^63-1]** | integer optional | Total usable size (in bytes) of the volume, not including WAFL reserve or volume snapshot reserve. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **size-used** | **[0..2^63-1]** | integer optional | The size (in bytes) that is used in the volume. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **size-used-by-snapshots** | **[0..2^63-1]** | integer optional | The size (in bytes) that is used by snapshots in the volume.<br><br>Attributes: non-creatable, non-modifiable |
| **snapshot-reserve-available** | **[0..2^63-1]** | integer optional | The size (in bytes) that is available for Snapshot copies inside the Snapshot reserve. This value is zero if Snapshot spill is present. For 'none' guaranteed volumes, this may get reduced due to less available space in the aggregate. This parameter is not supported on Infinite Volumes. |

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| | | | Attributes: non-creatable, non-modifiable |
| **snapshot-reserve-size** | **[0..2^63-1]** | integer optional | The size (in bytes) in the volume that has been set aside as reserve for snapshot usage.<br><br>Attributes: non-creatable, non-modifiable |
| **space-full-threshold-percent** | **[0..100]** | integer optional | This field defines the used space threshold percentage at which EMS critical errors regarding the volume fullness will be generated. The default value is 98%. Setting this threshold to 0 disables the volume full space alerts.<br><br>This field is valid only if the volume is online.<br><br>Attributes: non-creatable, modifiable |
| **space-guarantee** | | string optional | The storage guarantee option that is associated with the flexible volume.<br><br>Possible options:<br><br>• 'none',<br>• 'volume' (default option)<br><br>This field is valid only if the volume is online. For data-cache volumes, this field is not returned.<br><br>This field can not be set on Infinite Volumes that are managed by storage services.<br><br>Attributes: optional-for-create, modifiable Possible values:<br><br>• "none" ,<br>• "volume" |
| **space-mgmt-option-try-first** | | string optional | This field controls the strategy to try first when this volume is space-challenged. This field is not set on FlexGroups.<br><br>There are two available settings:<br><br>• 'volume_grow' ... (default setting) Causes the volume to increase in size before deleting snapshots,<br>• 'snap_delete' ... Causes snapshots to be deleted before the volume size is increased.<br><br>Attributes: non-creatable, modifiable |
| **space-nearly-full-threshold-percent** | **[0..100]** | integer optional | This field defines the used space threshold percentage at which EMS warnings regarding the volume fullness will be generated. The default value is 95%. Setting this threshold to 0 disables the volume nearly full space alerts.<br>This field is valid only if the volume is online.<br><br>Attributes: non-creatable, modifiable |
| | | | The space SLO type that is associated with the flexible volume. The space SLO type is the Service Level Objective for space management for the volume. The space SLO value is used to enforce existing volume settings so that sufficient space is set aside to meet the space SLO. This parameter is not supported on Infinite Volumes. The default setting is none. There are three supported values: none, thick and semi-thick.<br><br>none: The value of none does not provide any guarantee for |

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| **space-slo** | | space-slo-enum optional | overwrites or enforce any restrictions. It should be used if the admin plans to manually manage space consumption in the volume and aggregate, and out of space errors.<br><br>thick: The value of thick guarantees that the hole fills and overwrites to space-reserved files in this volume will always succeed by reserving space. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified:<br><br>• Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's space-guarantee type is not supported.<br>• Fractional Reserve: 100 - 100% of the space required for overwrites is reserved. Changing the volume's fractional-reserve setting is not supported.<br><br>semi-thick: The value of semi-thick is a best-effort attempt to ensure that overwrites succeed by restricting the use of features that share blocks and auto-deleting backups and Snapshot copies in the volume. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified:<br><br>• Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's space-guarantee type is not supported.<br>• Fractional Reserve: 0 - No space will be reserved for overwrites by default. However, changing the volume's fractional-reserve setting is supported. Changing the setting to 100 means that 100% of the space required for overwrites is reserved.<br>• Snapshot Autodelete: enabled - Automatic deletion of Snapshot copies is enabled to reclaim space. To ensure that the overwrites can be accommodated when the volume reaches threshold capacity, the following volume snapshot autodelete parameters are set automatically to the specified values and cannot be modified:<br>◦ enabled: true<br>◦ commitment: destroy<br>◦ trigger: volume<br>◦ defer-delete: none<br>◦ destroy-list: vol_clone, lun_clone, file_clone, cifs_share<br><br>In addition, with a value of semi-thick, the following technologies are not supported for the volume:<br><br>• File Clones with autodelete disabled: Only full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of autodelete for file clone create is required.<br>• Partial File Clones: Only full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of range for file clone create is not supported.<br>• Volume Efficiency: Enabling volume efficiency is not supported to allow autodeletion of Snapshot copies.<br><br>Possible options:<br><br>• 'thick',<br>• 'semi-thick',<br>• 'none' (default option)<br><br>This field is valid only if the volume is online. For data-cache volumes, this field is not returned. |

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| | | | This field can not be set on Infinite Volumes that are managed by storage services.<br><br>Attributes: optional-for-create, modifiable Possible values:<br><br>• "none" ,<br>• "thick" ,<br>• "semi_thick" |

# Element definition: **volume-state-attributes**

[top]

Information about the state or status of a volume or its features.

| Name | Range | Type | Description |
|---|---|---|---|
| **become-node-root-after-reboot** | | boolean optional | Whether this non node-root volume has been marked as the one that will become the node root volume the next time the hosting controller is rebooted. Only one volume at a time may have this marking on any given controller. This field is not directly settable. Instead, a legal request to set the 'is-node-root' attribute (if modifiable) causes this field to be set. Note that marking a volume that is already the node root volume as the new node root has no net effect. This field is not set on FlexGroups.<br><br>By default, this field is false.<br><br>Attributes: non-creatable, non-modifiable |
| **constituent-count** | **[0..2^32-1]** | integer optional | Number of constituents in a FlexGroup.<br><br>Attributes: non-creatable, non-modifiable |
| **force-nvfail-on-dr** | | boolean optional | If true, volume would be put in a special state called 'in-nvfailed-state' by 'metrocluster-switchover' API that performs a disaster recovery operation. This field has no effect for negotiated or an automatic switchover, and is not set on FlexGroups.<br><br>The protocol access on the volume in 'in-nvfailed-state' is blocked. This will cause the client applications to crash and thus prevent access to data on the volume.<br><br>To get out of this situation, the admin needs to manually clear the 'in-nvfailed-state' on the volume.<br><br>By default, this value is false.<br><br>Attributes: non-creatable, modifiable |
| **ignore-inconsistent** | | boolean optional | If true, then the volume can be brought online when booting even if it is marked as inconsistent. The user is cautioned that bringing it online prior to running wafliron may result in further file system inconsistency. This field is not set on FlexGroups.<br><br>By default, this field is false.<br><br>Attributes: non-creatable, non-modifiable |
| | | | The user can only clear this state and never set it. The file system will set this state on the volume if NVFAIL event occurs. So long as the volume is in this state, all protocol Ops with a special SpinNP |

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| **in-nvfailed-state** | | boolean optional | flag set are blocked. By clearing this state on the volume, the admin will allow protocol access to the data on the volume and can initiate the recovery process.<br><br>By default, this field is false.<br><br>Attributes: non-creatable, modifiable |
| **is-cluster-volume** | | boolean optional | Indicates whether this volume is a Cluster-Mode volume, namely one that is owned by cluster authorities and agents. These same clustering agents also provide all protocol services for this class of volume.<br><br>Cluster-Mode volumes are not supported in 7-Mode Data ONTAP deployments. All such volumes are forced offline whenever they are detected in that environment.<br><br>Similarly, all 7-Mode volumes on a Data ONTAP Cluster-Mode system (except each controller's root volume) are by default forced offline. There are exceptions, in particular when a 7-Mode volume is being prepared to become that controller's new root volume in a recovery scenario.<br><br>At the moment, traditional volumes cannot be Cluster-Mode volumes.<br><br>By default, this field is false.<br><br>Attributes: non-creatable, non-modifiable |
| **is-constituent** | | boolean optional | This field indicates if this volume is a constituent within another volume. For a FlexGroup or Infinite Volume, this field is true for all their constituents. This field is set to false for volumes which are not the constituents of a FlexGroup or Infinite Volume.<br><br>The default value is false.<br><br>Attributes: non-creatable, non-modifiable |
| **is-flexgroup** | | boolean optional | This field indicates if this volume is a FlexGroup.<br><br>Attributes: non-creatable, non-modifiable |
| **is-flexgroup-qtree-enabled** | | boolean optional | Indicates whether a FlexGroup or origin of a FlexCache volumesupports creation of Qtrees.<br><br>Attributes: non-creatable, non-modifiable |
| **is-inconsistent** | | boolean optional | Whether or not there is known inconsistency in the file system associated with the volume. By default, the value is false.<br><br>Attributes: non-creatable, non-modifiable |
| **is-invalid** | | boolean optional | Whether or not this volume is invalid. Volumes typically become invalid as a result of an aborted SnapMirror(R) initial transfer. In such a case, a volume is in a half-created state and cannot be recovered. By default, the value is false.<br><br>Attributes: non-creatable, non-modifiable |
| **is-junction-active** | | boolean optional | This field indicates whether the mounted volume is accessible. The default is true. If the mounted path is not accessible, the volume does not appear in the owning Vserver's namespace. This field applies only to Cluster-Mode volumes.<br><br>Attributes: optional-for-create, modifiable |
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| **is-move-destination-in-cutover** | | boolean optional | Indicates whether the volume is the destination of a move that is in cutover.<br><br>Attributes: non-creatable, non-modifiable |
| **is-moving** | | boolean optional | Is the given volume moving? If true, this volume is moving from one aggregate to another aggregate in the cluster. The aggregates can be on different nodes of the cluster.<br><br>Attributes: non-creatable, non-modifiable |
| **is-node-root** | | boolean optional | If true, this volume is the root volume of the node in which it resides. This field is not set on FlexGroups.<br><br>Only the node's internal logic can change this option's value from true to false; this happens when some other volume has the value set to true.<br><br>By default, this field is false.<br><br>Attributes: non-creatable, non-modifiable |
| **is-nvfail-enabled** | | boolean optional | If true, the controller performs additional work at boot and takeover times if it finds that there has been any potential data loss in this volume due to an NVRAM failure.<br><br>For 7-Mode volumes, it causes the invalidation of all NFS file handles on all volumes affected by the problem so that client-side users are forced to remount the affected file system (and thus not continue to use potentially incorrect data).<br><br>It is also possible to specify a set of files per volume that are to be renamed out of the way in these cases. The controller sends error messages to the console whenever such problems are found.<br><br>For Cluster-Mode volumes, the volume would be put in a special state called 'in-nvfailed-state' such that protocol access is blocked. This will cause the client applications to crash and thus prevent access to stale data on the volume.<br><br>To get out of this situation, the admin needs to manually clear the 'in-nvfailed-state' on the volume.<br><br>By default, this value is false.<br><br>Attributes: optional-for-create, modifiable |
| **is-protocol-access-fenced** | | boolean optional | This field indicates if this volume is fenced for protocol access. Only FlexGroup constituents and volumes in SnapMirror Synchronous relationships can be fenced for protocol access.<br><br>Attributes: non-creatable, non-modifiable |
| **is-quiesced-in-memory** | | boolean optional | Is the given volume quiesced? If true, this volume is in an (in-memory) quiesced state in which most operations on the volume are blocked except for certain internal operations. By default, this value is false.<br><br>Attributes: non-creatable, non-modifiable |
| **is-quiesced-on-disk** | | boolean optional | Is the given volume quiesced? If true, this volume is in an (on-disk) quiesced state in which most operations on the volume are blocked except for certain internal operations. By default, this value is false.<br><br>Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **is-smbc-failover-capable** | | boolean optional | This field indicates if volume is SMBC failover capable.<br><br>This parameter is only supported if volume is part of SMBC relationship<br><br>Attributes: non-creatable, non-modifiable |
| **is-smbc-master** | | boolean optional | This field indicates if volume is an SMBC master.<br><br>This parameter is only supported if volume is part of SMBC relationship<br><br>Attributes: non-creatable, non-modifiable |
| **is-unrecoverable** | | boolean optional | Whether or not there is known inconsistency in the associated file system and it is not recoverable. This field is valid only for flexible volumes.<br><br>By default, this field is false.<br><br>Attributes: non-creatable, non-modifiable |
| **is-volume-in-cutover** | | boolean optional | Is the given volume move operation in cutover phase? If true, this volume is moving from one aggregate to another aggregate in the cluster and is in cutover phase. The aggregates can be on different nodes of the cluster. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, non-modifiable |
| **is-vserver-root** | | boolean optional | If true, this volume is the namespace root volume of the Vserver which owns this volume. The default value is false. This field is not set on FlexGroups.<br><br>When creating a volume, if this field is set to true, the new volume is to become the new namespace root volume of the Vserver. This field can be used in a recovery scenario in which the namespace root volume of the Vserver becomes unrecoverable.<br><br>Attributes: optional-for-create, non-modifiable |
| **protocol-access-fenced-by** | | string optional | This field indicates the owner of the protocol access fence when the volume's protocol access is fenced. Only FlexGroup constituents and volumes in SnapMirror Synchronous relationships can be fenced for protocol access.<br><br>Possible values:<br><br>• 'none',<br>• 'coordinated_snaprestore',<br>• 'coordinated_redirection',<br>• 'snapmirror_synchronous',<br>• 'vserver_migrate'<br><br>Attributes: non-creatable, non-modifiable |
| **smbc-consensus** | | string optional | This field indicates consensus state of SMBC volume.<br><br>Possible values:<br><br>• 'Awaiting-consensus',<br>• 'Consensus',<br>• 'No-consensus'<br><br>Attributes: non-creatable, non-modifiable |
| | | | Volume State. |

| | | | |
|---|---|---|---|
| **state** | | string optional | Possible values:<br>• 'online',<br>• 'restricted',<br>• 'offline',<br>• 'mixed'<br><br>If a FlexGroup or Infinite Volume's constituents are not all in the same state, it will return 'mixed'. The 'mixed' state is read-only.<br><br>Attributes: optional-for-create, modifiable |
| **status** | | string[] optional | Volume status.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **volume-transition-attributes**

[top]

Information about the transition attributes of a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-cft-precommit** | | boolean optional | Indicates whether the volume is in the pre-commit phase of Copy-Free Transition. This field is not set on FlexGroups or Infinite Volumes. Attributes: non-creatable, non-modifiable |
| **is-copied-for-transition** | | boolean optional | Indicates whether the volume has been copied for copy based transition. This field is not set on FlexGroups. Attributes: non-creatable, non-modifiable |
| **is-transitioned** | | boolean optional | Indicates whether the volume has gone through a transition operation at some point in the past. This field is not set on FlexGroups. Attributes: non-creatable, non-modifiable |
| **transition-behavior** | | string optional | For an in progress transition, indicate what the behavior is. This field is not set on FlexGroups.<br><br>Possible values:<br>• 'none' ... No transition is in progress,<br>• 'data-move' ... Transition will follow volume move behavior. For example, Lun serial number is preserved,<br>• 'data-protection' ... Transition will follow a data protection relationship behavior.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **volume-vm-align-attributes**

[top]

Information related to the Virtual Machine alignment settings on the volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **vm-align-** | **[1..7]** | integer | The Virtual Machine alignment 512 byte sector number. All files created with the suffix specified in the 'vm-align-suffix' input parameter will have zero-filled <512 * 'vm-align-sector'> bytes data at the beginning so that it's actual data starts at a different offset instead of zero. This is done so that the read & writes |

| | | | |
|---|---|---|---|
| **sector** | | optional | to such files are aligned to WAFL's 4k block boundary. This field is not set on FlexGroups.<br><br>Attributes: optional-for-create, non-modifiable |
| **vm-align-suffix** | | string optional | The Virtual Machine alignment suffix. The suffix such as '.xyz'. is used to identify the files which needs to be aligned. See the description for 'vm-align-sector' above for more information on this. This field is not set on FlexGroups.<br><br>Attributes: optional-for-create, non-modifiable |

# Element definition: **volume-vserver-dr-protection-attributes**

[top]

Information related to volume protection type in a Vserver DR setup.

| Name | Range | Type | Description |
|---|---|---|---|
| **vserver-dr-protection** | | string optional | Indicates whether the volume will be replicated to the destination in a Vserver DR setup.<br><br>Possible values:<br><br>• 'protected' ... Volume will be replicated to the destination,<br>• 'unprotected' ... Volume will not be replicated to the destination.<br><br>Attributes: optional-for-create, modifiable Possible values:<br><br>• "protected" - Volume is protected by Vserver DR,<br>• "unprotected" - Volume is not protected by Vserver DR |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **cache-policy**

[top]

Cache Policy Name

[none]

## Element definition: **encryptiontype**

[top]

none|volume|aggregate Possible values:

- "undefined" - Not defined,
- "none" - Plain-text volume,
- "volume" - NVE (NetApp Volume Encryption) volume,
- "aggregate" - NAE (NetApp Aggregate Encryption) volume,
- "mixed" - A FlexGroup volume with a mixture of plain-text, NetApp Volume Encryption (NVE) or NetApp Aggregate Encryption (NAE)

[none]

## Element definition: **junction-path**

[top]

The Junction Path.

The fully-qualified pathname in the owning Vserver's namespace at which a volume is mounted. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'.

An example of a valid FlexVol or FlexGroup junction path is: '/user/my_volume'. An example of a valid Infinite Volume junction path is: '/repository'.

Only one volume can be mounted at any given junction path.

[none]

## Element definition: **language-code**

[top]

Language Code.

The following are the possible language codes along with their names:

- 'C' ... POSIX,
- 'ar' ... Arabic,
- 'cs' ... Czech,
- 'da' ... Danish,
- 'de' ... German,
- 'en' ... English,
- 'en_US' ... English (US),
- 'es' ... Spanish,
- 'fi' ... Finnish,
- 'fr' ... French,
- 'he' ... Hebrew,
- 'hr' ... Croatian,

- 'hu' ... Hungarian,
- 'it' ... Italian,
- 'ja' ... Japanese euc-j*,
- 'ja_v1' ... Japanese euc-j,
- 'ja_JP.PCK' ... Japanese PCK (sjis)*,
- 'ja_JP.932' ... Japanese cp932*,
- 'ja_JP.PCK_v2' ... Japanese PCK (sjis),
- 'ko' ... Korean,
- 'no' ... Norwegian,
- 'nl' ... Dutch,
- 'pl' ... Polish,
- 'pt' ... Portuguese,
- 'ro' ... Romanian,
- 'ru' ... Russian,
- 'sk' ... Slovak,
- 'sl' ... Slovenian,
- 'sv' ... Swedish,
- 'tr' ... Turkish,
- 'zh' ... Simplified Chinese,
- 'zh.GBK' ... Simplified Chinese (GBK),
- 'zh_TW' ... Traditional Chinese euc-tw,
- 'zh_TW.BIG5' ... Traditional Chinese Big 5

To use UTF-8 as the NFS character set, append '.UTF-8' to the language code.

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **raid-group-info**

[top]

Information for a particular RAID group.

| Name | Range | Type | Description |
|---|---|---|---|
| **checksum-style** | | string | Checksum style. The possible values:<br>• "advanced_zoned" - advanced_zoned checksum (azcs),<br>• "block" - block,<br>• "mixed" - mixed,<br>• "none" - none,<br>• "unknown" - unknown,<br>• "wafl" - wafl,<br>• "zoned" - zoned (this value is no longer supported). |
| **cluster-disk-names** | | disk-info[] optional | List of disks in this plex by their spatial names, if available. |
| | | disk- | |

| | | | |
|---|---|---|---|
| **disks** | | info[] | List of disks in this plex. |
| **is-cache-tier** | | boolean | "true" if the RAID group is composed of SSDs and the owning aggregate is hybrid (group is not part of usable space). |
| **is-recomputing-parity** | | boolean | "true" if the RAID group is currently recomputing parity. |
| **is-reconstructing** | | boolean | "true" if the RAID group is currently reconstructing. |
| **is-scrub-suspended** | | boolean optional | Suspended state of the scrub on that RAID group. |
| **last-scrub-timestamp** | | integer optional | Time at which the last full scrub completed. If a scrub has never been performed, this value will not be returned. The time value is in seconds since January 1, 1970. Range : [0..2^31-1]. |
| **name** | | string | RAID group name. |
| **recomputing-parity-percentage** | | integer optional | The percentage of parity recomputation if is-recomputing-parity is set to true. Range : [0-100] |
| **reconstruction-percentage** | | integer optional | If reconstruction is going on, the the completion percentage. Range : [0-100] |
| **scrub-percentage-complete** | | integer optional | Scrub percentage complete. If scrub is not active, this value will not be returned. Range: [0..100]. |

# Element definition: **repos-constituent-role**

[top]

Constituent Roles Possible values:

- "none" ,
- "namespace" ,
- "data" ,
- "root" ,
- "ns_mirror" ,
- "member"

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **snaplocktype**

[top]

non-snaplock|compliance|enterprise Possible values:

- "non_snaplock" - Non SnapLock,
- "compliance" - SnapLock Compliance,
- "enterprise" - SnapLock Enterprise

[none]

## Element definition: **space-slo-enum**

[top]

none|thick|semi-thick Possible values:

- "none" ,
- "thick" ,
- "semi_thick"

[none]

## Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

## Element definition: **volstyle**

[top]

flex Possible values:

- "flex" - Flexible Volume,
- "infinitevol" - Infinite Volume

[none]

## Element definition: **volume-64bit-upgrade-check-info**

[top]

Information returned when upgrade-64bit-mode in aggr-add is "check". Upgrade check results such as "used-space", "available-space", "capacity", and "grow-space" are only updated after the space estimate is completed successfully.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **age** | | integer optional | The age in seconds of the space check results. Range: [0..2^64-1]. |
| **available-space** | | integer optional | Amount of space (in bytes) that would be available in the volume after it is upgraded to 64-bit. Range: [0..2^64-1]. |
| **capacity** | | integer optional | Percentage of space that would be used in the volume after it is upgraded to 64-bit. Range: [0..100]. |
| **grow-space** | | integer optional | Amount of space (in bytes) the volume must be grown by before successfully upgrading its current data. Range: [0..2^64-1] |
| **last-errno** | | integer optional | The error code of the last attempt to check for space usage on the specific volume. This field is present only if a 64-bit upgrade check was previously attempted. Possible values: 0 - indicates success EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL Upgrade check results may be out of date if last-errno is not 0. |
| **used-space** | | integer optional | Amount of space (in bytes) that would be used in the volume after it is upgraded to 64-bit. Range: [0..2^64-1]. |

# Element definition: **volume-antivirus-attributes**

[top]

{Deprecated, this field does not have any effect on the operation of the volume.} Information about Antivirus settings for the volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **on-access-policy** | | string optional | {Deprecated, this field does not have any effect on the operation of the volume.} The name of the Antivirus On-Access policy. The default policy name is 'default'.<br><br>If not specified when creating a volume, the Antivirus On-Access Policy is inherited from the owning vserver. Currently, this policy can only be managed using the 'antivirus' command line interfaces.<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **volume-clone-parent-attributes**

[top]

Information describing the parentage of a clone volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **dsid** | **[0..2^64-1]** | integer optional | The clone parent volume's Data Set ID.<br><br>Attributes: non-creatable, non-modifiable |
| **msid** | **[0..2^64-1]** | integer optional | The clone's parent volume's Mirror Set ID.<br><br>Attributes: non-creatable, non-modifiable |
| **name** | | volume-name optional | The clone parent volume's human-readable name.<br><br>Attributes: non-creatable, non-modifiable |
| **snapshot-id** | **[0..2^64-1]** | integer optional | The clone parent volume's base snapshot identifier.<br><br>The only legal value for a snapshot identifier is its Data Set ID. |

| | | | |
|---|---|---|---|
| | | | Attributes: non-creatable, non-modifiable |
| **snapshot-name** | | string optional | The clone parent volume's base snapshot name.<br><br>Attributes: non-creatable, non-modifiable |
| **uuid** | | uuid optional | The clone parent volume's UUID.<br><br>Attributes: non-creatable, non-modifiable |
| **vserver-name** | | vserver-name optional | The Vserver under which the clone parent volume resides.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **volume-security-unix-attributes**

[top]

The Unix-oriented security settings associated with this volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **group-id** | **[0..2^32-1]** | integer optional | The UNIX group ID for the volume. The default value is 0 ('root').<br><br>Attributes: optional-for-create, modifiable |
| **permissions** | | string optional | Unix permission bits in octal string format.<br><br>It's similar to Unix style permission bits:<br><br>In Data ONTAP 7-mode, the default setting of '0755' gives read/write/execute permissions to owner and read/execute to group and other users.<br><br>In Data ONTAP Cluster-Mode, for security style 'mixed' or 'unix', the default setting of '0755' gives read/write/execute permissions to owner and read/execute permissions to group and other users. For security style 'ntfs', the default setting of '0000' gives no permissions to owner, group and other users. |

| | | | |
|---|---|---|---|
| | | | It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group.<br><br>Attributes: optional-for-create, modifiable |
| **user-id** | **[0..2^32-1]** | integer<br>optional | The UNIX user ID for the volume. The default value is 0 ('root').<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **disk-info**

[top]

Information for each disk in the plex.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of a member disk. |
| **vbn-end** | **[0..2^64-1].** | integer<br>optional | VBN end value of a disk. |
| **vbn-start** | **[0..2^64-1].** | integer<br>optional | VBN start value of a disk. |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# APIs in Category: **vscan**


vscan-active-scanner-pool-get-iter
vscan-connection-extended-stats-get-iter
vscan-connection-status-all-get-iter
vscan-events-get-iter
vscan-on-access-policy-create
vscan-on-access-policy-delete
vscan-on-access-policy-get-iter
vscan-on-access-policy-modify
vscan-on-access-policy-status-modify
vscan-on-demand-report-delete
vscan-on-demand-report-get-iter
vscan-on-demand-task-create
vscan-on-demand-task-delete
vscan-on-demand-task-get-iter
vscan-on-demand-task-modify
vscan-on-demand-task-run
vscan-reset
vscan-resolve-hostnames
vscan-scanner-pool-apply-policy
vscan-scanner-pool-create
vscan-scanner-pool-delete
vscan-scanner-pool-get-iter
vscan-scanner-pool-modify
vscan-status-get-iter
vscan-status-modify


This set of APIs allow configuring and managing Vscan on Data ONTAP Cluster-Mode environment. This includes the APIs to retrieve the connection-status and other diagnostic information of active Vscan servers.

## vscan-active-scanner-pool-get-iter

[top]

Returns active scanner pool configuration of a vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vscan-active-scanner-pool-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vscan-active-scanner-pool-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-active-scanner-pool object. All vscan-active-scanner-pool objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vscan-active-scanner-pool-info[] optional | The list of attributes of vscan-active-scanner-pool objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vscan-active-scanner-pool objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# vscan-connection-extended-stats-get-iter

[top]

Returns connection status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vscan-connection-extended-stats-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vscan-connection-extended-stats-info | A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-connection-extended-stats object. All vscan-connection-extended-stats |

| | | | |
|---|---|---|---|
| | | optional | objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vscan-connection-extended-stats-info[] optional | The list of attributes of vscan-connection-extended-stats objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vscan-connection-extended-stats objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ENODENOTFOUND** | |
| **E_SCANNER_POOL_NOT_FOUND** | |

# vscan-connection-status-all-get-iter

[top]

Returns connection status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vscan-connection-status-all-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vscan-connection-status-all-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-connection-status-all object. All vscan-connection-status-all objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vscan-connection-status-all-info[] optional | The list of attributes of vscan-connection-status-all objects. |
| | | | |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vscan-connection-status-all objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ENODENOTFOUND** | |
| **E_SCANNER_POOL_NOT_FOUND** | |

# vscan-events-get-iter

[top]

Returns content of the vscan event log, which is generated by the cluster to capture important events.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vscan-events-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vscan-events-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-events object. All vscan-events objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vscan-events-info[] optional | The list of attributes of vscan-events objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vscan-events objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ENODENOTFOUND** | |

[top]

# vscan-on-access-policy-create

Create an On-Access policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **file-ext-to-exclude** | | file-extension[] optional | File extensions for which On-Access scanning must not be performed. |
| **file-ext-to-include** | | file-extension[] optional | File extensions for which On-Access scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. |
| **filters** | | vscan-on-access-policy-ui-filter[] optional | A list of filters which can be used to define the scope of the On-Access policy more precisely. The filters can be added in any order. Possible values:<br>• "scan_ro_volume" - Enable scans for read-only volume,<br>• "scan_execute_access" - Scan only files opened with execute-access (CIFS only) |
| **is-scan-mandatory** | | boolean optional | Specifies whether access to a file is allowed if there are no external virus-scanning servers available for virus scanning. It is true if not provided at the time of creating a policy. |
| **max-file-size** | | size optional | Max file-size (in bytes) allowed for scanning. The default value of 2147483648 (2GB) is taken if not provided at the time of creating a policy. |
| **paths-to-exclude** | | file-path[] optional | File paths for which On-Access scanning must not be performed. |
| **policy-name** | | policy-name | Name of the policy. |
| **protocol** | | vscan-protocol | File-Access protocol to monitor for On-Access scanning. Possible values:<br>• "cifs" - CIFS Protocol |
| **return-record** | | boolean optional | If set to true, returns the vscan-on-access-policy on successful creation. Default: false |
| **scan-files-with-no-ext** | | true-false optional | Specifies whether files without any extension are considered for scanning or not. The default value is true. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | vscan-on-access-policy-info optional | The vscan-on-access-policy created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **E_VSERVER_TYPE_NOT_SUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **E_OA_POLICY_EXISTS** | |
| **E_OA_POLICY_CANNOT_CREATE_MAX_LIMIT** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# vscan-on-access-policy-delete

[top]

Delete an On-Access policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | policy-name | Name of the policy. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **E_OA_POLICY_NOT_FOUND** | |
| **EAPIPRIVILEGE** | |
| **E_OA_POLICY_CANNOT_DELETE** | |
| **ERESOURCEINUSE** | |

# vscan-on-access-policy-get-iter

[top]

Returns list of On-Access policies.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vscan-on-access-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vscan-on-access-policy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-on-access-policy object. All vscan-on-access-policy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vscan-on-access-policy-info[] optional | The list of attributes of vscan-on-access-policy objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vscan-on-access-policy objects to return. |

| | | | |
|---|---|---|---|
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **E_OA_POLICY_NOT_FOUND** | |

# vscan-on-access-policy-modify

[top]

Modify an On-Access policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **file-ext-to-exclude** | | file-extension[] optional | File extensions for which On-Access scanning must not be performed. |
| **file-ext-to-include** | | file-extension[] optional | File extensions for which On-Access scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. |
| **filters** | | vscan-on-access-policy-ui-filter[] optional | A list of filters which can be used to define the scope of the On-Access policy more precisely. The filters can be added in any order. Possible values:<br>• "scan_ro_volume" - Enable scans for read-only volume,<br>• "scan_execute_access" - Scan only files opened with execute-access (CIFS only) |
| **is-scan-mandatory** | | boolean optional | Specifies whether access to a file is allowed if there are no external virus-scanning servers available for virus scanning. It is true if not provided at the time of creating a policy. |
| **max-file-size** | | size optional | Max file-size (in bytes) allowed for scanning. The default value of 2147483648 (2GB) is taken if not provided at the time of creating a policy. |
| **paths-to-exclude** | | file-path[] optional | File paths for which On-Access scanning must not be performed. |
| **policy-name** | | policy-name | Name of the policy. |
| **scan-files-with-no-ext** | | true-false optional | Specifies whether files without any extension are considered for scanning or not. The default value is true. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **E_OA_POLICY_NOT_FOUND** | |
| **EAPIPRIVILEGE** | |

[top]

# vscan-on-access-policy-status-modify

Modify On-Access policy status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | policy-name | Name of the policy. |
| **policy-status** | | boolean | Policy Status |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **E_VSERVER_TYPE_NOT_SUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **E_OA_POLICY_NOT_FOUND** | |
| **ERESOURCEINUSE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# vscan-on-demand-report-delete

[top]

Delete an On-Demand report.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **delete-report-file** | | true-false optional | Specifies if report file also need to be deleted. Default is false. |
| **report-file** | | string | Path of the report file from root of the Vserver. |
| **task-name** | | string | Name of the task. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EAPIPRIVILEGE** | |
| **ERESOURCEINUSE** | |

# vscan-on-demand-report-get-iter

[top]

Returns list of On-Demand Task Report.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vscan-on-demand-report-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| | | optional | |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vscan-on-demand-report-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-on-demand-report object. All vscan-on-demand-report objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vscan-on-demand-report-info[] optional | The list of attributes of vscan-on-demand-report objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vscan-on-demand-report objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# vscan-on-demand-task-create

[top]

Create an On-Demand Task.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cross-junction** | | true-false optional | Specifies whether the On-Demand task is allowed to cross volume junctions. If the parameter is set to false, crossing junctions is not allowed. Default is true. |
| **directory-recursion** | | true-false optional | Specifies whether the On-Demand task is allowed to recursively scan through sub-directories. If the parameter is set to false, recursive scanning is not allowed. Default is true. |
| **file-ext-to-exclude** | | file-extension[] optional | File-Extensions for which scanning must not be performed. File whose extension matches with both inclusion and exclusion list is not considered for scanning. |
| **file-ext-to-include** | | file-extension[] optional | File extensions for which scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. File whose extension matches with both inclusion and exclusion list is not considered for scanning. |
| **max-file-size** | | size optional | Max file-size (in bytes) allowed for scanning. The default value of 10737418240 (10GB) is taken if not provided at the time of creating a task. |

| | | | |
|---|---|---|---|
| **paths-to-exclude** | | string[] optional | File-paths for which scanning must not be performed. |
| **report-directory** | | string | Path from the vserver root where task report is created. The path must be a directory and provided in unix-format from the root of the Vserver. Example: /vol1/on-demand-reports. |
| **report-expiry-time** | | time-interval optional | Expiration time for On-Demand reports. A value of 0 indicates that report files will be retained until manually deleted. Default is 0 |
| **report-log-level** | | vscan-od-log-level optional | Log level for the On-Demand report. Default is error. Possible values:<br>• "verbose" - Report file will contain verbose logs for each file found in the scan-path.,<br>• "info" - Report file will contain info and error logs.,<br>• "error" - Report file will contain only error logs. |
| **request-timeout** | | time-interval optional | Total request-service time-limit in seconds. If the virus-scanner does not respond within the provided time, scan will be timedout. |
| **return-record** | | boolean optional | If set to true, returns the vscan-on-demand-task on successful creation. Default: false |
| **scan-files-with-no-ext** | | true-false optional | Specifies whether files without any extension are considered for scanning or not. The default value is true. |
| **scan-paths** | | string[] | List of paths that need to be scanned. The path must be provided in unix-format and from the root of the Vserver. Example: /vol1/large_files. |
| **scan-priority** | | vscan-scan-priority optional | Priority of the On-Demand scan requests generated by this task. Default is low. Possible values:<br>• "low" - The scan request will be sent to the Vscan server only if no other normal request is in queue.,<br>• "normal" - The scan request will be processed normally. |
| **schedule** | | string optional | Schedule of the task. The task will be run as per the schedule. For running the task immediately, vscan-on-demand-task-run api must be used after creating a task. |
| **task-name** | | string | Name of the task. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | vscan-on-demand-task-info optional | The vscan-on-demand-task created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **E_VSERVER_TYPE_NOT_SUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **E_OD_TASK_CANNOT_CREATE_MAX_LIMIT** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# vscan-on-demand-task-delete

[top]

Delete an On-Demand Task.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **task-name** | | string | Name of the task. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EAPIPRIVILEGE** | |
| **ERESOURCEINUSE** | |

# vscan-on-demand-task-get-iter

[top]

Returns list of On-Demand Task.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vscan-on-demand-task-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vscan-on-demand-task-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-on-demand-task object. All vscan-on-demand-task objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vscan-on-demand-task-info[] optional | The list of attributes of vscan-on-demand-task objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vscan-on-demand-task objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| EVSERVERNOTFOUND | |
|---|---|

# vscan-on-demand-task-modify

[top]

Modify an On-Demand Task.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cross-junction** | | true-false optional | Specifies whether the On-Demand task is allowed to cross volume junctions. If the parameter is set to false, crossing junctions is not allowed. Default is true. |
| **directory-recursion** | | true-false optional | Specifies whether the On-Demand task is allowed to recursively scan through sub-directories. If the parameter is set to false, recursive scanning is not allowed. Default is true. |
| **file-ext-to-exclude** | | file-extension[] optional | File-Extensions for which scanning must not be performed. File whose extension matches with both inclusion and exclusion list is not considered for scanning. |
| **file-ext-to-include** | | file-extension[] optional | File extensions for which scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. File whose extension matches with both inclusion and exclusion list is not considered for scanning. |
| **max-file-size** | | size optional | Max file-size (in bytes) allowed for scanning. The default value of 10737418240 (10GB) is taken if not provided at the time of creating a task. |
| **paths-to-exclude** | | string[] optional | File-paths for which scanning must not be performed. |
| **report-directory** | | string optional | Path from the vserver root where task report is created. The path must be a directory and provided in unix-format from the root of the Vserver. Example: /vol1/on-demand-reports. |
| **report-expiry-time** | | time-interval optional | Expiration time for On-Demand reports. A value of 0 indicates that report files will be retained until manually deleted. Default is 0 |
| **report-log-level** | | vscan-od-log-level optional | Log level for the On-Demand report. Default is error. Possible values:<br>• "verbose" - Report file will contain verbose logs for each file found in the scan-path.,<br>• "info" - Report file will contain info and error logs.,<br>• "error" - Report file will contain only error logs. |
| **request-timeout** | | time-interval optional | Total request-service time-limit in seconds. If the virus-scanner does not respond within the provided time, scan will be timedout. |
| **scan-files-with-no-ext** | | true-false optional | Specifies whether files without any extension are considered for scanning or not. The default value is true. |
| **scan-paths** | | string[] optional | List of paths that need to be scanned. The path must be provided in unix-format and from the root of the Vserver. Example: /vol1/large_files. |
| **scan-priority** | | vscan-scan-priority optional | Priority of the On-Demand scan requests generated by this task. Default is low. Possible values:<br>• "low" - The scan request will be sent to the Vscan server only if no other normal request is in queue.,<br>• "normal" - The scan request will be processed normally. |
| | | | |

| | | | |
|---|---|---|---|
| **schedule** | | string optional | Schedule of the task. The task will be run as per the schedule. For running the task immediately, vscan-on-demand-task-run api must be used after creating a task. |
| **task-name** | | string | Name of the task. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EAPIPRIVILEGE** | |

# vscan-on-demand-task-run

[top]

Run an On-Demand task

| Input Name | Range | Type | Description |
|---|---|---|---|
| **task-name** | | string | Task Name |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EAPIPRIVILEGE** | |
| **ERESOURCEINUSE** | |

# vscan-reset

[top]

Discard cached information of files that have been successfully scanned.

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **E_VSERVER_TYPE_NOT_SUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# vscan-resolve-hostnames

[top]

Resolve the hostnames configured in the scanner pool.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **scanner-pool** | | scanner-pool | Name of the virus scanner pool. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EOPNOTSUPPORTED | |
| E_VSERVER_TYPE_NOT_SUPPORTED | |
| EVSERVERNOTFOUND | |
| E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE | |

# vscan-scanner-pool-apply-policy

[top]

Apply scanner-policy to a scanner pool.

| Input Name | Range | Type | Description |
|---|---|---|---|
| cluster | | cluster-name optional | Cluster on Which Policy Is Applied |
| scanner-policy | | scanner-policy | Scanner Policy |
| scanner-pool | | scanner-pool | Name of the virus scanner pool. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |
| EOPNOTSUPPORTED | |
| E_VSERVER_TYPE_NOT_SUPPORTED | |
| EVSERVERNOTFOUND | |
| E_SCANNER_POOL_NOT_FOUND | |
| E_ONLY_SCANNER_POOL_ACTIVE | |
| E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE | |

# vscan-scanner-pool-create

[top]

Create a virus scanner pool, which is used for validating and managing connections between clustered Data ONTAP and Vscan servers.

| Input Name | Range | Type | Description |
|---|---|---|---|
| hostnames | | string[] | List of hostnames of Vscan servers which are allowed to connect to clustered Data ONTAP. |
| max-session-setup-retries | [0..2^32-1] | integer optional | Maximum number of consecutive session-setup attempts. The value for this field must be between 1 and 5. The default value of 5 is taken if not provided while creating a scanner pool. |
| privileged-users | | privileged-user[] | List of privileged users. |
| | | | Total request-service time-limit in seconds. It is used to specify the time interval in which the node waits for a response from the Vscan server. If the timeout is reached, the node allows the file-operation if the applicable On-Access policy has scan-mandatory set to \"off\". If the policy has scan-mandatory set to \"on\", the |

| | | | |
|---|---|---|---|
| **request-timeout** | **[0..2^32-1]** | integer optional | node will retry the scan or disallow the file-operation depending on the remaining lifetime of the CIFS request. Valid values for this field are from 10s to 40s. However, if scan-mandatory is set to \"off\", the effective value is limited to a maximum of 35s. The default value of 30 is taken if not provided while creating a scanner pool. |
| **return-record** | | boolean optional | If set to true, returns the vscan-scanner-pool on successful creation. Default: false |
| **scan-queue-timeout** | **[0..2^32-1]** | integer optional | Scan-queue wait-time-limit in seconds. The value for this field must be between 10s and 30s. The default value of 20 is taken if not provided while creating a scanner pool. |
| **scanner-pool** | | scanner-pool | Name of the virus scanner pool. |
| **session-setup-timeout** | **[0..2^32-1]** | integer optional | Total session-setup time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool. |
| **session-teardown-timeout** | **[0..2^32-1]** | integer optional | Total session-teardown time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | vscan-scanner-pool-info optional | The vscan-scanner-pool created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **E_VSERVER_TYPE_NOT_SUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **E_SCANNER_POOL_EXISTS** | |
| **E_SCANNER_POOL_CANNOT_CREATE_MAX_LIMIT** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# vscan-scanner-pool-delete

[top]

Delete a scanner pool.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **scanner-pool** | | scanner-pool | Name of the virus scanner pool. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **E_SCANNER_POOL_NOT_FOUND** | |
| **EAPIPRIVILEGE** | |

| | |
|---|---|
| **E_ONLY_SCANNER_POOL_ACTIVE** | |
| **ERESOURCEINUSE** | |

# vscan-scanner-pool-get-iter

[top]

Returns list of scanner pools. Scanner pool is a set of attributes which are used to validate and manage connections between clustered Data ONTAP and Vscan servers (virus scanners).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vscan-scanner-pool-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vscan-scanner-pool-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-scanner-pool object. All vscan-scanner-pool objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vscan-scanner-pool-info[] optional | The list of attributes of vscan-scanner-pool objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vscan-scanner-pool objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **E_SCANNER_POOL_NOT_FOUND** | |

# vscan-scanner-pool-modify

[top]

Modify a scanner pool.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hostnames** | | string[] optional | List of hostnames of Vscan servers which are allowed to connect to clustered Data ONTAP. |
| **max-** | | | |

| | | | |
|---|---|---|---|
| **session-setup-retries** | **[0..2^32-1]** | integer optional | Maximum number of consecutive session-setup attempts. The value for this field must be between 1 and 5. The default value of 5 is taken if not provided while creating a scanner pool. |
| **privileged-users** | | privileged-user[] optional | List of privileged users. |
| **request-timeout** | **[0..2^32-1]** | integer optional | Total request-service time-limit in seconds. It is used to specify the time interval in which the node waits for a response from the Vscan server. If the timeout is reached, the node allows the file-operation if the applicable On-Access policy has scan-mandatory set to \"off\". If the policy has scan-mandatory set to \"on\", the node will retry the scan or disallow the file-operation depending on the remaining lifetime of the CIFS request. Valid values for this field are from 10s to 40s. However, if scan-mandatory is set to \"off\", the effective value is limited to a maximum of 35s. The default value of 30 is taken if not provided while creating a scanner pool. |
| **scan-queue-timeout** | **[0..2^32-1]** | integer optional | Scan-queue wait-time-limit in seconds. The value for this field must be between 10s and 30s. The default value of 20 is taken if not provided while creating a scanner pool. |
| **scanner-pool** | | scanner-pool | Name of the virus scanner pool. |
| **session-setup-timeout** | **[0..2^32-1]** | integer optional | Total session-setup time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool. |
| **session-teardown-timeout** | **[0..2^32-1]** | integer optional | Total session-teardown time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **E_SCANNER_POOL_NOT_FOUND** | |
| **EAPIPRIVILEGE** | |

# vscan-status-get-iter

[top]

Returns Vscan status information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vscan-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vscan-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-status object. All vscan-status objects matching this query up to 'max-records' will be returned. |
| **tag** | | string | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' |

| | | | |
|---|---|---|---|
| | | optional | obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vscan-status-info[] optional | The list of attributes of vscan-status objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vscan-status objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

## vscan-status-modify

[top]

Modify Vscan status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-vscan-enabled** | | boolean | Vscan status. When true, Vscan feature is enabled for the Vserver. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **E_VSERVER_TYPE_NOT_SUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **ECIFSERVERNOTFOUND** | |
| **E_NO_SCANNER_POOL_ACTIVE** | |
| **E_VSCAN_CAPABILITY_NOT_ENABLED** | |
| **E_VSCAN_JOB_QUEUE_FAILED** | |
| **E_VSCAN_JOB_DELETE_FAILED** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

## Element definition: **file-extension** [top]

File extension

[none]

## Element definition: **file-path** [top]

File path

[none]

## Element definition: **policy-name** [top]

Policy name

[none]

## Element definition: **privileged-user** [top]

Privileged user

[none]

## Element definition: **scanner-policy** [top]

Policy applied to a Vscan scanner pool

[none]

## Element definition: **scanner-pool** [top]

Scanner pool is a set of attributes which are used to validate and manage connections between clustered ONTAP and Vscan servers (virus scanners).

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

# Element definition: **true-false**

[top]

True/False

[none]

# Element definition: **vscan-active-scanner-pool-info**

[top]

Vscan active scanner pool information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **max-session-setup-retries** | **[0..2^32-1]** | integer optional | Maximum number of consecutive session-setup attempts. This is set to the max of max-session-setup-retries of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable |
| **privileged-users** | | privileged-user[] optional | List of privileged users for a vserver. Vscan server is given privileged access to the clustered Data ONTAP only if it uses one of these users. Attributes: non-creatable, non-modifiable |
| **request-timeout** | **[0..2^32-1]** | integer optional | Total request-service time-limit in seconds. This is set to the max of the request-timeouts of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable |
| **scan-queue-timeout** | **[0..2^32-1]** | integer optional | Scan-queue wait-time-limit in seconds. This is set to the max of the scan-queue-timeouts of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable |
| **scanner-** | | scanner- | List of active scanner pools on a vserver. Attributes: non-creatable, |

| | | | |
|---|---|---|---|
| **pools** | | pool[] optional | non-modifiable |
| **servers** | | ip-address[] optional | List of allowed Vscan servers IP for a vserver. A Vscan server is allowed to connect to the clustered Data ONTAP only if its IP is part of this list. Attributes: non-creatable, non-modifiable |
| **session-setup-timeout** | **[0..2^32-1]** | integer optional | Total session-setup time-limit in seconds. This is set to the max of the session-setup-timeouts of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable |
| **session-teardown-timeout** | **[0..2^32-1]** | integer optional | Total session-teardown time-limit in seconds. This is set to the max of the session-teardown-timeouts of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **vscan-connection-extended-stats-info**

[top]

Vscan connection extended statistics. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **extended-stats** | | string[] optional | Vscanner's extended statistics. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Cluster node to which this connection is applicable. Attributes: key, non-creatable, non-modifiable |
| **server** | | ip-address optional | IP of the Vscan server. Attributes: key, non-creatable, non-modifiable |
| **server-status** | | vscan-server-status optional | Status of the connection. Attributes: non-creatable, non-modifiable Possible values:<br>• "disconnected" - Disconnected,<br>• "disconnecting" - Disconnecting,<br>• "connecting" - Connecting,<br>• "connected" - Connected |
| **server-type** | | vscan-scanner-type optional | Server type. Attributes: non-creatable, non-modifiable Possible values:<br>• "primary" - Primary,<br>• "backup" - Backup |
| **vendor** | | string optional | Name of virus-scanner vendor. Attributes: non-creatable, non-modifiable |
| **version** | | string optional | Version of virus-scanner. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **vscan-connection-status-all-info**

[top]

Vscan connection status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **connected-since** | | datetime optional | Time when Vscan server was connected. Attributes: non-creatable, non-modifiable |
| **disconnect-reason** | | vscan-disconnect-reason optional | Reason for disconnection. Attributes: non-creatable, non-modifiable Possible values:<br>• "na" - Not applicable,<br>• "vscan_disabled" - Vscan disabled on the vserver,<br>• "no_data_lif" - Vserver does not have data lif on the node,<br>• "session_uninitialized" - Session not initialized,<br>• "remote_closed" - Closure from Server,<br>• "invalid_protocol_msg" - Invalid protocol-message received,<br>• "invalid_session_id" - Invalid session-id received,<br>• "inactive_connection" - No activity on connection,<br>• "invalid_user" - Connection request by invalid user,<br>• "server_removed" - Server removed from the active scanner-pool |
| **disconnected-since** | | datetime optional | Time when Vscan server was disconnected. Attributes: non-creatable, non-modifiable |
| **lif** | | ip-address optional | IP address of the Vserver LIF, which is used for the connection between clustered Data ONTAP and the Vscan server. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Cluster node to which this connection is applicable. Attributes: key, non-creatable, non-modifiable |
| **privileged-user** | | string optional | Privileged user, which is used for the connection between clustered Data ONTAP and the Vscan server. Attributes: non-creatable, non-modifiable |
| **server** | | ip-address optional | IP of the Vscan server. Attributes: key, non-creatable, non-modifiable |
| **server-status** | | vscan-server-status optional | Status of the connection. Attributes: non-creatable, non-modifiable Possible values:<br>• "disconnected" - Disconnected,<br>• "disconnecting" - Disconnecting,<br>• "connecting" - Connecting,<br>• "connected" - Connected |
| **server-type** | | vscan-scanner-type | Server type. Attributes: non-creatable, non-modifiable Possible values:<br>• "primary" - Primary, |

| | | | |
|---|---|---|---|
| | | optional | • "backup" - Backup |
| **vendor** | | string optional | Name of virus-scanner vendor. Attributes: non-creatable, non-modifiable |
| **version** | | string optional | Version of virus-scanner. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **vscan-events-info**

[top]

Vscan events information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **consecutive-occurrence-count** | **[0..2^32-1]** | integer optional | Consecutive occurrence count of the same event. Attributes: non-creatable, non-modifiable |
| **disconnect-reason** | | vscan-disconnect-reason optional | Reason for disconnection. This field is applicable only for the scanner-disconnection events. Attributes: non-creatable, non-modifiable Possible values:<br>• "na" - Not applicable,<br>• "vscan_disabled" - Vscan disabled on the vserver,<br>• "no_data_lif" - Vserver does not have data lif on the node,<br>• "session_uninitialized" - Session not initialized,<br>• "remote_closed" - Closure from Server,<br>• "invalid_protocol_msg" - Invalid protocol-message received,<br>• "invalid_session_id" - Invalid session-id received,<br>• "inactive_connection" - No activity on connection,<br>• "invalid_user" - Connection request by invalid user,<br>• "server_removed" - Server removed from the active scanner-pool |
| **event-time** | | datetime optional | Event log time. Attributes: key, non-creatable, non-modifiable |
| **event-type** | | vscan-event-type optional | Event type. Attributes: non-creatable, non-modifiable Possible values:<br>• "scanner_connected" - Scanner connected,<br>• "scanner_disconnected" - Scanner disconnected,<br>• "scanner_updated" - Scanner updated,<br>• "scan_internal_error" - Internal error,<br>• "scan_failed" - Scan failed,<br>• "scan_timedout" - Scan timed out,<br>• "file_infected" - File is infected, |

| | | | |
|---|---|---|---|
| | | | "file_renamed" - File is renamed after found infected,<br>• "file_quarantined" - File is quarantined after found infected,<br>• "file_deleted" - File is deleted after found infected,<br>• "scanner_busy" - Scanner is busy |
| **file-path** | | string<br>optional | Path of the file which is being scanned. The path gives the client view of the file being scanned. This field is applicable only for the scanning related events. Attributes: non-creatable, non-modifiable |
| **lif** | | ip-address<br>optional | IP address of the Vserver LIF, which is used for the connection between clustered Data ONTAP and the Vscan server. It could be either IPV4 or IPV6 as configured. Attributes: non-creatable, non-modifiable |
| **node** | | node-name<br>optional | Node to which this connection is applicable. Attributes: key, non-creatable, non-modifiable |
| **scan-engine-status** | **[0..2^64-1]** | integer<br>optional | Status code returned by scan-engine. This field is applicable only if scan-engine is capable of responding with extended status. Attributes: non-creatable, non-modifiable |
| **server** | | ip-address<br>optional | IP of the Vscan server. It could be either IPV4 or IPV6 as configured in the scanner pool. Attributes: non-creatable, non-modifiable |
| **vendor** | | string<br>optional | Name of virus-scanner vendor. Attributes: non-creatable, non-modifiable |
| **version** | | string<br>optional | Version of virus-scanner. Attributes: non-creatable, non-modifiable |
| **vserver** | | string<br>optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **vscan-od-log-level**

[top]

Log level for the On-Demand report. Possible values:

- "verbose" - Report file will contain verbose logs for each file found in the scan-path.,
- "info" - Report file will contain info and error logs.,
- "error" - Report file will contain only error logs.

[none]

# Element definition: **vscan-on-access-policy-info**

[top]

Vscan On-Access policy information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **admin-owner** | | vscan-config-owner optional | Owner of the policy. Attributes: non-creatable, non-modifiable Possible values:<br>• "vserver" - Vserver Admin,<br>• "cluster" - Cluter Admin |
| **file-ext-to-exclude** | | file-extension[] optional | File extensions for which On-Access scanning must not be performed. Attributes: optional-for-create, modifiable |
| **file-ext-to-include** | | file-extension[] optional | File extensions for which On-Access scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. Attributes: optional-for-create, modifiable |
| **filters** | | vscan-on-access-policy-ui-filter[] optional | A list of filters which can be used to define the scope of the On-Access policy more precisely. The filters can be added in any order. Attributes: optional-for-create, modifiable Possible values:<br>• "scan_ro_volume" - Enable scans for read-only volume,<br>• "scan_execute_access" - Scan only files opened with execute-access (CIFS only) |
| **is-policy-enabled** | | boolean optional | Policy status. Attributes: non-creatable, non-modifiable |
| **is-scan-mandatory** | | boolean optional | Specifies whether access to a file is allowed if there are no external virus-scanning servers available for virus scanning. It is true if not provided at the time of creating a policy. Attributes: optional-for-create, modifiable |
| **max-file-size** | | size optional | Max file-size (in bytes) allowed for scanning. The default value of 2147483648 (2GB) is taken if not provided at the time of creating a policy. Attributes: optional-for-create, modifiable |
| **paths-to-exclude** | | file-path[] optional | File paths for which On-Access scanning must not be performed. Attributes: optional-for-create, modifiable |
| **policy-name** | | policy-name optional | Name of the policy. Attributes: key, required-for-create, non-modifiable |
| **protocol** | | vscan-protocol optional | File-Access protocol to monitor for On-Access scanning. Attributes: required-for-create, non-modifiable Possible values:<br>• "cifs" - CIFS Protocol |
| **scan-files-with-no-ext** | | true-false optional | Specifies whether files without any extension are considered for scanning or not. The default value is true. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **vscan-on-access-policy-ui-filter**

[top]

Filters to define the scope of On-Access scanning more precisely. Possible values:

- "scan_ro_volume" - Enable scans for read-only volume,
- "scan_execute_access" - Scan only files opened with execute-access (CIFS only)

[none]

# Element definition: **vscan-on-demand-report-info**

[top]

Vscan On-Demand Task Report information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **already-scanned-files** | **[0..2^64-1]** | integer optional | Total number of files which were already scanned by a valid virus-scanner. Attributes: non-creatable, non-modifiable |
| **attempted-scans** | **[0..2^64-1]** | integer optional | Total number of attempted scans. Attributes: non-creatable, non-modifiable |
| **failed-scans** | **[0..2^64-1]** | integer optional | Total number of failed scans. Attributes: non-creatable, non-modifiable |
| **files-cleaned** | **[0..2^64-1]** | integer optional | Total number of files that were marked clean by the virus-scanner. Attributes: non-creatable, non-modifiable |
| **files-infected** | **[0..2^64-1]** | integer optional | Total number of files that were marked infected by the virus-scanner. Attributes: non-creatable, non-modifiable |
| **internal-error** | **[0..2^64-1]** | integer optional | Total number of internal error occured while running the task. Attributes: non-creatable, non-modifiable |
| **job-duration** | | time-interval optional | Time taken by the job to complete the on-demand task. Attributes: non-creatable, non-modifiable |
| **job-end-time** | | datetime optional | On-demand task end time. Attributes: non-creatable, non-modifiable |
| **job-id** | **[-2^63..2^63-1]** | integer optional | ID of the on-demand scan job. Attributes: non-creatable, non-modifiable |
| **job-start-time** | | datetime optional | On-demand task start time. Attributes: non-creatable, non-modifiable |
| **report-file** | | string optional | Path of the report file from root of the Vserver. Attributes: key, non-creatable, non-modifiable |
| **scan-retries** | **[0..2^64-1]** | integer optional | Total number of scans that were retried because of internal error. Attributes: non-creatable, non-modifiable |
| **skipped-scans** | **[0..2^64-1]** | integer optional | Total number of files which were not scanned because of the configured scope of scanning. Attributes: non-creatable, non-modifiable |
| **successful-scans** | **[0..2^64-1]** | integer optional | Total number of files which were successfully scanned. Attributes: non-creatable, non-modifiable |
| **task-name** | | string optional | Name of the task. Attributes: key, non-creatable, non-modifiable |
| **timedout-scans** | **[0..2^64-1]** | integer optional | Total number of scans that were timed out. Attributes: non-creatable, non-modifiable |
| **vserver** | | string | Vserver Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| | | optional | |

# Element definition: **vscan-on-demand-task-info**

[top]

Vscan On-Demand Task information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cross-junction** | | true-false optional | Specifies whether the On-Demand task is allowed to cross volume junctions. If the parameter is set to false, crossing junctions is not allowed. Default is true. Attributes: optional-for-create, modifiable |
| **directory-recursion** | | true-false optional | Specifies whether the On-Demand task is allowed to recursively scan through sub-directories. If the parameter is set to false, recursive scanning is not allowed. Default is true. Attributes: optional-for-create, modifiable |
| **file-ext-to-exclude** | | file-extension[] optional | File-Extensions for which scanning must not be performed. File whose extension matches with both inclusion and exclusion list is not considered for scanning. Attributes: optional-for-create, modifiable |
| **file-ext-to-include** | | file-extension[] optional | File extensions for which scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. File whose extension matches with both inclusion and exclusion list is not considered for scanning. Attributes: optional-for-create, modifiable |
| **max-file-size** | | size optional | Max file-size (in bytes) allowed for scanning. The default value of 10737418240 (10GB) is taken if not provided at the time of creating a task. Attributes: optional-for-create, modifiable |
| **paths-to-exclude** | | string[] optional | File-paths for which scanning must not be performed. Attributes: optional-for-create, modifiable |
| **report-directory** | | string optional | Path from the vserver root where task report is created. The path must be a directory and provided in unix-format from the root of the Vserver. Example: /vol1/on-demand-reports. Attributes: required-for-create, modifiable |
| **report-expiry-time** | | time-interval optional | Expiration time for On-Demand reports. A value of 0 indicates that report files will be retained until manually deleted. Default is 0 Attributes: optional-for-create, modifiable |
| **report-log-level** | | vscan-od-log-level optional | Log level for the On-Demand report. Default is error. Attributes: optional-for-create, modifiable Possible values:<br>• "verbose" - Report file will contain verbose logs for each file found in the scan-path.,<br>• "info" - Report file will contain info and error logs.,<br>• "error" - Report file will contain only error logs. |
| **request-timeout** | | time-interval optional | Total request-service time-limit in seconds. If the virus-scanner does not respond within the provided time, scan will be timedout. Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **scan-files-with-no-ext** | | true-false optional | Specifies whether files without any extension are considered for scanning or not. The default value is true. Attributes: optional-for-create, modifiable |
| **scan-paths** | | string[] optional | List of paths that need to be scanned. The path must be provided in unix-format and from the root of the Vserver. Example: /vol1/large_files. Attributes: required-for-create, modifiable |
| **scan-priority** | | vscan-scan-priority optional | Priority of the On-Demand scan requests generated by this task. Default is low. Attributes: optional-for-create, modifiable Possible values:<br>• "low" - The scan request will be sent to the Vscan server only if no other normal request is in queue.,<br>• "normal" - The scan request will be processed normally. |
| **schedule** | | string optional | Schedule of the task. The task will be run as per the schedule. For running the task immediately, vscan-on-demand-task-run api must be used after creating a task. Attributes: optional-for-create, modifiable |
| **task-name** | | string optional | Name of the task. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **vscan-protocol**

[top]

CIFS Possible values:

- "cifs" - CIFS Protocol

[none]

# Element definition: **vscan-scan-priority**

[top]

Priority of the scan request. Possible values:

- "low" - The scan request will be sent to the Vscan server only if no other normal request is in queue.,
- "normal" - The scan request will be processed normally.

[none]

# Element definition: **vscan-scanner-pool-info**

[top]

Vscan scanner pool information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **admin-owner** | | vscan-config-owner optional | Owner of the scanner pool. Attributes: non-creatable, non-modifiable Possible values:<br>• "vserver" - Vserver Admin,<br>• "cluster" - Cluter Admin |
| **cluster** | | cluster-name optional | Name of the cluster on which you want to apply the scanner policy of a scanner pool. Default value is taken as local cluster. This parameter does not have any significance if the cluster is not in a DR relationship. Attributes: non-creatable, non-modifiable |
| **hostnames** | | string[] optional | List of hostnames of Vscan servers which are allowed to connect to clustered Data ONTAP. Attributes: required-for-create, modifiable |
| **is-currently-active** | | boolean optional | Current status of a scanner pool. Attributes: non-creatable, non-modifiable |
| **max-session-setup-retries** | **[0..2^32-1]** | integer optional | Maximum number of consecutive session-setup attempts. The value for this field must be between 1 and 5. The default value of 5 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable |
| **privileged-users** | | privileged-user[] optional | List of privileged users. Attributes: required-for-create, modifiable |
| **request-timeout** | **[0..2^32-1]** | integer optional | Total request-service time-limit in seconds. It is used to specify the time interval in which the node waits for a response from the Vscan server. If the timeout is reached, the node allows the file-operation if the applicable On-Access policy has scan-mandatory set to \"off\". If the policy has scan-mandatory set to \"on\", the node will retry the scan or disallow the file-operation depending on the remaining lifetime of the CIFS request. Valid values for this field are from 10s to 40s. However, if scan-mandatory is set to \"off\", the effective value is limited to a maximum of 35s. The default value of 30 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable |
| **scan-queue-timeout** | **[0..2^32-1]** | integer optional | Scan-queue wait-time-limit in seconds. The value for this field must be between 10s and 30s. The default value of 20 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable |
| **scanner-policy** | | scanner-policy optional | Scanner policy. Currently only system policies are supported.<br><br>Possible values:<br>• 'primary' - Makes it active always,<br>• 'secondary' - Makes it active only when no primary Vscan server is connected,<br>• 'idle' - Makes it inactive always<br><br>Attributes: non-creatable, non-modifiable |
| **scanner-pool** | | scanner-pool optional | Scanner pool is a set of attributes which are used to validate and manage connections between clustered Data ONTAP and Vscan servers (virus scanners). Attributes: key, required-for-create, non-modifiable |

| | | | |
|---|---|---|---|
| **servers** | | ip-address[] optional | List of IP addresses of Vscan servers which are allowed to connect to clustered Data ONTAP. Attributes: non-creatable, non-modifiable |
| **session-setup-timeout** | **[0..2^32-1]** | integer optional | Total session-setup time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable |
| **session-teardown-timeout** | **[0..2^32-1]** | integer optional | Total session-teardown time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **vscan-status-info**

[top]

Vscan status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-vscan-enabled** | | boolean optional | Vscan status. When true, Vscan feature is enabled for the Vserver. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

## Element definition: **file-extension** [top]

File extension

[none]

## Element definition: **file-path** [top]

File path

[none]

## Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

## Element definition: **node-name** [top]

The node's name

[none]

## Element definition: **policy-name** [top]

Policy name

[none]

## Element definition: **privileged-user** [top]

Privileged user

[none]

## Element definition: **scanner-policy** [top]

Policy applied to a Vscan scanner pool

[none]

## Element definition: **scanner-pool** [top]

Scanner pool is a set of attributes which are used to validate and manage connections between clustered ONTAP and Vscan servers (virus scanners).

[none]

## Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **time-interval** [top]

Time interval in seconds Range : [0..2^32-1].

[none]

## Element definition: **true-false** [top]

True/False

[none]

## Element definition: **vscan-config-owner** [top]

Configuration owner Possible values:

- "vserver" - Vserver Admin,
- "cluster" - Cluter Admin

[none]

# Element definition: **vscan-disconnect-reason**

[top]

reason Possible values:

- "na" - Not applicable,
- "vscan_disabled" - Vscan disabled on the vserver,
- "no_data_lif" - Vserver does not have data lif on the node,
- "session_uninitialized" - Session not initialized,
- "remote_closed" - Closure from Server,
- "invalid_protocol_msg" - Invalid protocol-message received,
- "invalid_session_id" - Invalid session-id received,
- "inactive_connection" - No activity on connection,
- "invalid_user" - Connection request by invalid user,
- "server_removed" - Server removed from the active scanner-pool

[none]

# Element definition: **vscan-event-type**

[top]

Type of the event generated by the cluster. Possible values:

- "scanner_connected" - Scanner connected,
- "scanner_disconnected" - Scanner disconnected,
- "scanner_updated" - Scanner updated,
- "scan_internal_error" - Internal error,
- "scan_failed" - Scan failed,
- "scan_timedout" - Scan timed out,
- "file_infected" - File is infected,
- "file_renamed" - File is renamed after found infected,
- "file_quarantined" - File is quarantined after found infected,
- "file_deleted" - File is deleted after found infected,
- "scanner_busy" - Scanner is busy

[none]

# Element definition: **vscan-od-log-level**

[top]

Log level for the On-Demand report. Possible values:

- "verbose" - Report file will contain verbose logs for each file found in the scan-path.,
- "info" - Report file will contain info and error logs.,
- "error" - Report file will contain only error logs.

[none]

# Element definition: **vscan-scanner-type**

[top]

Server type Possible values:

- "primary" - Primary,
- "backup" - Backup

[none]

# Element definition: **vscan-server-status**

[top]

Status Possible values:

- "disconnected" - Disconnected,
- "disconnecting" - Disconnecting,
- "connecting" - Connecting,
- "connected" - Connected

[none]

# APIs in Category: **vserver**


vserver-add-aggregates
vserver-add-protocols
vserver-config-diff-get
vserver-config-diff-get-iter
vserver-create
vserver-create-async
vserver-data-policy-export
vserver-data-policy-import
vserver-data-policy-validation-get-error
vserver-destroy
vserver-destroy-async
vserver-get
vserver-get-iter
vserver-http-proxy-create
vserver-http-proxy-delete
vserver-http-proxy-get
vserver-http-proxy-get-iter
vserver-http-proxy-modify
vserver-login-banner-get
vserver-login-banner-get-iter
vserver-login-banner-modify
vserver-login-banner-modify-iter
vserver-modify
vserver-modify-iter
vserver-motd-get
vserver-motd-get-iter
vserver-motd-modify
vserver-motd-modify-iter
vserver-protect-precheck
vserver-protect-precheck-dp-support
vserver-protect-precheck-network
vserver-protect-precheck-vge-support
vserver-remove-aggregates
vserver-remove-protocols
vserver-rename
vserver-rename-async
vserver-san-purge
vserver-san-purge-verify
vserver-show-aggr-get-iter
vserver-start
vserver-stop
vserver-unlock


## vserver-add-aggregates

[top]

Add aggregates to the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] | Specifies a list of aggregates to be added to the Vserver. The root aggregates should not be specified in this list because though the command will return success, volumes cannot be created on root aggregates. In a MetroCluster configuration, this command does not honor the remote cluster's aggregates. |
| **vserver-name** | | string | Specifies the name of the Vserver for which aggregates are to be added. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# vserver-add-protocols

[top]

add protocols to the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **protocols** | | protocol[] | Is the list of protocols to be added to the vserver specified. Possible values are: 'nfs', 'cifs', 'fcp', 'iscsi', and 'ndmp'. |
| **vserver-name** | | string | Specifies the name of the Vserver on which the given set of protocols are allowed. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVER_OPERATION_SUPPORTED_ONLY_ON_DATA_TYPE_VSERVER** | |
| **EVSERVER_CANNOT_DELETE_SYNC_DESTINATION_IN_INITIALIZING_STATE** | |
| **E_NVMF_REPL_NOT_SUPPORTED** | |
| **E_NVMF_EXCLUSIVE_VSERVER** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# vserver-config-diff-get

[top]

Provides the differences in attributes of a specified configuration instance between two Vservers in DR relationship, including MetroCluster. This helps in verifying if the configuration of interest is replicated correctly from source Vserver to destination Vserver. If the source configuration matches that of destination, EOBJECTNOTFOUND is returned, indicating that the difference is nil. This API can be invoked on the source cluster or destination cluster. Note: The configuration objects replicated as part

of Vserver DR and their keys can potentially change from release to release. If a program has opted to use those as inputs for selection, it may have to be adjusted for updated versions of Data ONTAP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | config-diff-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination-vserver-name** | | string | Name of destination Vserver |
| **instance** | **[0..2^32-1]** | integer optional | The count of object instance |
| **keys** | | key-value-pair[] | List of key:value pairs of the specific configuration instance compared - for example, volume:vol1 |
| **object** | | string | The Vserver configuration object compared - for example, volume |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | config-diff-info | The attributes of the vserver. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |

# vserver-config-diff-get-iter

[top]

Provides the differences in configuration between Vservers in DR relationship, including MetroCluster. If an object is not specified, the differences for all replicated objects are shown. If Vserver is not specified, the differences for all Vservers in the cluster, which are in DR relationship are returned. This API helps in verifying if the configuration of interest is replicated correctly from source Vserver to destination Vserver. If the source configuration matches that of destination, EOBJECTNOTFOUND is returned, indicating that the difference is nil. This API can be invoked on the source cluster or destination cluster. Note: The configuration objects replicated as part of Vserver DR and their keys can potentially change from release to release. If a program has opted to use those as inputs for selection, it may have to be adjusted for updated versions of Data ONTAP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | config-diff-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | config-diff-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver object. All vserver objects matching this query up to 'max-records' will be returned. |
| **tag** | | string | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' |

| | | | |
|---|---|---|---|
| | | optional | obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | config-diff-info[] optional | The list of attributes of vserver objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vserver objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |

# vserver-create

[top]

This command is deprecated and may be removed in future releases of Data ONTAP. To create Vserver use API vserver-create-async. Create a new Vserver. Use a fully qualified domain name(FQDN) - for example, 'data.example.com' - for the Vserver name to reduce name collisions in cluster leagues.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **anti-ransomware-default-volume-state** | | vserver-anti-ransomware-state optional | The default anti_ransomware state on new volume create Possible values:<br>• "disabled" ,<br>• "enabled" ,<br>• "dry_run" |
| **antivirus-on-access-policy** | | antivirus-policy optional | {Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default |
| **caching-policy** | | string optional | The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are:<br>• none - Does not cache any user data or metadata blocks.<br>• auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks.<br>• meta - Read caches only metadata blocks.<br>• random_read - Read caches all metadata and randomly read user data blocks.<br>• random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.<br>• all_read - Read caches all metadata, randomly read and sequentially read user data blocks.<br>• all_read_random_write - Read caches all metadata, |

| | | | |
|---|---|---|---|
| | | | randomly read, sequentially read and randomly written user data.<br>• all - Read caches all data blocks read and written. It does not do any write caching.<br><br>Default caching-policy is auto. |
| **comment** | | string<br>optional | Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. |
| **ipspace** | | string<br>optional | IPspace name. The default value is 'Default' |
| **is-repository-vserver** | | boolean<br>optional | This parameter is no longer supported as of ONTAP 9.5.0. If you are using Infinite Volumes it is recommended that you do not upgrade the cluster to a release that is later than Data ONTAP 9.3.0.<br><br>Specifies if this Vserver is a Vserver with Infinite Volume. When part of vserver-get-iter call, this will return the list of matching Vservers. Default value is false.<br><br>Prior to Data ONTAP 8.2.0, Vserver with Infinite Volume is called repository Vserver and once a repository Vserver is created in a cluster, additional Vservers cannot be created. Conversely, a repository Vserver cannot be created if non-repository Vservers already exist in a cluster. |
| **is-space-enforcement-logical** | | boolean<br>optional | Whether to perform logical space accounting on new volume create |
| **is-space-reporting-logical** | | boolean<br>optional | Whether to report space logically on new volume create |
| **language** | | language-code<br>optional | Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP. |
| | | | Name Mapping switch configuration details for the Vserver. When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. |

| | | | |
|---|---|---|---|
| **name-mapping-switch** | | nmswitch[] optional | 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name mapping switch order. Possible values:<br>• "file" ,<br>• "ldap" |
| **name-server-switch** | | nsswitch[] optional | Name Server switch configuration details for the Vserver. Possible values: 'nis', 'file', 'ldap'. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name server switch order. Possible values:<br>• "nis" ,<br>• "file" ,<br>• "ldap" |
| **quota-policy** | | string optional | Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a Vserver with Infinite Volume. default: default |
| **return-record** | | boolean optional | If set to true, returns the vserver on successful creation. Default: false |
| **root-volume** | | volume-name optional | Root volume of the Vserver. Optional field for 'default' Vserver. Not allowed for creation of a 'dp-destination' Vserver. If not specified, the system will choose a default name for the root volume based on the Vserver name. |
| **root-volume-aggregate** | | aggr-name optional | The aggregate on which the root volume will be created. Optional field for creating a default Vserver. If this field is not provided, the most appropriate aggregate will be selected. Not allowed for creation of a dp-destination Vserver. Creating a root volume on a SnapLock aggregate is not supported. |
| **root-volume-security-style** | | security-style-enum optional | Security Style of the root volume. Optional field for creating a default Vserver. Not allowed for creation of a dp-destination Vserver. When specified as part of the vserver-create, this field represents the security style for the Vserver root volume. When specified as part of vserver-get-iter call, this will return the list of matching Vservers. Possible values: 'unix', 'ntfs', 'mixed'. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to a Vserver's root volume. Default value is 'unix'. Possible values:<br>• "unix" - NFS,<br>• "ntfs" - CIFS,<br>• "mixed" - Mixed,<br>• "unified" - Unified |
| **snapshot-policy** | | snapshot-policy optional | Default snapshot policy setting for all volumes of the Vserver. This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this |

| | | | |
|---|---|---|---|
| | | | will return the list of matching Vservers. default: default |
| **vserver-name** | | string | Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name |
| **vserver-subtype** | | string optional | Vserver Subtype. This option allows the admin to specify the sub-type of Vserver being created. The possible options for this value are:<br>• default<br>• dp_destination<br>• sync_source<br>• sync_destination<br>If a Vserver is an MCC destination, then it would have the sub-type sync-source. Vserver of sub-type sync-destination cannot be explicitly created by the admin. When a Vserver of sub-type dp-destination is created, most of the management activities are not allowed. Default value is default. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | vserver-info optional | The vserver created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNAMEEXISTS** | |
| **EINVALIDINPUTERROR** | |
| **E_CANNOT_CREATE_PEERED_VSERVER** | |
| **E_VSERVER_CREATE_NONCONFIGURABLE_OPTIONS** | |
| **EVSERVER_REPOSITORY_VSERVER_QUOTA_POLICY_UNSUPPORTED** | |
| **EIPSPACEDOESNOTEXIST** | |
| **EVSERVER_CANNOT_BELONG_TO_IPSPACE** | |
| **EVSERVER_NSSWITCH_MANDATORY** | |
| **EVSERVER_SYSTEM_VSERVER_EXISTS** | |
| **EVSERVER_CANT_END_WITH_MC** | |
| **EVSERVER_WITH_INFINITE_VOLUMES_NOT_SUPPORTED_IN_MCC_CONFIGURATION** | |
| **EVSERVER_SUBTYPE_NOT_SUPPORTED** | |
| **EVSERVER_SNAPLOCK_AGGR_ROOT_VOLUME** | |
| **EVSERVER_CREATE_FAIL_AGGR_UNKNOWN** | |

# vserver-create-async

[top]

Create a new Vserver asynchronously. The progress of the operation can be monitored using job-get-iter API. Use a fully qualified domain name(FQDN) - for example, 'data.example.com' - for the Vserver name to reduce name collisions in cluster leagues.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **anti-ransomware-default-volume-state** | | vserver-anti-ransomware-state optional | The default anti_ransomware state on new volume create Possible values:<br>• "disabled" ,<br>• "enabled" ,<br>• "dry_run" |
| **antivirus-on-access-policy** | | antivirus-policy optional | {Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default |
| **caching-policy** | | string optional | The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are:<br>• none - Does not cache any user data or metadata blocks.<br>• auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks.<br>• meta - Read caches only metadata blocks.<br>• random_read - Read caches all metadata and randomly read user data blocks.<br>• random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.<br>• all_read - Read caches all metadata, randomly read and sequentially read user data blocks.<br>• all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data.<br>• all - Read caches all data blocks read and written. It does not do any write caching.<br><br>Default caching-policy is auto. |
| **comment** | | string optional | Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. |
| **ipspace** | | string optional | IPspace name. The default value is 'Default' |
| **is-repository-vserver** | | boolean optional | This parameter is no longer supported as of ONTAP 9.5.0. If you are using Infinite Volumes it is recommended that you do not upgrade the cluster to a release that is later than Data ONTAP 9.3.0.<br><br>Specifies if this Vserver is a Vserver with Infinite Volume. When part of vserver-get-iter call, this will return the list of matching Vservers. Default value is false.<br><br>Prior to Data ONTAP 8.2.0, Vserver with Infinite Volume is called repository Vserver and once a repository Vserver is created in a cluster, additional Vservers cannot be created. Conversely, a repository Vserver cannot be created if non-repository Vservers already exist in a cluster. |
| **is-space-enforcement-logical** | | boolean optional | Whether to perform logical space accounting on new volume create |

| | | | |
|---|---|---|---|
| **is-space-reporting-logical** | | boolean optional | Whether to report space logically on new volume create |
| **language** | | language-code optional | Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP. |
| **name-mapping-switch** | | nmswitch[] optional | Name Mapping switch configuration details for the Vserver. When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name mapping switch order. Possible values:<br>• "file" ,<br>• "ldap" |
| **name-server-switch** | | nsswitch[] optional | Name Server switch configuration details for the Vserver. Possible values: 'nis', 'file', 'ldap'. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name server switch order. Possible values:<br>• "nis" ,<br>• "file" ,<br>• "ldap" |
| **quota-policy** | | string optional | Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a |

| | | | |
|---|---|---|---|
| | | | Vserver with Infinite Volume. default: default |
| **root-volume** | | volume-name optional | Root volume of the Vserver. Optional field for 'default' Vserver. Not allowed for creation of a 'dp-destination' Vserver. If not specified, the system will choose a default name for the root volume based on the Vserver name. |
| **root-volume-aggregate** | | aggr-name optional | The aggregate on which the root volume will be created. Optional field for creating a default Vserver. If this field is not provided, the most appropriate aggregate will be selected. Not allowed for creation of a dp-destination Vserver. Creating a root volume on a SnapLock aggregate is not supported. |
| **root-volume-security-style** | | security-style-enum optional | Security Style of the root volume. Optional field for creating a default Vserver. Not allowed for creation of a dp-destination Vserver. When specified as part of the vserver-create, this field represents the security style for the Vserver root volume. When specified as part of vserver-get-iter call, this will return the list of matching Vservers. Possible values: 'unix', 'ntfs', 'mixed'. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to a Vserver's root volume. Default value is 'unix'. Possible values:<br>• "unix" - NFS,<br>• "ntfs" - CIFS,<br>• "mixed" - Mixed,<br>• "unified" - Unified |
| **snapshot-policy** | | snapshot-policy optional | Default snapshot policy setting for all volumes of the Vserver. This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default |
| **vserver-name** | | string | Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name |
| **vserver-subtype** | | string optional | Vserver Subtype. This option allows the admin to specify the sub-type of Vserver being created. The possible options for this value are:<br>• default<br>• dp_destination<br>• sync_source<br>• sync_destination<br><br>If a Vserver is an MCC destination, then it would have the sub-type sync-source. Vserver of sub-type sync-destination cannot be explicitly created by the admin. When a Vserver of sub-type dp-destination is created, most of the management activities are not allowed. Default value is default. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | vserver-info optional | The vserver created (keys or the entire object if requested) |
| | | | |

| | | | |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | The ID of the job that was spawned to create this vserver. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNAMEEXISTS** | |
| **EINVALIDINPUTERROR** | |
| **E_CANNOT_CREATE_PEERED_VSERVER** | |
| **E_VSERVER_CREATE_NONCONFIGURABLE_OPTIONS** | |
| **EVSERVER_REPOSITORY_VSERVER_QUOTA_POLICY_UNSUPPORTED** | |
| **EIPSPACEDOESNOTEXIST** | |
| **EVSERVER_CANNOT_BELONG_TO_IPSPACE** | |
| **EVSERVER_NSSWITCH_MANDATORY** | |
| **EVSERVER_SYSTEM_VSERVER_EXISTS** | |
| **EVSERVER_CANT_END_WITH_MC** | |
| **EVSERVER_WITH_INFINITE_VOLUMES_NOT_SUPPORTED_IN_MCC_CONFIGURATION** | |
| **EVSERVER_SUBTYPE_NOT_SUPPORTED** | |
| **EVSERVER_SNAPLOCK_AGGR_ROOT_VOLUME** | |

# vserver-data-policy-export

[top]

This API is no longer supported as of ONTAP 9.5.0.

Export a data policy for a Vserver with an Infinite Volume. The data policy is exported as a JSON string. For a description of the JSON format, please refer to the Clustered Data ONTAP Infinite Volumes Management Guide.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **data-policy-expression** | | string | Data-policy JSON expression. A JSON string, XML escaped and UTF8 encoded. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNOTFOUND** | |

# vserver-data-policy-import

[top]

This API is no longer supported as of ONTAP 9.5.0.

Import a data policy for a Vserver with an Infinite Volume. The data policy is imported as a JSON string. For a description of the required JSON format, please refer to the Clustered Data ONTAP Infinite Volumes Management Guide.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **data-policy-expression** | | string | Data-policy JSON expression. A JSON string with a maximum length of 50 MB. The string should be XML escaped and use the same encoding as the XML document of which it is a part (UTF8 for APIs). |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNOTFOUND** | |
| **EDATAPOLICY_VALIDATION_ERROR** | |

# vserver-data-policy-validation-get-error

[top]

This API is no longer supported as of ONTAP 9.5.0.

Validate without importing a data policy for a Vserver with an Infinite Volume. The data policy needs to be specified as a JSON string. For a description of the required JSON format, please refer to the Clustered Data ONTAP Infinite Volumes Management Guide.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **expression** | | string | Data-policy JSON expression. A JSON string with a maximum length of 50 MB. The string should be XML escaped and use the same encoding as the XML document of which it is a part (UTF8 for APIs). |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNOTFOUND** | |
| **EDATAPOLICY_VALIDATION_ERROR** | |

# vserver-destroy

[top]

This command is deprecated and may be removed in future releases of Data ONTAP. To delete Vserver use API vserver-destroy-async. Destroys the Vserver and its objects. All volumes and mirrors belonging to the Vserver must be deleted using other APIs before destroying the Vserver. EVOLEXISTS is returned if the Vserver is found to have any volumes or mirrors. This APIS removes all other objects of this Vserver including its network Interfaces, routes, configurations, admin login accounts and roles.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **vserver-name** | | string | Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a |

| | | | |
|---|---|---|---|
| | | | reserved name and should not be used as a Vserver name |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EOPNOTSUPPORTED** | |
| **EVOLEXISTS** | |
| **EINVALIDINPUTERROR** | |
| **E_CANNOT_DELETE_PEERED_VSERVER** | |
| **EVSERVER_CANT_LOOKUP_CIFS_SERVER** | |
| **EVSERVER_REMOVE_CIFS_SERVER_WITH_AD** | |
| **EVSERVER_CANT_LOOKUP_AD_ACCOUNT** | |
| **EVSERVER_CANT_REMOVE_AD_ACCOUNT** | |
| **EVSERVER_OPERATION_UNSUPPORTED_ON_SYSTEM_VSERVER** | |

# vserver-destroy-async

[top]

Destroys the Vserver and its objects asynchronously. The progress of the operation can be monitored using job-get-iter API. All volumes and mirrors belonging to the Vserver must be deleted using other APIs before destroying the Vserver. EVOLEXISTS is returned if the Vserver is found to have any volumes or mirrors. This APIS removes all other objects of this Vserver including its network Interfaces, routes, configurations, admin login accounts and roles.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **vserver-name** | | string | Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EOPNOTSUPPORTED** | |
| **EVOLEXISTS** | |
| **EINVALIDINPUTERROR** | |
| **E_CANNOT_DELETE_PEERED_VSERVER** | |

| | |
|---|---|
| **EVSERVER_CANT_LOOKUP_CIFS_SERVER** | |
| **EVSERVER_REMOVE_CIFS_SERVER_WITH_AD** | |
| **EVSERVER_CANT_LOOKUP_AD_ACCOUNT** | |
| **EVSERVER_CANT_REMOVE_AD_ACCOUNT** | |
| **EVSERVER_OPERATION_UNSUPPORTED_ON_SYSTEM_VSERVER** | |

# vserver-get

[top]

Get the attributes of the Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vserver-info | The attributes of the vserver. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# vserver-get-iter

[top]

Display information about Vservers. Information about Admin Vserver, Node Vserver, and Cluster Vservers is displayed. If the ZAPI is issued to the Cluster LIF with no Vserver specified as input, then information about all Vservers is shown. If the request is sent to the Vserver LIF, then information about that Vserver is shown.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vserver-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver object. All vserver objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **attributes-list** | | vserver-info[] optional | The list of attributes of vserver objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vserver objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# vserver-http-proxy-create

[top]

Create a new HTTP proxy configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string optional | Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter. |
| **is-auth-enabled** | | boolean optional | Specifies whether authentication is required for the HTTP proxy. By default it is set to false. |
| **password** | | string optional | Specifies the password for the username to authenticate with the HTTP proxy when authentication is enabled. |
| **port** | **[1..65535]** | integer | Specifies the port number on which the HTTP proxy service is configured for the server. |
| **server** | | string | Specifies the HTTP proxy hostname or IP address. |
| **skip-config-validation** | | boolean optional | Skip the config validation |
| **username** | | string optional | Specifies the username to authenticate with the HTTP proxy when authentication is enabled. |
| **vserver** | | vserverid optional | Specifies the vserver for which the HTTP proxy should be configured. This parameter is mutually exclusive with ipsapce parameter. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# vserver-http-proxy-delete

[top]

Remove the proxy configuration for the specified Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string optional | Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter. |

| | | | |
|---|---|---|---|
| **vserver** | | vserverid optional | Specifies the vserver for which the HTTP proxy should be configured. This parameter is mutually exclusive with ipsapce parameter. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# vserver-http-proxy-get

[top]

Get the HTTP proxy configuration of the Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | http-proxy optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **ipspace** | | string optional | Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | http-proxy | The attributes of the http-proxy. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# vserver-http-proxy-get-iter

[top]

Get the HTTP proxy configuration of the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | http-proxy optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | http-proxy optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the http-proxy object. All http-proxy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | http-proxy[] optional | The list of attributes of http-proxy objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more http-proxy objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# vserver-http-proxy-modify

[top]

Modify the proxy configuration for the specified Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string optional | Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter. |
| **is-auth-enabled** | | boolean optional | Specifies whether authentication is required for the HTTP proxy. By default it is set to false. |
| **password** | | string optional | Specifies the password for the username to authenticate with the HTTP proxy when authentication is enabled. |
| **port** | | integer optional | Specifies the port number on which the HTTP proxy service is configured for the server. |
| **server** | | string optional | Specifies the HTTP proxy hostname or IP address. |
| **skip-config-validation** | | boolean optional | Skip the config validation |
| **username** | | string optional | Specifies the username to authenticate with the HTTP proxy when authentication is enabled. |
| **vserver** | | vserverid optional | Specifies the vserver for which the HTTP proxy should be configured. This parameter is mutually exclusive with ipsapce parameter. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# vserver-login-banner-get

[top]

Return the login banner message. This message is displayed during SSH and console device login, just before the password prompt is, or would be, displayed. There is a cluster-wide default login banner that is used for every incoming connection regardless of LIF type. Each data Vserver can over-ride this default.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-login-banner-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vserver-login-banner-info | The attributes of the vserver-login-banner. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# vserver-login-banner-get-iter

[top]

Return the specified login banner. See the description for the non-iter API for details.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-login-banner-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vserver-login-banner-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-login-banner object. All vserver-login-banner objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vserver-login-banner-info[] optional | The list of attributes of vserver-login-banner objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vserver-login-banner objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# vserver-login-banner-modify

[top]

Modify the login banner message. This message is displayed during SSH and console device login, just before the password prompt is, or would be, displayed. There is a cluster-wide default login banner that is used for every incoming connection regardless of LIF type. Each data Vserver can over-ride this default. To restore the default for a data Vserver, set the message to '-'.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **message** | | string optional | The login banner message. Maximum byte length for modify: 2048. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# vserver-login-banner-modify-iter

[top]

Modify the login banner message. This message is displayed during SSH and console device login, just before the password prompt is, or would be, displayed. There is a cluster-wide default login banner that is used for every incoming connection regardless of LIF type. Each data Vserver can over-ride this default. To restore the default for a data Vserver, set the message to '-'.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple vserver-login-banner objects match a given query. If set to true, the API will continue with the next matching vserver-login-banner even when the operation fails for the vserver-login-banner. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching vserver-login-banner even when the operation on a previous matching vserver-login-banner fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of vserver-login-banner objects to be operated in this call. Default: 20 |
| **message** | | string optional | The login banner message. Maximum byte length for modify: 2048. |
| **query** | | vserver-login-banner-info | If operating on a specific vserver-login-banner, this input element must specify all keys. If operating on vserver-login-banner objects based on query, this input element must specify a query. |

| | | | |
|---|---|---|---|
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of vserver-login-banner objects (just keys) that were not operated on due to some error. If set to false, the list of vserver-login-banner objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of vserver-login-banner objects (just keys) that were successfully operated on. If set to false, the list of vserver-login-banner objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | vserver-login-banner-modify-iter-info[] optional | Information about vserver-login-banner objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching vserver-login-banner objects to be operated on. |
| **num-failed** | [0..2^32-1] | integer optional | The number of vserver-login-banner objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | [0..2^32-1] | integer optional | The number of vserver-login-banner objects that matched the query and were successfully processed. |
| **success-list** | | vserver-login-banner-modify-iter-info[] optional | The vserver-login-banner objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# vserver-modify

[top]

Modify the attributes of vserver object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] optional | List of aggregates assigned for volume operations. These aggregates could be shared for use with other Vservers. When specified as part of a vserver-create, this field represents the list of aggregates that are assigned to the Vserver for volume operations. When part of vserver-get-iter call, this will return the list of Vservers which have any of the aggregates specified as part of the aggr-list. |
| | | | Allowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols allowed on the Vserver. |

| | | | |
|---|---|---|---|
| **allowed-protocols** | | protocol[] optional | When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the allowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Possible values:<br>• "nfs" - NFS protocol,<br>• "cifs" - CIFS protocol,<br>• "fcp" - FCP protocol,<br>• "iscsi" - iSCSI protocol,<br>• "ndmp" - NDMP protocol,<br>• "http" - HTTP protocol,<br>• "nvme" - NVMe over Fabrics protocol,<br>• "s3" - S3 protocol |
| **anti-ransomware-default-volume-state** | | vserver-anti-ransomware-state optional | The default anti_ransomware state on new volume create Possible values:<br>• "disabled" ,<br>• "enabled" ,<br>• "dry_run" |
| **antivirus-on-access-policy** | | antivirus-policy optional | {Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default |
| **caching-policy** | | string optional | The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are:<br>• none - Does not cache any user data or metadata blocks.<br>• auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks.<br>• meta - Read caches only metadata blocks.<br>• random_read - Read caches all metadata and randomly read user data blocks.<br>• random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.<br>• all_read - Read caches all metadata, randomly read and sequentially read user data blocks.<br>• all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data.<br>• all - Read caches all data blocks read and written. It does not do any write caching.<br><br>Default caching-policy is auto. |
| **comment** | | string optional | Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. |
| | | | Disallowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols not allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as |

| | | | |
|---|---|---|---|
| **disallowed-protocols** | | protocol[] optional | part of the disallowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Possible values:<br>• "nfs" - NFS protocol,<br>• "cifs" - CIFS protocol,<br>• "fcp" - FCP protocol,<br>• "iscsi" - iSCSI protocol,<br>• "ndmp" - NDMP protocol,<br>• "http" - HTTP protocol,<br>• "nvme" - NVMe over Fabrics protocol,<br>• "s3" - S3 protocol |
| **is-space-enforcement-logical** | | boolean optional | Whether to perform logical space accounting on new volume create |
| **is-space-reporting-logical** | | boolean optional | Whether to report space logically on new volume create |
| **language** | | language-code optional | Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP. |
| **max-volumes** | | string optional | Maximum number of volumes that can be created on the Vserver. When specified as part of a vserver-create, this field represents the maximum number of volumes that can be created on the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. |
| **name-mapping-switch** | | nmswitch[] optional | Name Mapping switch configuration details for the Vserver. When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get- |

| | | | |
|---|---|---|---|
| | | | iter' APIs must be used to fetch the currently configured name mapping switch order. Possible values:<br>• "file" ,<br>• "ldap" |
| **name-server-switch** | | nsswitch[] optional | Name Server switch configuration details for the Vserver. Possible values: 'nis', 'file', 'ldap'. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name server switch order. Possible values:<br>• "nis" ,<br>• "file" ,<br>• "ldap" |
| **qos-policy-group** | | string optional | The QoS policy group associated with this volume. This optionally specifies which QoS policy group to apply to the Vserver. The policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a Vserver, the system will not monitor and control traffic to it. This parameter is not supported on a Vserver with Infinite Volume. |
| **quota-policy** | | string optional | Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a Vserver with Infinite Volume. default: default |
| **snapshot-policy** | | snapshot-policy optional | Default snapshot policy setting for all volumes of the Vserver. This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default |
| **state** | | vsadminstate optional | State of the Virtual Server. This field, together with the operational state, determines the data serving ability of a Vserver Possible values:<br>• "running" ,<br>• "stopped" ,<br>• "starting" ,<br>• "stopping" ,<br>• "initializing" ,<br>• "deleting" |
| **volume-delete-retention-hours** | **[0..2^32-1]** | integer optional | The number of hours that a deleted volume should be retained before the delete is completed |
| **vserver-** | | string | Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the |

| | | | |
|---|---|---|---|
| **name** | | | Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **E_QOS_NO_SUCH_PG** | |
| **E_QOS_OBJECT_OVERLAP_ERROR** | |
| **E_QOS_TOO_MANY_USER_WIDS** | |
| **E_QOS_VSERVERIZATION_VIOLATION_FOR_VS** | |

# vserver-modify-iter

[top]

Modify the attributes of vserver or a group of vserver objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vserver-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple vserver objects match a given query. If set to true, the API will continue modifying the next matching vserver even when modification of a previous vserver fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching vserver even when the modification of a previous matching vserver fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | vserver-info | If modifying a specific vserver, this input element must specify all keys. If modifying vserver objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of vserver objects (just keys) that were not modified due to some error. If set to false, the list of vserver objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of vserver objects (just keys) that were successfully updated. If set to false, the list of vserver objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **failure-list** | | vserver-modify-iter-info[] optional | Information about vserver objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching vserver objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of vserver objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of vserver objects that matched the query and were successfully updated. |
| **success-list** | | vserver-modify-iter-info[] optional | The vserver objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EINVALIDINPUTERROR** | |

# vserver-motd-get

[top]

Return the specified message of the day (MOTD). This message appears just before the clustershell prompt. The cluster Admin Vserver message will appear, then if the user is logging in as a Data Vserver admin, that Vserver's message will be printed. The cluster-level MOTD can be disabled for each Vserver using the configuration parameter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-motd-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vserver-motd-info | The attributes of the vserver-motd. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# vserver-motd-get-iter

[top]

Return the specified message of the day. See the description for the non-iter API for details.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-motd-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vserver-motd-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-motd object. All vserver-motd objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vserver-motd-info[] optional | The list of attributes of vserver-motd objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vserver-motd objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# vserver-motd-modify

[top]

Modify the message of the day (MOTD). This message appears just before the clustershell prompt. The cluster Admin Vserver message will appear, then if the user is logging in as a Data Vserver admin, that Vserver's message will be printed. The cluster-level MOTD can be disabled for each Vserver using the configuration parameter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-cluster-message-enabled** | | boolean optional | Is the display of the cluster message of the day (MOTD) enabled for this Vserver? This field cannot be modified in a data Vserver context (tunneled to a data Vserver). |
| **message** | | string optional | The message of the day (MOTD). Maximum byte length for modify: 2048. Newlines can be supplied as either LF or CRLF, but they will always be returned as LF. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **E_MOTD_CANNOT_UPDATE_IS_CLUSTER_MESSAGE_ENABLED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# vserver-motd-modify-iter

[top]

Modify the message of the day. See the description of the non-iter API for more information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple vserver-motd objects match a given query. If set to true, the API will continue with the next matching vserver-motd even when the operation fails for the vserver-motd. If set to false, the API will return on the first failure. Default: false |
| **is-cluster-message-enabled** | | boolean optional | Is the display of the cluster message of the day (MOTD) enabled for this Vserver? This field cannot be modified in a data Vserver context (tunneled to a data Vserver). |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching vserver-motd even when the operation on a previous matching vserver-motd fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of vserver-motd objects to be operated in this call. Default: 20 |
| **message** | | string optional | The message of the day (MOTD). Maximum byte length for modify: 2048. Newlines can be supplied as either LF or CRLF, but they will always be returned as LF. |
| **query** | | vserver-motd-info | If operating on a specific vserver-motd, this input element must specify all keys. If operating on vserver-motd objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of vserver-motd objects (just keys) that were not operated on due to some error. If set to false, the list of vserver-motd objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of vserver-motd objects (just keys) that were successfully operated on. If set to false, the list of vserver-motd objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | vserver-motd-modify-iter-info[] optional | Information about vserver-motd objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching vserver-motd objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of vserver-motd objects that matched the query, but were not operated on due some error. |
| **num-** | **[0..2^32-** | integer | The number of vserver-motd objects that matched the query and |

| | | | |
|---|---|---|---|
| **succeeded** | **1]** | optional | were successfully processed. |
| **success-list** | | vserver-motd-modify-iter-info[] optional | The vserver-motd objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **E_MOTD_CANNOT_UPDATE_IS_CLUSTER_MESSAGE_ENABLED** | |

# vserver-protect-precheck

[top]

Check source vserver for creating svmdr Relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | uuid | Specifies Uuid of the peer Cluster. |
| **vserver-name** | | string | Vserver |
| **vserver-uuid** | | uuid | Vserver UUID |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **precheck-success** | | boolean | was the precheck successful |
| **svmdr-precheck-error-codes** | **[0..2^32-1]** | integer[] | Validation Error Codes |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ENOTCLUSTERED** | |
| **E_VSERVERDR_PRECHECK_FAILURE_ERROR** | |

# vserver-protect-precheck-dp-support

[top]

Check source cluster for creating svmdr Relationship of type DP

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | uuid | Specifies Uuid of the peer Cluster. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean | was the precheck successful |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ENOTCLUSTERED** | |
| **EVSERVERNOTFOUND** | |

| Errno | Description |
|---|---|
| **E_VSERVERDR_PRECHECK_ECV_BELOW_9_5_0** | |

# vserver-protect-precheck-network

[top]

Check source vserver lif placement for creating svmdr Relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | uuid | Specifies Uuid of the peer Cluster. |
| **ipspace** | | string | IPsapce of the destination vserver |
| **peer-cluster-uuid** | | uuid | Peer cluster UUID |
| **vserver-name** | | string | Vserver |
| **vserver-uuid** | | uuid | Vserver UUID |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ENOTCLUSTERED** | |
| **EVSERVERNOTFOUND** | |
| **E_VSERVERDR_NETWORK_PRECHECK_ERROR** | |
| **E_VSERVERDR_NETWORK_PRECHECK_FAILURE_ERROR** | |
| **E_VSERVERDR_PRECHECK_ECV_BELOW_9_5_0** | |

# vserver-protect-precheck-vge-support

[top]

Check source cluster for creating svmdr Relationship of type DP

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | uuid | Specifies Uuid of the peer Cluster. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean | was the precheck successful |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# vserver-remove-aggregates

[top]

Remove aggregates from the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] | Specifies a list of aggregates to be removed from Vserver. |
| **vserver-name** | | string | Specifies the name of the Vserver from which aggregates are to be removed. |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# vserver-remove-protocols

[top]

remove protocols from the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| protocols | | protocol[] | Is the list of protocols to be removed from the vserver specified. Possible values are: 'nfs', 'cifs', 'fcp', 'iscsi', and 'ndmp'. |
| vserver-name | | string | Specifies the name of the Vserver on which the given set of protocols are not allowed. |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |
| EINTERNALERROR | |
| EOPNOTSUPPORTED | |
| EINVALIDINPUTERROR | |
| EVSERVER_OPERATION_SUPPORTED_ONLY_ON_DATA_TYPE_VSERVER | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# vserver-rename

[top]

Rename a Vserver. Use a fully qualified domain name(FQDN) - for example, 'data.example.com' - for the Vserver name to reduce name collisions in cluster leagues. This operation is not supported for a node Vserver. Use the 'system-node-rename' API to rename a node Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| new-name | | string | New Vserver name (Use Fully Qualified Domain Name, For example: data.example.com) |
| vserver-name | | string | Vserver |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |
| EINTERNALERROR | |
| EVSERVERNAMEEXISTS | |
| EINVALIDINPUTERROR | |
| E_CANNOT_RENAME_PEERED_VSERVER | |
| EOPNOTSUPPORTED | |

| | |
|---|---|
| **EVSERVER_OPERATION_SUPPORTED_ONLY_ON_DATA_TYPE_VSERVER** | |
| **EVSERVER_CANT_END_WITH_MC** | |
| **EVSERVER_RENAME_FAILED** | |
| **EVSERVER_RENAME_VSERVER_NAME_CONFLICT_ON_REMOTE_CLUSTER** | |
| **EVSERVER_RENAME_PEER_CLUSTER_NOT_CAPABLE** | |
| **EVSERVER_RENAME_FAILED_COMMUNICATE_WITH_PEER_CLUSTER** | |
| **EVSERVER_RENAME_CANT_RENAME_VSERVER_ON_REMOTE_CLUSTER** | |
| **EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED** | |
| **EVSERVER_RENAME_FAILED_TO_UPDATE_PEER_VSERVER_NAME** | |
| **EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED_LOCAL** | |
| **E_VSERVERPEER_UNIQUE_CANT_RENAME_TO_VSERVER_IN_PEERED** | |
| **E_DUPLICATE_PEER_VSERVER_NAME_FILER** | |

# vserver-rename-async

[top]

Rename a Vserver asynchronously. Use a fully qualified domain name(FQDN) - for example, 'data.example.com' - for the Vserver name to reduce name collisions in cluster leagues. This operation is not supported for a node Vserver. Use the 'system-node-rename' API to rename a node Vserver. A job will be spawned to operate on the vserver and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-name** | | string | New Vserver name (Use Fully Qualified Domain Name, For example: data.example.com) |
| **vserver-name** | | string | Vserver |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNAMEEXISTS** | |
| **EINVALIDINPUTERROR** | |
| **E_CANNOT_RENAME_PEERED_VSERVER** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVER_OPERATION_SUPPORTED_ONLY_ON_DATA_TYPE_VSERVER** | |
| **EVSERVER_CANT_END_WITH_MC** | |
| **EVSERVER_RENAME_FAILED** | |
| **EVSERVER_RENAME_VSERVER_NAME_CONFLICT_ON_REMOTE_CLUSTER** | |
| **EVSERVER_RENAME_PEER_CLUSTER_NOT_CAPABLE** | |

| | |
|---|---|
| **EVSERVER_RENAME_FAILED_COMMUNICATE_WITH_PEER_CLUSTER** | |
| **EVSERVER_RENAME_CANT_RENAME_VSERVER_ON_REMOTE_CLUSTER** | |
| **EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED** | |
| **EVSERVER_RENAME_FAILED_TO_UPDATE_PEER_VSERVER_NAME** | |
| **EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED_LOCAL** | |
| **E_VSERVERPEER_UNIQUE_CANT_RENAME_TO_VSERVER_IN_PEERED** | |
| **E_DUPLICATE_PEER_VSERVER_NAME_FILER** | |

# vserver-san-purge

[top]

Purge SAN kernel cache for a Vserver. In Metrocluster configuration, if metrocluster switchback fails to clear the SAN kernel cache, the zapi can be issued to clear the SAN kernel cache.

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# vserver-san-purge-verify

[top]

Verify the SAN Kernel Agent on all nodes is unloaded for the specified Vserver.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **status** | | boolean | SAN Kernel Agent for the Vserver is unloaded or not |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# vserver-show-aggr-get-iter

[top]

Display list of aggregates owned by Vservers.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | show-aggregates optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | show-aggregates optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver show-aggregates object. All vserver show-aggregates objects matching this query up to 'max-records' will be returned. |
| | | string | Specify the tag from the last call. It is usually not specified for |

| | | | |
|---|---|---|---|
| **tag** | | optional | the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |
| **vserver** | | string optional | Vserver |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | show-aggregates[] optional | The list of attributes of vserver show-aggregates objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vserver show-aggregates objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# vserver-start

[top]

Start a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | In case of a MetroCluster configuration or Vserver disaster recovery, by using this parameter you can start a Vserver when it is locked (which prevents any configuration changes) or when its partner Vserver is operationally running. The default value for this parameter is false. |
| **vserver-name** | | string | Specifies the name of the Vserver to be started. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVERALREADYSTARTED** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNOTOPERATIONAL** | |
| **E_SAN_NOT_READY** | |

# vserver-stop

[top]

Stop a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Name of the Vserver. When specified as part of a vserver-create, this field |

| | | | |
|---|---|---|---|
| **vserver-name** | | string | represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVERNOTRUNNING** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNOTOPERATIONAL** | |
| **E_SAN_NOT_READY** | |

# vserver-unlock

[top]

Revoke the administrative lock on the Vserver configuration. When a Vserver is unlocked, configuration changes are permitted. A failure is returned if the Vserver is not locked by the administrator or if it is locked by internal applications. If the vserver lock remains due to an error condition, it can be forcefully removed by specifying the force option.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force unlock the Vserver which got locked as part of a DR event or an error condition. The default value for this parameter is false. |
| **vserver-name** | | string | Specifies the name of the Vserver to be unlocked. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVER_INTERNAL_CONFIG_LOCK** | |
| **EVSERVER_ALREADY_UNLOCKED** | |
| **EVSERVER_OPERATION_SUPPORTED_ON_ADMIN_AND_DATA_TYPE_VSERVER** | |

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **antivirus-policy**

[top]

Antivirus policy name

[none]

# Element definition: **config-diff-info**

[top]

Difference in configuration of an object instance. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **attribute-diff-list** | | attribute-info[] optional | The list of attributes that differ |
| **destination-vserver-name** | | string optional | Name of destination Vserver Attributes: key, non-creatable, non-modifiable |
| **destination-vserver-uuid** | | uuid optional | External UUID of destination Vserver Attributes: non-creatable, non-modifiable |
| **instance** | **[0..2^32-1]** | integer optional | The count of object instance Attributes: key, non-creatable, non-modifiable |
| **keys** | | key-value-pair[] optional | List of key:value pairs of the specific configuration instance compared - for example, volume:vol1 Attributes: key, non-creatable, non-modifiable |
| **object** | | string optional | The Vserver configuration object compared - for example, volume Attributes: key, non-creatable, non-modifiable |
| **skip-excluded-fields** | | boolean optional | Specifies whether to compare configuration attributes which are not explicitly replicated. Default is true. Attributes: non-creatable, non-modifiable |
| **source-vserver-name** | | string optional | Name of source Vserver Attributes: non-creatable, non-modifiable |
| **source-vserver-uuid** | | uuid optional | External UUID of source Vserver Attributes: non-creatable, non-modifiable |

# Element definition: **http-proxy**

[top]

HTTP Proxy Configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string optional | Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter. Attributes: optional-for-create, modifiable |
| **is-auth-enabled** | | boolean optional | Specifies whether authentication is required for the HTTP proxy. By default it is set to false. Attributes: required-for-create, modifiable |
| **password** | | string optional | Specifies the password for the username to authenticate with the HTTP proxy when authentication is enabled. Attributes: optional-for-create, modifiable |
| **port** | **[1..65535]** | integer optional | Specifies the port number on which the HTTP proxy service is configured for the server. Attributes: required-for-create, modifiable |
| **server** | | string optional | Specifies the HTTP proxy hostname or IP address. Attributes: required-for-create, modifiable |
| **username** | | string optional | Specifies the username to authenticate with the HTTP proxy when authentication is enabled. Attributes: optional-for-create, modifiable |
| **vserver** | | vserverid optional | Specifies the vserver for which the HTTP proxy should be configured. This parameter is mutually exclusive with ipsapce parameter. Attributes: key, non-creatable, non-modifiable |

# Element definition: **key-value-pair**

[top]

Key value pair in the format key:value

[none]

# Element definition: **language-code**

[top]

Language Code.

The following are the possible language codes along with their names:

- 'C' ... POSIX,
- 'ar' ... Arabic,
- 'cs' ... Czech,
- 'da' ... Danish,
- 'de' ... German,
- 'en' ... English,
- 'en_US' ... English (US),
- 'es' ... Spanish,
- 'fi' ... Finnish,
- 'fr' ... French,
- 'he' ... Hebrew,
- 'hr' ... Croatian,
- 'hu' ... Hungarian,
- 'it' ... Italian,

- 'ja' ... Japanese euc-j*,
- 'ja_v1' ... Japanese euc-j,
- 'ja_JP.PCK' ... Japanese PCK (sjis)*,
- 'ja_JP.932' ... Japanese cp932*,
- 'ja_JP.PCK_v2' ... Japanese PCK (sjis),
- 'ko' ... Korean,
- 'no' ... Norwegian,
- 'nl' ... Dutch,
- 'pl' ... Polish,
- 'pt' ... Portuguese,
- 'ro' ... Romanian,
- 'ru' ... Russian,
- 'sk' ... Slovak,
- 'sl' ... Slovenian,
- 'sv' ... Swedish,
- 'tr' ... Turkish,
- 'zh' ... Simplified Chinese,
- 'zh.GBK' ... Simplified Chinese (GBK),
- 'zh_TW' ... Traditional Chinese euc-tw,
- 'zh_TW.BIG5' ... Traditional Chinese Big 5

To use UTF-8 as the NFS character set, append '.UTF-8' to the language code.

[none]

# Element definition: **nmswitch**

[top]

file|ldap Possible values:

- "file" ,
- "ldap"

[none]

# Element definition: **nsswitch**

[top]

nis|file|ldap Possible values:

- "nis" ,
- "file" ,
- "ldap"

[none]

# Element definition: **protocol**

[top]

Vserver protocols. Possible values:

- "nfs" - NFS protocol,
- "cifs" - CIFS protocol,
- "fcp" - FCP protocol,
- "iscsi" - iSCSI protocol,
- "ndmp" - NDMP protocol,
- "http" - HTTP protocol,
- "nvme" - NVMe over Fabrics protocol,
- "s3" - S3 protocol

[none]

## Element definition: **security-style-enum**

[top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

## Element definition: **show-aggregates**

[top]

Show aggregates of the Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-name** | | aggr-name optional | Aggregate Attributes: key, non-creatable, non-modifiable |
| **aggregate-type** | | aggregatetype optional | Aggregate Type Attributes: non-creatable, non-modifiable Possible values:<br>• "hdd" - Aggregate consists of only HDDs,<br>• "hybrid" - Aggregate consists of both HDDs and SSDs,<br>• "lun" - Aggregate consists of array LUNs,<br>• "ssd" - Aggregate consists of only SSDs,<br>• "vmdisk" - Aggregate consists of only VMDISKs,<br>• "vmlun" - Aggregate consists of only VMLUNs,<br>• "vmlunssd" - Aggregate consists of only VMLUNs of type SSD |
| | | size | |

| | | | |
|---|---|---|---|
| **available-size** | | optional | Available Size Attributes: non-creatable, non-modifiable |
| **is-nve-capable** | | boolean optional | Is NVE Capable Attributes: non-creatable, non-modifiable |
| **snaplock-type** | | snaplocktype optional | Snaplock Type Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "non_snaplock" - Non SnapLock,<br>• "compliance" - SnapLock Compliance,<br>• "enterprise" - SnapLock Enterprise |
| **vserver-name** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **snapshot-policy**

[top]

Snapshot Policy

[none]

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **vsadminstate**

[top]

running|stopped|starting|stopping Possible values:

- "running" ,
- "stopped" ,
- "starting" ,
- "stopping" ,
- "initializing" ,
- "deleting"

[none]

# Element definition: **vserver-anti-ransomware-state**

[top]

disabled|dry-run Possible values:

- "disabled" ,
- "enabled" ,
- "dry_run"

[none]

# Element definition: **vserver-info**

[top]

Vserver Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] optional | List of aggregates assigned for volume operations. These aggregates could be shared for use with other Vservers. When specified as part of a vserver-create, this field represents the list of aggregates that are assigned to the Vserver for volume operations. When part of vserver-get-iter call, this will return the list of Vservers which have any of the aggregates specified as part of the aggr-list. Attributes: non-creatable, modifiable |
| | | | Allowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols allowed on the Vserver. When part of vserver-get-iter call, this will |

| | | | |
|---|---|---|---|
| **allowed-protocols** | | protocol[] optional | return the list of Vservers which have any of the protocols specified as part of the allowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Attributes: non-creatable, modifiable Possible values:<br>• "nfs" - NFS protocol,<br>• "cifs" - CIFS protocol,<br>• "fcp" - FCP protocol,<br>• "iscsi" - iSCSI protocol,<br>• "ndmp" - NDMP protocol,<br>• "http" - HTTP protocol,<br>• "nvme" - NVMe over Fabrics protocol,<br>• "s3" - S3 protocol |
| **anti-ransomware-default-volume-state** | | vserver-anti-ransomware-state optional | The default anti_ransomware state on new volume create Attributes: optional-for-create, modifiable Possible values:<br>• "disabled" ,<br>• "enabled" ,<br>• "dry_run" |
| **antivirus-on-access-policy** | | antivirus-policy optional | {Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default Attributes: optional-for-create, modifiable |
| **caching-policy** | | string optional | The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are:<br>• none - Does not cache any user data or metadata blocks.<br>• auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks.<br>• meta - Read caches only metadata blocks.<br>• random_read - Read caches all metadata and randomly read user data blocks.<br>• random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.<br>• all_read - Read caches all metadata, randomly read and sequentially read user data blocks.<br>• all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data.<br>• all - Read caches all data blocks read and written. It does not do any write caching.<br><br>Default caching-policy is auto. Attributes: optional-for-create, modifiable |
| **comment** | | string optional | Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. Attributes: optional-for-create, |

| | | | |
|---|---|---|---|
| | | | modifiable |
| **disallowed-protocols** | | protocol[] optional | Disallowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols not allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the disallowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Attributes: non-creatable, modifiable Possible values:<br>• "nfs" - NFS protocol,<br>• "cifs" - CIFS protocol,<br>• "fcp" - FCP protocol,<br>• "iscsi" - iSCSI protocol,<br>• "ndmp" - NDMP protocol,<br>• "http" - HTTP protocol,<br>• "nvme" - NVMe over Fabrics protocol,<br>• "s3" - S3 protocol |
| **ipspace** | | string optional | IPspace name. The default value is 'Default' Attributes: optional-for-create, non-modifiable |
| **is-config-locked-for-changes** | | boolean optional | Is the Vserver configuration locked for modificatiion. If the config-lock is true, then modifying the Vserver's configuration is not allowed. Attributes: non-creatable, non-modifiable |
| **is-repository-vserver** | | boolean optional | This parameter is no longer supported as of ONTAP 9.5.0. If you are using Infinite Volumes it is recommended that you do not upgrade the cluster to a release that is later than Data ONTAP 9.3.0.<br><br>Specifies if this Vserver is a Vserver with Infinite Volume. When part of vserver-get-iter call, this will return the list of matching Vservers. Default value is false.<br><br>Prior to Data ONTAP 8.2.0, Vserver with Infinite Volume is called repository Vserver and once a repository Vserver is created in a cluster, additional Vservers cannot be created. Conversely, a repository Vserver cannot be created if non-repository Vservers already exist in a cluster. Attributes: optional-for-create, non-modifiable |
| **is-space-enforcement-logical** | | boolean optional | Whether to perform logical space accounting on new volume create Attributes: optional-for-create, modifiable |
| **is-space-reporting-logical** | | boolean optional | Whether to report space logically on new volume create Attributes: optional-for-create, modifiable |
| **is-vserver-protected** | | boolean optional | Vserver protection Attributes: non-creatable, non-modifiable |
| | | | Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' |

| | | | |
|---|---|---|---|
| **language** | | language-code optional | ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP. Attributes: optional-for-create, modifiable |
| **ldap-domain** | | string optional | LDAP client configuration details. Attributes: non-creatable, non-modifiable |
| **max-volumes** | | string optional | Maximum number of volumes that can be created on the Vserver. When specified as part of a vserver-create, this field represents the maximum number of volumes that can be created on the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. Attributes: non-creatable, modifiable |
| **name-mapping-switch** | | nmswitch[] optional | Name Mapping switch configuration details for the Vserver. When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name mapping switch order. Attributes: optional-for-create, modifiable Possible values:<br>• "file" ,<br>• "ldap" |
| **name-server-switch** | | nsswitch[] optional | Name Server switch configuration details for the Vserver. Possible values: 'nis', 'file', 'ldap'. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name server switch order. Attributes: optional-for-create, modifiable Possible values:<br>• "nis" ,<br>• "file" ,<br>• "ldap" |
| **nis-domain** | | nis-domain optional | NIS domain configuration details for the Vserver. Attributes: non-creatable, non-modifiable |
| | | | Operational state of the Virtual Server. This field determines the state of the Vserver LIFs. New LIFs created on a Vserver, which is in running state, will be operationally up and the |

| | | | |
|---|---|---|---|
| **operational-state** | | vsoperstate optional | LIFs created on a Vserver, which is in stopped state, will be operationally down. Attributes: non-creatable, non-modifiable Possible values:<br>• "running" ,<br>• "stopped" |
| **operational-state-stopped-reason** | | vsopstopreason optional | Vserver Operational State Stopped Reason Attributes: non-creatable, non-modifiable Possible values:<br>• "sync_destination_and_switchover_not_done" - Sync-destination Vserver and switchover is not done,<br>• "cluster_reboot_done" - Cluster reboot is done,<br>• "admin_state_stopped" - Admin state is stopped,<br>• "dp_destination_not_started" - Vserver configured as destination of Vserver DR |
| **qos-policy-group** | | string optional | The QoS policy group associated with this volume. This optionally specifies which QoS policy group to apply to the Vserver. The policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a Vserver, the system will not monitor and control traffic to it. This parameter is not supported on a Vserver with Infinite Volume. Attributes: non-creatable, modifiable |
| **quota-policy** | | string optional | Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a Vserver with Infinite Volume. default: default Attributes: optional-for-create, modifiable |
| **root-volume** | | volume-name optional | Root volume of the Vserver. Optional field for 'default' Vserver. Not allowed for creation of a 'dp-destination' Vserver. If not specified, the system will choose a default name for the root volume based on the Vserver name. Attributes: optional-for-create, non-modifiable |
| **root-volume-aggregate** | | aggr-name optional | The aggregate on which the root volume will be created. Optional field for creating a default Vserver. If this field is not provided, the most appropriate aggregate will be selected. Not allowed for creation of a dp-destination Vserver. Creating a root volume on a SnapLock aggregate is not supported. Attributes: optional-for-create, non-modifiable |
| **root-volume-security-style** | | security-style-enum optional | Security Style of the root volume. Optional field for creating a default Vserver. Not allowed for creation of a dp-destination Vserver. When specified as part of the vserver-create, this field represents the security style for the Vserver root volume. When specified as part of vserver-get-iter call, this will return the list of matching Vservers. Possible values: 'unix', 'ntfs', 'mixed'. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to a Vserver's root volume. Default value is 'unix'. Attributes: optional-for-create, non-modifiable Possible values:<br>• "unix" - NFS,<br>• "ntfs" - CIFS,<br>• "mixed" - Mixed,<br>• "unified" - Unified |

| | | | |
|---|---|---|---|
| **snapshot-policy** | | snapshot-policy optional | Default snapshot policy setting for all volumes of the Vserver. This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default Attributes: optional-for-create, modifiable |
| **state** | | vsadminstate optional | State of the Virtual Server. This field, together with the operational state, determines the data serving ability of a Vserver Attributes: non-creatable, modifiable Possible values:<br>• "running" ,<br>• "stopped" ,<br>• "starting" ,<br>• "stopping" ,<br>• "initializing" ,<br>• "deleting" |
| **uuid** | | uuid optional | Universal unique identifier (UUID) for the Vserver. Attributes: non-creatable, non-modifiable |
| **volume-delete-retention-hours** | **[0..2^32-1]** | integer optional | The number of hours that a deleted volume should be retained before the delete is completed Attributes: non-creatable, modifiable |
| **vserver-aggr-info-list** | | vserver-aggr-info[] optional | List of aggregates assigned to the Vserver with aggregate name and available size. |
| **vserver-name** | | string optional | Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name Attributes: key, non-creatable, non-modifiable |
| **vserver-subtype** | | string optional | Vserver Subtype. This option allows the admin to specify the sub-type of Vserver being created. The possible options for this value are:<br>• default<br>• dp_destination<br>• sync_source<br>• sync_destination<br><br>If a Vserver is an MCC destination, then it would have the sub-type sync-source. Vserver of sub-type sync-destination cannot be explicitly created by the admin. When a Vserver of sub-type dp-destination is created, most of the management activities are not allowed. Default value is default. Attributes: optional-for-create, non-modifiable |
| **vserver-type** | | string optional | Type of the Vserver. Possible values:<br>• data: the default scale-out vserver<br>• admin: for the cluster-wide management Vserver<br>• system: for cluster-scoped communications in an IPspace |

| | | | |
|---|---|---|---|
| | | | • node: identifies the physical controller.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **vserver-login-banner-info**

[top]

Login Banner Message Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **message** | | string<br>optional | The login banner message. Maximum byte length for modify: 2048.<br>Attributes: optional-for-create, modifiable |
| **vserver** | | string<br>optional | Name of the Vserver. The default banner is associated with the Admin Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **vserver-login-banner-modify-iter-info**

[top]

Information about the operation that was attempted/performed against vserver-login-banner object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer<br>optional | Error code, if the operation caused an error. |
| **error-message** | | string<br>optional | Error description, if the operation caused an error. |
| **vserver-login-banner-key** | | vserver-login-banner-info | The keys for the vserver-login-banner object to which the operation applies. |

# Element definition: **vserver-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against vserver object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer<br>optional | Error code, if the modify operation caused an error. |
| **error-message** | | string<br>optional | Error description, if the modify operation caused an error. |
| **vserver-key** | | vserver-info | The keys for the vserver object to which the modify operation applies. |

# Element definition: **vserver-motd-info**

[top]

Message of the Day Configuration Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-cluster-message-enabled** | | boolean optional | Is the display of the cluster message of the day (MOTD) enabled for this Vserver? Attributes: required-for-create, modifiable |
| **message** | | string optional | The message of the day (MOTD). Maximum byte length for modify: 2048. Newlines can be supplied as either LF or CRLF, but they will always be returned as LF. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Name of the Vserver. The cluster message of the day is associated with the Admin Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **vserver-motd-modify-iter-info**

[top]

Information about the operation that was attempted/performed against vserver-motd object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **vserver-motd-key** | | vserver-motd-info | The keys for the vserver-motd object to which the operation applies. |

# Element definition: **vserverid**

[top]

Vserver Id

[none]

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

## Element definition: **aggregatetype** [top]

hdd | hybrid | lun | ssd | vmdisk Possible values:

- "hdd" - Aggregate consists of only HDDs,
- "hybrid" - Aggregate consists of both HDDs and SSDs,
- "lun" - Aggregate consists of array LUNs,
- "ssd" - Aggregate consists of only SSDs,
- "vmdisk" - Aggregate consists of only VMDISKs,
- "vmlun" - Aggregate consists of only VMLUNs,
- "vmlunssd" - Aggregate consists of only VMLUNs of type SSD

[none]

## Element definition: **antivirus-policy** [top]

Antivirus policy name

[none]

## Element definition: **attribute-info** [top]

The name of attribute and its values at source and destination

| Name | Range | Type | Description |
|---|---|---|---|
| **attribute** | | string optional | Attribute of the configuration compared - for example, volume-style in case of volumes. Attributes: non-creatable, non-modifiable |
| **destination-vserver-value** | | string optional | Value of the configuration attribute at destination Vserver Attributes: non-creatable, non-modifiable |
| **source-vserver-value** | | string optional | Value of the configuration attribute at source Vserver Attributes: non-creatable, non-modifiable |

## Element definition: **language-code** [top]

Language Code.

The following are the possible language codes along with their names:

- 'C' ... POSIX,
- 'ar' ... Arabic,

- 'cs' ... Czech,
- 'da' ... Danish,
- 'de' ... German,
- 'en' ... English,
- 'en_US' ... English (US),
- 'es' ... Spanish,
- 'fi' ... Finnish,
- 'fr' ... French,
- 'he' ... Hebrew,
- 'hr' ... Croatian,
- 'hu' ... Hungarian,
- 'it' ... Italian,
- 'ja' ... Japanese euc-j*,
- 'ja_v1' ... Japanese euc-j,
- 'ja_JP.PCK' ... Japanese PCK (sjis)*,
- 'ja_JP.932' ... Japanese cp932*,
- 'ja_JP.PCK_v2' ... Japanese PCK (sjis),
- 'ko' ... Korean,
- 'no' ... Norwegian,
- 'nl' ... Dutch,
- 'pl' ... Polish,
- 'pt' ... Portuguese,
- 'ro' ... Romanian,
- 'ru' ... Russian,
- 'sk' ... Slovak,
- 'sl' ... Slovenian,
- 'sv' ... Swedish,
- 'tr' ... Turkish,
- 'zh' ... Simplified Chinese,
- 'zh.GBK' ... Simplified Chinese (GBK),
- 'zh_TW' ... Traditional Chinese euc-tw,
- 'zh_TW.BIG5' ... Traditional Chinese Big 5

To use UTF-8 as the NFS character set, append '.UTF-8' to the language code.

[none]

# Element definition: **nis-domain**

[top]

NIS Domain

[none]

# Element definition: **nmswitch**

[top]

file|ldap Possible values:

- "file" ,
- "ldap"

[none]

# Element definition: **nsswitch**

[top]

nis|file|ldap Possible values:

- "nis" ,
- "file" ,
- "ldap"

[none]

# Element definition: **protocol**

[top]

Vserver protocols. Possible values:

- "nfs" - NFS protocol,
- "cifs" - CIFS protocol,
- "fcp" - FCP protocol,
- "iscsi" - iSCSI protocol,
- "ndmp" - NDMP protocol,
- "http" - HTTP protocol,
- "nvme" - NVMe over Fabrics protocol,
- "s3" - S3 protocol

[none]

# Element definition: **security-style-enum**

[top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **snaplocktype**

[top]

non-snaplock|compliance|enterprise Possible values:

- "non_snaplock" - Non SnapLock,
- "compliance" - SnapLock Compliance,
- "enterprise" - SnapLock Enterprise

[none]

# Element definition: **snapshot-policy**

[top]

Snapshot Policy

[none]

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **vsadminstate** [top]

running|stopped|starting|stopping Possible values:

- "running" ,
- "stopped" ,
- "starting" ,
- "stopping" ,
- "initializing" ,
- "deleting"

[none]

# Element definition: **vserver-aggr-info** [top]

Assigned aggregate name and available size.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-availsize** | | size optional | Assigned aggregate available size. Attributes: non-creatable, non-modifiable |
| **aggr-is-cft-precommit** | | boolean optional | Assigned aggregate cft pre-commit status. Attributes: non-creatable, non-modifiable |
| **aggr-name** | | aggr-name optional | Assigned aggregate name. Attributes: non-creatable, modifiable |

# Element definition: **vserver-anti-ransomware-state** [top]

disabled|dry-run Possible values:

- "disabled" ,
- "enabled" ,
- "dry_run"

[none]

# Element definition: **vserver-info** [top]

Vserver Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] optional | List of aggregates assigned for volume operations. These aggregates could be shared for use with other Vservers. When specified as part of a vserver-create, this field represents the list of aggregates that are assigned to the Vserver for volume operations. When part of vserver-get-iter call, this will return the list of Vservers which have any of the aggregates specified as part of the aggr-list. Attributes: non-creatable, modifiable |
| **allowed-protocols** | | protocol[] optional | Allowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the allowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Attributes: non-creatable, modifiable Possible values:<br>• "nfs" - NFS protocol,<br>• "cifs" - CIFS protocol,<br>• "fcp" - FCP protocol,<br>• "iscsi" - iSCSI protocol,<br>• "ndmp" - NDMP protocol,<br>• "http" - HTTP protocol,<br>• "nvme" - NVMe over Fabrics protocol,<br>• "s3" - S3 protocol |
| **anti-ransomware-default-volume-state** | | vserver-anti-ransomware-state optional | The default anti_ransomware state on new volume create Attributes: optional-for-create, modifiable Possible values:<br>• "disabled" ,<br>• "enabled" ,<br>• "dry_run" |
| **antivirus-on-access-policy** | | antivirus-policy optional | {Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default Attributes: optional-for-create, modifiable |
| **caching-** | | string | The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are:<br>• none - Does not cache any user data or metadata blocks.<br>• auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks.<br>• meta - Read caches only metadata blocks.<br>• random_read - Read caches all metadata and |

| | | | |
|---|---|---|---|
| **policy** | | optional | randomly read user data blocks.<br>• random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.<br>• all_read - Read caches all metadata, randomly read and sequentially read user data blocks.<br>• all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data.<br>• all - Read caches all data blocks read and written. It does not do any write caching.<br><br>Default caching-policy is auto. Attributes: optional-for-create, modifiable |
| **comment** | | string<br>optional | Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. Attributes: optional-for-create, modifiable |
| **disallowed-protocols** | | protocol[]<br>optional | Disallowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols not allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the disallowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Attributes: non-creatable, modifiable Possible values:<br><br>• "nfs" - NFS protocol,<br>• "cifs" - CIFS protocol,<br>• "fcp" - FCP protocol,<br>• "iscsi" - iSCSI protocol,<br>• "ndmp" - NDMP protocol,<br>• "http" - HTTP protocol,<br>• "nvme" - NVMe over Fabrics protocol,<br>• "s3" - S3 protocol |
| **ipspace** | | string<br>optional | IPspace name. The default value is 'Default' Attributes: optional-for-create, non-modifiable |
| **is-config-locked-for-changes** | | boolean<br>optional | Is the Vserver configuration locked for modificatiion. If the config-lock is true, then modifying the Vserver's configuration is not allowed. Attributes: non-creatable, non-modifiable |
| **is-repository-vserver** | | boolean<br>optional | This parameter is no longer supported as of ONTAP 9.5.0. If you are using Infinite Volumes it is recommended that you do not upgrade the cluster to a release that is later than Data ONTAP 9.3.0.<br><br>Specifies if this Vserver is a Vserver with Infinite Volume. When part of vserver-get-iter call, this will return the list of matching Vservers. Default value is false.<br><br>Prior to Data ONTAP 8.2.0, Vserver with Infinite Volume is called repository Vserver and once a repository Vserver is created in a cluster, additional Vservers cannot be created. Conversely, a repository Vserver cannot be created if non-repository Vservers already exist in a cluster. Attributes: optional-for-create, non-modifiable |
| **is-space-enforcement-** | | boolean | Whether to perform logical space accounting on new volume |

| | | | |
|---|---|---|---|
| **logical** | | optional | create Attributes: optional-for-create, modifiable |
| **is-space-reporting-logical** | | boolean optional | Whether to report space logically on new volume create Attributes: optional-for-create, modifiable |
| **is-vserver-protected** | | boolean optional | Vserver protection Attributes: non-creatable, non-modifiable |
| **language** | | language-code optional | Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP. Attributes: optional-for-create, modifiable |
| **ldap-domain** | | string optional | LDAP client configuration details. Attributes: non-creatable, non-modifiable |
| **max-volumes** | | string optional | Maximum number of volumes that can be created on the Vserver. When specified as part of a vserver-create, this field represents the maximum number of volumes that can be created on the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. Attributes: non-creatable, modifiable |
| **name-mapping-switch** | | nmswitch[] optional | Name Mapping switch configuration details for the Vserver. When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name mapping switch order. Attributes: optional-for-create, modifiable Possible values:<br>• "file" ,<br>• "ldap" |
| | | | Name Server switch configuration details for the Vserver. |

| | | | |
|---|---|---|---|
| **name-server-switch** | | nsswitch[] optional | Possible values: 'nis', 'file', 'ldap'. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name server switch order. Attributes: optional-for-create, modifiable Possible values:<br>• "nis" ,<br>• "file" ,<br>• "ldap" |
| **nis-domain** | | nis-domain optional | NIS domain configuration details for the Vserver. Attributes: non-creatable, non-modifiable |
| **operational-state** | | vsoperstate optional | Operational state of the Virtual Server. This field determines the state of the Vserver LIFs. New LIFs created on a Vserver, which is in running state, will be operationally up and the LIFs created on a Vserver, which is in stopped state, will be operationally down. Attributes: non-creatable, non-modifiable Possible values:<br>• "running" ,<br>• "stopped" |
| **operational-state-stopped-reason** | | vsopstopreason optional | Vserver Operational State Stopped Reason Attributes: non-creatable, non-modifiable Possible values:<br>• "sync_destination_and_switchover_not_done" - Sync-destination Vserver and switchover is not done,<br>• "cluster_reboot_done" - Cluster reboot is done,<br>• "admin_state_stopped" - Admin state is stopped,<br>• "dp_destination_not_started" - Vserver configured as destination of Vserver DR |
| **qos-policy-group** | | string optional | The QoS policy group associated with this volume. This optionally specifies which QoS policy group to apply to the Vserver. The policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a Vserver, the system will not monitor and control traffic to it. This parameter is not supported on a Vserver with Infinite Volume. Attributes: non-creatable, modifiable |
| **quota-policy** | | string optional | Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a Vserver with Infinite Volume. default: default Attributes: optional-for-create, modifiable |
| **root-volume** | | volume-name optional | Root volume of the Vserver. Optional field for 'default' Vserver. Not allowed for creation of a 'dp-destination' Vserver. If not specified, the system will choose a default name for the root volume based on the Vserver name. Attributes: optional-for-create, non-modifiable |
| **root-volume-aggregate** | | aggr-name optional | The aggregate on which the root volume will be created. Optional field for creating a default Vserver. If this field is not provided, the most appropriate aggregate will be selected. Not allowed for creation of a dp-destination Vserver. Creating a root volume on a SnapLock aggregate is |

| | | | |
|---|---|---|---|
| | | | not supported. Attributes: optional-for-create, non-modifiable |
| **root-volume-security-style** | | security-style-enum optional | Security Style of the root volume. Optional field for creating a default Vserver. Not allowed for creation of a dp-destination Vserver. When specified as part of the vserver-create, this field represents the security style for the Vserver root volume. When specified as part of vserver-get-iter call, this will return the list of matching Vservers. Possible values: 'unix', 'ntfs', 'mixed'. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to a Vserver's root volume. Default value is 'unix'. Attributes: optional-for-create, non-modifiable Possible values:<br>• "unix" - NFS,<br>• "ntfs" - CIFS,<br>• "mixed" - Mixed,<br>• "unified" - Unified |
| **snapshot-policy** | | snapshot-policy optional | Default snapshot policy setting for all volumes of the Vserver. This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default Attributes: optional-for-create, modifiable |
| **state** | | vsadminstate optional | State of the Virtual Server. This field, together with the operational state, determines the data serving ability of a Vserver Attributes: non-creatable, modifiable Possible values:<br>• "running" ,<br>• "stopped" ,<br>• "starting" ,<br>• "stopping" ,<br>• "initializing" ,<br>• "deleting" |
| **uuid** | | uuid optional | Universal unique identifier (UUID) for the Vserver. Attributes: non-creatable, non-modifiable |
| **volume-delete-retention-hours** | **[0..2^32-1]** | integer optional | The number of hours that a deleted volume should be retained before the delete is completed Attributes: non-creatable, modifiable |
| **vserver-aggr-info-list** | | vserver-aggr-info[] optional | List of aggregates assigned to the Vserver with aggregate name and available size. |
| **vserver-name** | | string optional | Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name Attributes: key, non-creatable, non-modifiable |
| | | | Vserver Subtype. This option allows the admin to specify the sub-type of Vserver being created. The possible options for |

| | | | |
|---|---|---|---|
| **vserver-subtype** | | string optional | this value are:<br>• default<br>• dp_destination<br>• sync_source<br>• sync_destination<br>If a Vserver is an MCC destination, then it would have the sub-type sync-source. Vserver of sub-type sync-destination cannot be explicitly created by the admin. When a Vserver of sub-type dp-destination is created, most of the management activities are not allowed. Default value is default. Attributes: optional-for-create, non-modifiable |
| **vserver-type** | | string optional | Type of the Vserver. Possible values:<br>• data: the default scale-out vserver<br>• admin: for the cluster-wide management Vserver<br>• system: for cluster-scoped communications in an IPspace<br>• node: identifies the physical controller.<br>Attributes: non-creatable, non-modifiable |

# Element definition: **vserver-login-banner-info**

[top]

Login Banner Message Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **message** | | string optional | The login banner message. Maximum byte length for modify: 2048. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Name of the Vserver. The default banner is associated with the Admin Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **vserver-motd-info**

[top]

Message of the Day Configuration Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-cluster-message-enabled** | | boolean optional | Is the display of the cluster message of the day (MOTD) enabled for this Vserver? Attributes: required-for-create, modifiable |
| **message** | | string optional | The message of the day (MOTD). Maximum byte length for modify: 2048. Newlines can be supplied as either LF or CRLF, but they will always be returned as LF. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Name of the Vserver. The cluster message of the day is associated with the Admin Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **vsoperstate**

[top]

running|stopped Possible values:

- "running" ,
- "stopped"

[none]

# Element definition: **vsopstopreason**

[top]

sync destination and switchover is not done|cluster reboot is done|admin state stopped| dp destination not started Possible values:

- "sync_destination_and_switchover_not_done" - Sync-destination Vserver and switchover is not done,
- "cluster_reboot_done" - Cluster reboot is done,
- "admin_state_stopped" - Admin state is stopped,
- "dp_destination_not_started" - Vserver configured as destination of Vserver DR

[none]

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **antivirus-policy**

[top]

Antivirus policy name

[none]

## Element definition: **language-code**

[top]

Language Code.

The following are the possible language codes along with their names:

- 'C' ... POSIX,
- 'ar' ... Arabic,
- 'cs' ... Czech,
- 'da' ... Danish,
- 'de' ... German,
- 'en' ... English,
- 'en_US' ... English (US),
- 'es' ... Spanish,
- 'fi' ... Finnish,
- 'fr' ... French,
- 'he' ... Hebrew,
- 'hr' ... Croatian,
- 'hu' ... Hungarian,
- 'it' ... Italian,
- 'ja' ... Japanese euc-j*,
- 'ja_v1' ... Japanese euc-j,
- 'ja_JP.PCK' ... Japanese PCK (sjis)*,
- 'ja_JP.932' ... Japanese cp932*,
- 'ja_JP.PCK_v2' ... Japanese PCK (sjis),
- 'ko' ... Korean,
- 'no' ... Norwegian,
- 'nl' ... Dutch,
- 'pl' ... Polish,
- 'pt' ... Portuguese,
- 'ro' ... Romanian,
- 'ru' ... Russian,
- 'sk' ... Slovak,
- 'sl' ... Slovenian,
- 'sv' ... Swedish,
- 'tr' ... Turkish,
- 'zh' ... Simplified Chinese,
- 'zh.GBK' ... Simplified Chinese (GBK),
- 'zh_TW' ... Traditional Chinese euc-tw,
- 'zh_TW.BIG5' ... Traditional Chinese Big 5

To use UTF-8 as the NFS character set, append '.UTF-8' to the language code.

[none]

## Element definition: **nis-domain**

[top]

NIS Domain

[none]

## Element definition: **nmswitch**

[top]

file|ldap Possible values:

- "file" ,
- "ldap"

[none]

## Element definition: **nsswitch**

[top]

nis|file|ldap Possible values:

- "nis" ,
- "file" ,
- "ldap"

[none]

## Element definition: **protocol**

[top]

Vserver protocols. Possible values:

- "nfs" - NFS protocol,
- "cifs" - CIFS protocol,
- "fcp" - FCP protocol,
- "iscsi" - iSCSI protocol,
- "ndmp" - NDMP protocol,
- "http" - HTTP protocol,
- "nvme" - NVMe over Fabrics protocol,
- "s3" - S3 protocol

[none]

## Element definition: **security-style-enum**

[top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

## Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **snapshot-policy** [top]

Snapshot Policy

[none]

## Element definition: **uuid** [top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

## Element definition: **volume-name** [top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **vsadminstate**

[top]

running|stopped|starting|stopping Possible values:

- "running" ,
- "stopped" ,
- "starting" ,
- "stopping" ,
- "initializing" ,
- "deleting"

[none]

# Element definition: **vserver-aggr-info**

[top]

Assigned aggregate name and available size.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-availsize** | | size optional | Assigned aggregate available size. Attributes: non-creatable, non-modifiable |
| **aggr-is-cft-precommit** | | boolean optional | Assigned aggregate cft pre-commit status. Attributes: non-creatable, non-modifiable |
| **aggr-name** | | aggr-name optional | Assigned aggregate name. Attributes: non-creatable, modifiable |

# Element definition: **vserver-anti-ransomware-state**

[top]

disabled|dry-run Possible values:

- "disabled" ,
- "enabled" ,
- "dry_run"

[none]

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# APIs in Category: **vserver-peer**


vserver-peer-accept
vserver-peer-create
vserver-peer-delete
vserver-peer-get
vserver-peer-get-iter
vserver-peer-modify
vserver-peer-modify-local-name
vserver-peer-permission-create
vserver-peer-permission-delete
vserver-peer-permission-get
vserver-peer-permission-get-iter
vserver-peer-permission-modify
vserver-peer-reject
vserver-peer-repair-peer-name
vserver-peer-resume
vserver-peer-suspend


Vserver peering provides a mechanism to setup relationships between two Vservers. Relationship thus created can be used by cluster administrator to setup application (SnapMirror) relationships or delegate these to Vserver administrator. This set of APIs allow to create and manage Vserver peer relationships.

## vserver-peer-accept

[top]

Accept a pending Vserver peer relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **local-name** | | string optional | Specifies local name of the peer Vserver in the relationship. |
| **peer-vserver** | | string | Specifies name of the peer Vserver in the relationship |
| **vserver** | | string | Specifies name of the local Vserver in the relationship |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **E_PEERVSERVER_NOT_FOUND** | |
| **E_LOCALVSERVER_PEERING_NOT_EXISTS** | |
| **E_PEERVSERVER_PEERING_NOT_EXISTS** | |
| **E_INVALID_VSERVERPEERING_STATE** | |
| **E_INVALID_PEER_VSERVERPEERING_STATE** | |
| **ENOTCLUSTERED** | |
| **EINTERNALERROR** | |
| **E_INVALID_OPERATION_INTRA_CLUSTER** | |
| **E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_RETRY** | |

| | |
|---|---|
| **E_JOB_EXISTS** | |
| **E_VSERVERPEER_UNIQUE_VSERVER_NAME_EXISTS** | |
| **E_VSERVERPEER_UNIQUE_ACCEPT_ALTERNATE_NAME_OPTION** | |
| **E_VSERVERPEER_UNIQUE_LOCAL_NAMES_DISABLED** | |
| **E_VSERVERPEER_UNIQUE_UNIQUE_LOCAL_NAME_EXISTS** | |

# vserver-peer-create

[top]

Create a new Vserver peer relationship between two existing Vservers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **applications** | | vserver-peer-application[] | Applications which can make use of the peering relationship. Possible values: 'snapmirror', 'file_copy', 'lun_copy', 'flexcache'. |
| **local-name** | | string optional | Specifies local name of the peer Vserver in the relationship. |
| **peer-cluster** | | string optional | Specifies name of the peer Cluster. If peer Cluster is not given, it considers local Cluster. |
| **peer-vserver** | | string | Specifies name of the peer Vserver in the relationship |
| **vserver** | | string | Specifies name of the local Vserver in the relationship |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **E_PEERVSERVER_NOT_FOUND** | |
| **E_LOCAL_VSERVERPEERING_EXISTS** | |
| **E_PEER_VSERVERPEERING_EXISTS** | |
| **EINVALIDINPUTERROR** | |
| **ENOTCLUSTERED** | |
| **E_PEERVSERVER_NAME_EXISTS** | |
| **EINTERNALERROR** | |
| **E_PEERVSERVER_SAME_LOCALVSERVER** | |
| **E_ECANNOT_PEER_WITH_SAME_VSERVER** | |
| **E_PEER_CLUSTER_NOT_VALID** | |
| **E_LOCAL_VSERVER_NOT_RUNNING_OR_STOPPED** | |
| **E_PEER_VSERVER_NOT_RUNNING_OR_STOPPED** | |
| **E_DUPLICATE_PEER_VSERVER_NAME_VSERVER** | |
| **E_DUPLICATE_PEER_VSERVER_NAME_FILER** | |
| **E_DUPLICATE_VSERVER_NAME_ON_PEER_CLUSTER_VSERVER** | |
| **E_DUPLICATE_VSERVER_NAME_ON_PEER_CLUSTER_FILER** | |
| **E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_RETRY** | |
| **E_CANT_PEER_FLEXVOL_VSERVER_WITH_INFINITEVOL_VSERVER** | |
| **E_JOB_EXISTS** | |
| **EVSERVERPEER_SYSTEM_MANAGED_APPLICATION_NOT_ALLOWED** | |
| **EVSERVERPEER_CANNOT_SPECIFY_SYNC_DEST_VSERVER** | |
| **E_VSERVERPEER_INTER_CLUSTER_LUN_COPY_NOT_ALLOWED** | |
| **E_VSERVERPEER_CANNOT_ENABLE_PEERED_LUN_COPY** | |
| **E_VSERVERPEER_UNIQUE_ALTERNATE_NAME_OPTION** | |

| | |
|---|---|
| **E_VSERVERPEER_UNIQUE_VSERVER_NAME_EXISTS** | |
| **E_VSERVERPEER_UNIQUE_LOCAL_NAMES_DISABLED** | |
| **E_VSERVERPEER_UNIQUE_UNIQUE_LOCAL_NAME_EXISTS** | |
| **E_VSERVERPEER_UNIQUE_LOCAL_NAME_INTRA_INVALID** | |
| **E_VSERVERPEER_PEER_CLUSTER_VERSION_MISMATCH** | |
| **E_VSERVERPEER_NO_FLEXCACHE_AT_LOCAL_CLUSTER** | |
| **E_VSERVERPEER_NO_FLEXCACHE_AT_PEER_CLUSTER** | |

# vserver-peer-delete

[top]

Delete a Vserver peer relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force Delete |
| **peer-vserver** | | string | Specifies name of the peer Vserver in the relationship |
| **vserver** | | string | Specifies name of the local Vserver in the relationship |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **E_PEERVSERVER_NOT_FOUND** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **E_PEERVSERVER_PEERING_NOT_EXISTS** | |
| **E_INVALID_VSERVERPEERING_STATE** | |
| **E_INVALID_PEERVSERVERPEERINGS_TATE** | |
| **ENOTCLUSTERED** | |
| **EINTERNALERROR** | |
| **E_PEER_RELATIONSHIP_IN_USE** | |
| **E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_FORCE_OPTION** | |
| **E_JOB_EXISTS** | |
| **EVSERVERPEER_RELATIONSHIP_CREATION_IN_PROGRESS** | |
| **E_VSERVERPEER_RELATIONSHIP_IN_USE_BY_FLEXCACHE** | |

# vserver-peer-get

[top]

Display information about Vserver peer relationships. Displays the local Vserver, peer Vserver, applications, remote Vserver name and the state of the peering relationship.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-peer-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **peer-vserver** | | string | Specifies name of the peer Vserver in the relationship |

| | | | |
|---|---|---|---|
| | | | |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vserver-peer-info | The attributes of the vserver-peer. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EPEERVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |

# vserver-peer-get-iter

[top]

Display information about Vserver peer relationships. If the API is issued to the Cluster LIF, then information about all Vservers is shown. If the request is sent to the Vserver LIF, then information about that Vserver is shown.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-peer-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vserver-peer-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-peer object. All vserver-peer objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vserver-peer-info[] optional | The list of attributes of vserver-peer objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vserver-peer objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **E_PEERVSERVER_NOT_FOUND** | |
| **EINTERNALERROR** | |

# vserver-peer-modify

[top]

Modify a Vserver peer relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **applications** | | vserver-peer-application[] | Applications which can make use of the peering relationship. Possible values: 'snapmirror', 'file_copy', 'lun_copy', 'flexcache'. |
| **peer-vserver** | | string | Specifies name of the peer Vserver in the relationship |
| **vserver** | | string | Specifies name of the local Vserver in the relationship |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **E_PEERVSERVER_NOT_FOUND** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **E_PEER_VSERVERPEERING_NOT_EXISTS** | |
| **E_INVALID_VSERVERPEERING_STATE** | |
| **E_INVALID_PEER_VSERVERPEERING_STATE** | |
| **ENOTCLUSTERED** | |
| **EINTERNALERROR** | |
| **E_VSERVERPEER_MODIFY_OP_NOT_ALLOWED** | |
| **E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_RETRY** | |
| **E_JOB_EXISTS** | |
| **EVSERVERPEER_SYSTEM_MANAGED_APPLICATION_NOT_ALLOWED** | |
| **E_VSERVERPEER_INTER_CLUSTER_LUN_COPY_NOT_ALLOWED** | |
| **E_VSERVERPEER_CANNOT_ENABLE_PEERED_LUN_COPY** | |
| **E_VSERVERPEER_PEER_CLUSTER_VERSION_MISMATCH** | |
| **E_VSERVERPEER_NO_FLEXCACHE_AT_LOCAL_CLUSTER** | |
| **E_VSERVERPEER_NO_FLEXCACHE_AT_PEER_CLUSTER** | |
| **E_VSERVERPEER_RELATIONSHIP_IN_USE_BY_FLEXCACHE** | |

# vserver-peer-modify-local-name

[top]

Modify the local name for a peer Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-name** | | string | Remote Peer Vserver Local Name |
| **peer-cluster** | | string | Peer Cluster |
| **peer-vserver** | | string | Remote Peer Vserver |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **E_PEERVSERVER_NOT_FOUND** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **EINTERNALERROR** | |
| **ENOTCLUSTERED** | |
| **EVSERVER_CANT_END_WITH_MC** | |
| **EINVALIDINPUTERROR** | |
| **E_INVALID_OPERATION_INTRA_CLUSTER** | |

| | |
|---|---|
| **E_VSERVERPEER_UNIQUE_CANT_USE_SAME_NAME** | |
| **E_VSERVERPEER_UNIQUE_CANT_RENAME_NAME_CONFLICT** | |
| **E_VSERVERPEER_UNIQUE_FAILED_TO_RENAME_PEERVSERVER** | |

# vserver-peer-permission-create

[top]

Create a new Vserver peer permission. Allow cluster admin to configure list of permitted clusters/Vservers/applications for intercluster Vserver peer relationship creation. Once configured no explicit Vserver peer accept required for any incoming Vserver peer request from remote cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **applications** | | vserver-peer-permission-application[] | Peering Applications Possible values:<br>• "snapmirror" - SnapMirror,<br>• "flexcache" - FlexCache |
| **peer-cluster** | | string | Specifies name of the peer Cluster. |
| **vserver** | | string | Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ENOTCLUSTERED** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **E_LOCAL_VSERVER_NOT_RUNNING_OR_STOPPED** | |
| **E_VSERVERPEER_VPP_VP_PERMISSION_EXISTS** | |
| **E_VSERVERPEER_IPSPACE_MISMATCH** | |
| **E_VSERVERPEER_VPP_ECV_BELOW_9_2_0** | |

# vserver-peer-permission-delete

[top]

Delete a Vserver peer permission

| Input Name | Range | Type | Description |
|---|---|---|---|
| **peer-cluster** | | string | Specifies name of the peer Cluster. |
| **vserver** | | string | Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers. |

| Errno | Description |
|---|---|
| **E_VSERVERPEER_VPP_VP_PERMISSION_NOT_EXISTS** | |
| **E_VSERVERPEER_VPP_VSERVER_NOT_EXISTS** | |

# vserver-peer-permission-get

[top]

Gets a Vserver peer permission

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-peer-permission-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **peer-cluster** | | string | Specifies name of the peer Cluster. |
| **vserver** | | string | Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vserver-peer-permission-info | The attributes of the vserver-peer-permission. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# vserver-peer-permission-get-iter

[top]

Gets list of Vserver peer permission

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-peer-permission-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vserver-peer-permission-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-peer-permission object. All vserver-peer-permission objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vserver-peer-permission-info[] | The list of attributes of vserver-peer-permission objects. |

| | | | |
|---|---|---|---|
| | | optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vserver-peer-permission objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# vserver-peer-permission-modify

[top]

Modify the existing Vserver peer permission

| Input Name | Range | Type | Description |
|---|---|---|---|
| **applications** | | vserver-peer-permission-application[] | Peering Applications Possible values:<br>• "snapmirror" - SnapMirror,<br>• "flexcache" - FlexCache |
| **peer-cluster** | | string | Specifies name of the peer Cluster. |
| **vserver** | | string | Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ENOTCLUSTERED** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **E_LOCAL_VSERVER_NOT_RUNNING_OR_STOPPED** | |
| **E_VSERVERPEER_VPP_VP_PERMISSION_EXISTS** | |
| **E_VSERVERPEER_VPP_ECV_BELOW_9_5_0** | |

# vserver-peer-reject

[top]

Reject a Vserver peer relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **peer-vserver** | | string | Specifies name of the peer Vserver in the relationship |
| **vserver** | | string | Specifies name of the local Vserver in the relationship |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **E_PEERVSERVER_NOT_FOUND** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **E_PEER_VSERVERPEERING_NOT_EXISTS** | |

| | |
|---|---|
| **E_INVALID_VSERVERPEERING_STATE** | |
| **E_INVALID_PEER_VSERVERPEERING_STATE** | |
| **ENOTCLUSTERED** | |
| **EINTERNALERROR** | |
| **E_INVALID_OPERATION_INTRA_CLUSTER** | |
| **E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_RETRY** | |
| **E_JOB_EXISTS** | |

# vserver-peer-repair-peer-name

[top]

Fix Peer Vserver name in the remote Vserver peer tables

| Input Name | Range | Type | Description |
|---|---|---|---|
| **vserver-name** | | string | vserver |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVER_RENAME_FAILED_TO_UPDATE_PEER_VSERVER_NAME** | |
| **EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED** | |

# vserver-peer-resume

[top]

Resume a Vserver peer relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force Resume |
| **peer-vserver** | | string | Specifies name of the peer Vserver in the relationship |
| **vserver** | | string | Specifies name of the local Vserver in the relationship |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **E_PEERVSERVER_NOT_FOUND** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **E_PEER_VSERVERPEERING_NOT_EXISTS** | |
| **E_INVALID_VSERVERPEERING_STATE** | |
| **E_INVALID_PEER_VSERVERPEERING_STATE** | |
| **ENOTCLUSTERED** | |
| **EINTERNALERROR** | |
| **E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_FORCE_OPTION** | |
| **E_JOB_EXISTS** | |

# vserver-peer-suspend

[top]

Suspend a Vserver peer relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force Suspend |
| **peer-vserver** | | string | Specifies name of the peer Vserver in the relationship |
| **vserver** | | string | Specifies name of the local Vserver in the relationship |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **E_PEERVSERVER_NOT_FOUND** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **E_PEER_VSERVERPEERING_NOT_EXISTS** | |
| **E_INVALID_VSERVERPEERING_STATE** | |
| **E_INVALID_PEER_VSERVERPEERING_STATE** | |
| **ENOTCLUSTERED** | |
| **EINTERNALERROR** | |
| **E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_FORCE_OPTION** | |
| **E_JOB_EXISTS** | |

# Element definition: **vserver-peer-application**

[top]

Application using the Vserver peering relationship Possible values:

- "snapmirror" - SnapMirror,
- "file_copy" - FileCopy,
- "lun_copy" - LunCopy,
- "flexcache" - FlexCache

[none]

# Element definition: **vserver-peer-info**

[top]

Contains information about the Vserver peer relationship(s). When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **applications** | | vserver-peer-application[] optional | Applications which can make use of the peering relationship. Attributes: non-creatable, non-modifiable Possible values:<br>• "snapmirror" - SnapMirror,<br>• "file_copy" - FileCopy,<br>• "lun_copy" - LunCopy,<br>• "flexcache" - FlexCache |
| **peer-cluster** | | string optional | Specifies name of the peer Cluster. If peer Cluster is not given, it considers local Cluster. This value is not shown and cannot be set in desired-attributes when the API is issued on Vserver LIF. Attributes: non-creatable, non-modifiable |
| **peer-state** | | vserver-peer-state optional | State of the Vserver peer relationship Attributes: non-creatable, non-modifiable Possible values:<br>• "peered" - Vserver peer relationship is established and the applications can use peer relationship,<br>• "pending" - Vserver peer relationship is initiated in the peer cluster and local cluster needs to accept the request,<br>• "initializing" - Communicating to the peer cluster for initializing the peer relationship,<br>• "initiated" - Relationship initiated in local cluster,<br>• "rejected" - Relationship initiated and peer cluster rejected the same,<br>• "suspended" - Relationship suspended, should not initiate any data transfers ,<br>• "deleted" - Relationship got deleted on peer cluster |
| **peer-vserver** | | string optional | Specifies name of the peer Vserver in the relationship Attributes: key, non-creatable, non-modifiable |
| **peer-vserver-uuid** | | uuid optional | Specifies uuid of the peer Vserver in the relationship. Attributes: non-creatable, non-modifiable |
| **remote-vserver-name** | | string optional | Specifies remote name of the peer Vserver in the relationship Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Specifies name of the local Vserver in the relationship Attributes: key, non-creatable, non-modifiable |
| **vserver-uuid** | | uuid optional | Specifies uuid of the local Vserver in the relationship. Attributes: non-creatable, non-modifiable |

# Element definition: **vserver-peer-permission-application**

[top]

Intercluster application for Vserver peer permission Possible values:

- "snapmirror" - SnapMirror,
- "flexcache" - FlexCache

[none]

[top]

# Element definition: **vserver-peer-permission-info**

Information about the Vserver peer permission. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **applications** | | vserver-peer-permission-application[] optional | Applications which can make use of the intercluster Vserver peer relationship. Attributes: non-creatable, non-modifiable Possible values:<br>• "snapmirror" - SnapMirror,<br>• "flexcache" - FlexCache |
| **peer-cluster** | | string optional | Specifies name of the peer Cluster. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers. Attributes: key, non-creatable, non-modifiable |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **vserver-peer-application**

[top]

Application using the Vserver peering relationship Possible values:

- "snapmirror" - SnapMirror,
- "file_copy" - FileCopy,
- "lun_copy" - LunCopy,
- "flexcache" - FlexCache

[none]

# Element definition: **vserver-peer-permission-application**

[top]

Intercluster application for Vserver peer permission Possible values:

- "snapmirror" - SnapMirror,
- "flexcache" - FlexCache

[none]

# Element definition: **vserver-peer-state**

[top]

peered|pending|initializing|initiated|rejected|suspended|deleted Possible values:

- "peered" - Vserver peer relationship is established and the applications can use peer relationship,
- "pending" - Vserver peer relationship is initiated in the peer cluster and local cluster needs to accept the request,
- "initializing" - Communicating to the peer cluster for initializing the peer relationship,
- "initiated" - Relationship initiated in local cluster,
- "rejected" - Relationship initiated and peer cluster rejected the same,
- "suspended" - Relationship suspended, should not initiate any data transfers ,
- "deleted" - Relationship got deleted on peer cluster

[none]

# APIs in Category: **vserver-peer-transition**


vserver-peer-transition-create
vserver-peer-transition-destroy
vserver-peer-transition-destroy-iter
vserver-peer-transition-get
vserver-peer-transition-get-iter
vserver-peer-transition-modify


transition peer provides mechanism to setup relationships between a Data ONTAP 7-Mode system and a Data ONTAP Cluster-Mode Vserver. This relationship can be used by Cluster Admin to setup Snapmirror transition relationships or delegating these to Vserver Admin. These set of ZAPIs allow either to create or manage transition peer relationships.

## vserver-peer-transition-create

[top]

Create a new transition peer relationship between a Data ONTAP 7-Mode system and a Data ONTAP Cluster-Mode Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **local-lifs** | | lif-name[] optional | List of Local LIFs |
| **local-vserver** | | vserver-name | Local Vserver name |
| **multi-path-address** | | string optional | Additional address for source 7-Mode system |
| **return-record** | | boolean optional | If set to true, returns the vserver-peer-transition on successful creation. Default: false |
| **src-filer-name** | | string | Source 7-Mode system |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | vserver-peer-transition-info optional | The vserver-peer-transition created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **E_LOCAL_VSERVER_NOT_RUNNING_OR_STOPPED** | |
| **E_DUPLICATE_PEER_VSERVER_NAME_VSERVER** | |
| **E_PEERVSERVER_SAME_LOCALVSERVER** | |
| **E_LIF_NOT_FOUND** | |
| **E_LIF_NOT_OWNED_BY_VSERVER** | |

# vserver-peer-transition-destroy

[top]

Deletes a transition peer relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **local-vserver** | | vserver-name | Local Vserver name |
| **src-filer-name** | | string | Source 7-Mode system |

| Errno | Description |
|---|---|
| **E_PEER_RELATIONSHIP_IN_USE** | |

# vserver-peer-transition-destroy-iter

[top]

Deletes multiple transition peer relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple vserver-peer-transition objects match a given query. If set to true, the API will continue deleting the next matching vserver-peer-transition even when the deletion of a previous vserver-peer-transition fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching vserver-peer-transition even when the deletion of a previous matching vserver-peer-transition fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of vserver-peer-transition objects to delete in this call. Default: 20 |
| **query** | | vserver-peer-transition-info | If deleting a specific vserver-peer-transition, this input element must specify all keys. If deleting multiple vserver-peer-transition objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of vserver-peer-transition objects (just keys) that were not deleted due to some error. If set to false, the list of vserver-peer-transition objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of vserver-peer-transition objects (just keys) that were successfully deleted. If set to false, the list of vserver-peer-transition objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | vserver- | |

| | | | |
|---|---|---|---|
| **failure-list** | | peer-transition-destroy-iter-info[] optional | Information about vserver-peer-transition objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching vserver-peer-transition objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of vserver-peer-transition objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of vserver-peer-transition objects that matched the query and were successfully deleted. |
| **success-list** | | vserver-peer-transition-destroy-iter-info[] optional | The vserver-peer-transition objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **E_PEER_RELATIONSHIP_IN_USE** | |

# vserver-peer-transition-get

[top]

Gets a transition peer relationship.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-peer-transition-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **local-vserver** | | vserver-name | Local Vserver name |
| **src-filer-name** | | string | Source 7-Mode system |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vserver-peer-transition-info | The attributes of the vserver-peer-transition. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# vserver-peer-transition-get-iter

[top]

Gets list of transition peer relationship.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-peer-transition-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vserver-peer-transition-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-peer-transition object. All vserver-peer-transition objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vserver-peer-transition-info[] optional | The list of attributes of vserver-peer-transition objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vserver-peer-transition objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# vserver-peer-transition-modify

[top]

Modifies a transition peer relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **local-lifs** | | lif-name[] optional | List of Local LIFs |
| **local-vserver** | | vserver-name | Local Vserver name |
| **multi-path-address** | | string optional | Additional address for source 7-Mode system |
| **src-filer-name** | | string | Source 7-Mode system |

| Errno | Description |
|---|---|
| **E_LIF_NOT_FOUND** | |
| **E_LIF_NOT_OWNED_BY_VSERVER** | |

# Element definition: **lif-name**

[top]

Logical Interface Id

[none]

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **vserver-peer-transition-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against vserver-peer-transition object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **vserver-peer-transition-key** | | vserver-peer-transition-info | The keys for the vserver-peer-transition object to which the deletion applies. |

# Element definition: **vserver-peer-transition-info**

[top]

Information about the transition peer. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **local-lifs** | | lif-name[] optional | List of Local LIFs Attributes: optional-for-create, modifiable |
| **local-vserver** | | vserver-name optional | Local Vserver name Attributes: key, required-for-create, non-modifiable |
| **multi-path-** | | string | Additional address for source 7-Mode system Attributes: optional- |

| | | | |
|---|---|---|---|
| **address** | | optional | for-create, modifiable |
| **src-filer-name** | | string<br>optional | Source 7-Mode system Attributes: key, required-for-create, non-modifiable |

## Element definition: **lif-name**

[top]

Logical Interface Id

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **wafl**


wafl-get-sync-status
wafl-sync


## wafl-get-sync-status

[top]

Returns the status of the previously issued asynchronous Consistency Point operations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **sync-handle** | | wafl-sync-handle | Handle representing a previously issued wafl-sync operation. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **status** | | string optional | Status information about the previous CP request on volume. Possible values:<br>• "failed",<br>• "in_progress",<br>• "succeeded". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

## wafl-sync

[top]

Forces a WAFL consistency point (CP) in order to reduce the time for succeeding fence and snapshot related operations. In Data ONTAP 7-Mode this call is synchronous and will not return until the CP has completed. In Data ONTAP Cluster-Mode this API is asynchronous and will return immediately as soon as the CP is scheduled. The wafl-get-sync-status API can be used to check status of the previously scheduled CP. Two uses of this API are

- to predict how fast a successive consistency group based operation will finish,
- to improve performance of succeeding consistency group primitives.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-uuids** | | uuid[] optional | A list of volume UUIDs in this filer to take a CP on. |
| **volumes** | | volume-name[] optional | A list of volume names to take a CP on. In Data ONTAP 7-Mode, the CP operation will be performed on all the volumes on the controller if no volumes are specified. In Data ONTAP Cluster-Mode, "volumes" is a required input and all specified volumes must belong to the same Vserver. If an error is encountered when processing the sync request |

| | | | |
|---|---|---|---|
| | | | for a volume, the operation is aborted and sync operation will not be performed on the rest of the volumes specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **handles** | | wafl-sync-handle[] optional | List of handles to be used to query the sync status using 'wafl-get-sync-status' ZAPI. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **wafl-sync-handle**

[top]

Handle representing a specific wafl-sync operation on a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **handle** | **[0..2^32-1]** | integer | Opaque handle that represents a specific wafl-sync operation. |
| **volume** | | volume-name optional | Volume name on which wafl-sync operation being performed. |
| **volume-uuid** | | uuid optional | Volume UUID on which wafl-sync operation being performed. |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# ONTAPI Categories

The links below will take you to the documentation for individual API's in each of the categories.

| | |
|---|---|
| active-directory | Active Directory configuration and management |
| aggr | Aggregate information and management |
| audit | Cluster Administrative Audit APIs |
| autosupport | AutoSupport ZAPIs |
| cf | cluster-failover operations |
| cg | consistency group management |
| cifs | CIFS configuration and management |
| clock | System timezone and date management |
| clone | Manages file and sub-file cloning operation. |
| cluster | Cluster Management APIs |
| cluster-image | Automated nondisruptive update APIs |
| cluster-peer | Manages cluster peer relationships. |
| cluster-switch | Ethernet Switch Information Zapi |
| config-backup | Configuration Backup Management |
| coredump | coredump operations |
| dashboard | This command is removed starting from ONTAP 9.0 |
| diagnosis | Diagnosis zapis |
| disk | disk-related operations |
| disk-encrypt | Self-Encrypting Disk ZAPIs |
| ems | ems APIs |
| environment | Environment management |
| exports | Export Ruleset ZAPIs |
| fc | fibre channel adapter configuration |
| fcp | fibre channel protocol management |
| fcport | Fibre Channel port operations that manage the Fibre Channel |
| feature | feature management |
| file | supports file system operations |
| file-directory-security | view/set file/directory security information |
| fileservice-audit | FileService audit config ZAPIs |
| flash | Flash Management Module APIs |
| flash-device | Flash Cache Zapis |
| flexcache | FlexCache configuration and management. |
| fpolicy | file policy management and configuration |
| gpo | Group Policy Object(GPO) ZAPIs |
| group-mapping | Group Mapping management APIs |
| ha-interconnect | High-Availability Interconnect Zapis |

| | |
|---|---|
| igroup | initiator group operations |
| iscsi | iscsi management and monitoring |
| job | Contains APIs to manage jobs, their schedules and low-level |
| kerberos | Kerberos configuration and management APIs. |
| ldap | LDAP configuration and management APIs |
| license-v2 | Manage Data ONTAP licenses. |
| lock | Lock Information and Management |
| lun | Manages and monitors LUNs. |
| metrocluster | |
| metrocluster-check-connection | MetroCluster check connection APIs |
| metrocluster-configuration-settings | MetroCluster configuration settings APIs |
| metrocluster-connection | MetroCluster connection APIs |
| metrocluster-dr-group | MetroCluster DR-Group management APIs |
| metrocluster-interface | MetroCluster Interface management APIs |
| name-mapping | Name Mapping management APIs |
| nameservice | Name Services Configuration and Management |
| ndmp | NDMP Zapis |
| net | Access to ONTAP network management |
| netgroup | obtains netgroup information |
| nfs | NFS configuration and management. In Data ONTAP |
| nis | |
| ntp-server | auto generated category. |
| nvme | Manage NVMe Protocol Access |
| options | manage option values |
| perf | Manages counters of various system performance objects |
| platform-cap | Controller platform Zapis |
| portset | portset operations |
| qos | Quality of Service management |
| qtree | qtree management |
| quota | quota management and editing |
| secd | Access-Check ZAPI Infrastructure |
| sectrace | Permission tracing configuration and management |
| security | Manage system security |
| security-certificate | Certificate Zapis |
| security-key-manager | Key Manager Setup Wizard APIs |
| security-key-manager-key | Encryption Key Information ZAPIs |
| security-session | Session Management APIs |
| security-ssl | auto generated category. |
| service-processor | APIs for Managing the Service Processor |
| ses | SCSI enclosure services-related operations |

| | |
|---|---|
| sis | Manage volume deduplication and compression. |
| snapdiff | Generate differences between two snapshots of a volume |
| snaplock | SnapLock information and management |
| snapmirror | snapmirror management |
| snapmirror-policy | SnapMirror Policy Zapis |
| snapshot | manages snapshots |
| snapvault | SnapVault management APIs |
| snmp | SNMP management and retrieving MIB values |
| storage-acp-firmware | auto generated category. |
| storage-adapter | storage adapter operations |
| storage-array | commands to monitor/manipulate back end storage arrays |
| storage-bridge | System Bridge Zapis |
| storage-disk | Storage disk related operations. |
| storage-disk-firmware | auto generated category. |
| storage-initiator | Commands to monitor/view initiator port traffic. |
| storage-iscsi-initiator | |
| storage-pool | Storage Pool Zapis |
| storage-port | Storage port info |
| storage-shelf | Storage shelf info |
| storage-shelf-firmware | auto generated category. |
| storage-switch | Storage Switch ZAPIs |
| system | system information |
| tape-mc-info | Tape MC Info |
| template-management | Manage Templates |
| ucm | Unified Connect adapter information and management |
| useradmin | useradmin configuration and management |
| virtual-machine | |
| volume | Volume information and management |
| vscan | Vscan configuration and managment. |
| vserver | |
| vserver-peer | Create or Manage Vserver peer relationships |
| vserver-peer-transition | Create or Manage transition peer relationships |
| wafl | Utility functions for agents. |

# APIs in Category: **active-directory**


active-directory-account-create
active-directory-account-delete
active-directory-account-get-iter
active-directory-account-modify
active-directory-account-password-change
active-directory-account-password-reset


This set of ZAPIs allows creating an Active Directory account and manage them. It is only used when a full CIFS server is not desired or not available.

## active-directory-account-create

[top]

Create an Active Directory account for the given Vserver. If a CIFS server already exists for the requested Vserver, then this command will fail. The existing CIFS server should be deleted before retrying again. If joining a domain, this command may take several minutes to complete.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **account-name** | | netbios-name | Active Directory account NetBIOS name. |
| **admin-password** | | string | Administrator password required for Active Directory account creation. |
| **admin-username** | | string | Administrator username required for Active Directory account creation. |
| **domain** | | string | Fully qualified domain name. |
| **force-account-overwrite** | | boolean optional | If true and a machine account with the same name as specified in 'account-name' exists in Active Directory, it will be overwritten and reused. The default value for this field is false. |
| **organizational-unit** | | string optional | Organizational unit under which the Active Directory account will be created. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **ECIFS_CIFS_SERVER_ALREADY_EXISTS** | |

## active-directory-account-delete

[top]

Delete the Active Directory account. If a CIFS server already exists for the requested Vserver, cifs-server-delete API should be used to delete the machine account.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string optional | Administrator password required for Active Directory account deletion. |
| **admin-username** | | string optional | Administrator username required for Active Directory account deletion. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# active-directory-account-get-iter

[top]

Retrieve the list of active directory accounts

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | active-directory-account-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | active-directory-account-config optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the active-directory-account object. All active-directory-account objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | active-directory-account-config[] optional | The list of attributes of active-directory-account objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more active-directory-account objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# active-directory-account-modify

[top]

Modify the Windows Active Directory domain. If a CIFS server already exists for the requested Vserver,

cifs-server-modify API should be used to modify the Windows Active Directory domain. If re-joining the current domain or joining a new one, this command may take several minutes to complete.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string optional | Administrator password required for Active Directory account creation in the given domain. |
| **admin-username** | | string optional | Administrator username required for Active Directory account creation in the given domain. |
| **domain** | | string optional | Fully qualified domain name. |
| **force-account-overwrite** | | boolean optional | If true and a machine account with the same name as specified in 'account-name' exists in Active Directory, it will be overwritten and reused. The default value for this field is false. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# active-directory-account-password-change

[top]

Generate a new password for the machine account and change it in the Windows Active Directory domain.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# active-directory-account-password-reset

[top]

Reset the machine account password in the Windows Active Directory domain. This may be required if the password stored along with the machine account in the Windows Active Directory domain is changed or reset without the Vserver's knowledge. This operation requires the credentials for a user with permission to reset the password in the organizational unit (OU) that the machine account is a member of.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string | Administrator password required for Active Directory account password reset. |
| **admin-username** | | string | Administrator username required for Active Directory account password reset. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **active-directory-account-config**

[top]

Active Directory configuration information for the Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **account-name** | | netbios-name optional | Active Directory account NetBIOS name. Attributes: required-for-create, non-modifiable |
| **domain** | | string optional | Fully qualified domain name. Attributes: required-for-create, modifiable |
| **domain-workgroup** | | domain-name optional | NetBios domain/workgroup name. Attributes: non-creatable, non-modifiable |
| **organizational-unit** | | string optional | Organizational unit under which the Active Directory account resides. Attributes: optional-for-create, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **netbios-name**

[top]

Name of a client or a server participating in a NetBIOS Windows File sharing service network. This can be different from the host name.

[none]

# Element definition: **domain-name**

[top]

The domain name is an identification label that defines a realm based on Domain Name Service (DNS).

[none]

# APIs in Category: **aggr**


aggr-64bit-upgrade-scan-start
aggr-64bit-upgrade-scan-stop
aggr-64bit-upgrade-start
aggr-add
aggr-autobalance-aggregate-state-get-iter
aggr-autobalance-config-get
aggr-autobalance-config-modify
aggr-autobalance-notification-get-iter
aggr-autobalance-volume-state-get-iter
aggr-check-spare-low
aggr-create
aggr-destroy
aggr-efficiency-cumulated-get
aggr-efficiency-get-iter
aggr-get-filer-info
aggr-get-iter
aggr-get-root-name
aggr-list-info
aggr-mediascrub-list-info
aggr-mirror
aggr-modify-raid-type
aggr-object-store-attach
aggr-object-store-config-create
aggr-object-store-config-delete
aggr-object-store-config-get
aggr-object-store-config-get-iter
aggr-object-store-config-modify
aggr-object-store-config-provider-list
aggr-object-store-get-iter
aggr-object-store-get-resync-status-iter
aggr-object-store-mirror
aggr-object-store-modify
aggr-object-store-profiler-abort
aggr-object-store-profiler-get-iter
aggr-object-store-profiler-start
aggr-object-store-unmirror


These APIs allow for full manipulation of Data ONTAP aggregates, and their structural components (plexes and RAID groups).

Aggregates are identified in one of two ways:

Name: The standard printable name for the aggregate, following standard Data ONTAP aggregate naming rules.

UUID: A DCE UUID that is formatted as a 36-character string composed of 32 hexadecimal characters. A UUID is broken up into five groupings that are separated by dashes ('-'). The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is NOT used. Also note that this identifier is exactly equivalent to the standard RAID tree ID. Aggregate UUID values can always be determined by invoking 'aggr-list-info' with no parameters (which returns records for all of the node's aggregates) and examining the values of the returned 'uuid' fields.

When requested from Admin Vserver LIF, aggregate UUID values can be determined by invoking 'aggr-get-iter'

An aggregate identifier may also appear inside a pathname format, especially when specifying a plex or RAID group within the aggregate:

[/vol/]<aggr_name_or_UUID>[<plexinfo>][<groupinfo>]

where <plexinfo> is '/plex{0..n}' and <groupinfo> is '/rg{0..n}'.

Examples include:

my_aggr

9ff6e1ce-d57d-11db-be9c-000100000529

/vol/my_aggr

/vol/9ff6e1ce-d57d-11db-be9c-000100000529

/vol/my_aggr/plex0

/vol/9ff6e1ce-d57d-11db-be9c-000100000529/plex0/rg3

Using UUID has the advantage of being able to access taken-over partner aggregates.

An aggregate has an HA (High Availability) policy, which may be one of: 'cfo' (Controller Failover), or 'sfo' (Storage Failover), or 'none' (Not specified)

Aggregates are allowed to have 'cfo' HA policy in both clustered and unclustered environments while having 'sfo' HA policy is restricted only to clustered environments.

With 'cfo' HA policy, failover is strictly pairwise. When a node fails, its HA partner takes over its storage all at once. When the failed node reboots, its HA partner gives back its storage all at once.

In clustered environments, with 'sfo' HA policy, failover may occur in a pairwise fashion much like 'cfo'. Additional differences from 'sfo'

aggr-object-store-vol-btuuids-get-iter
aggr-offline
aggr-online
aggr-options-list-info
aggr-relocation
aggr-relocation-status
aggr-rename
aggr-restrict
aggr-resync-options-get
aggr-resync-options-get-iter
aggr-resync-options-set
aggr-scrub-list-info
aggr-scrub-resume
aggr-scrub-start
aggr-scrub-stop
aggr-scrub-suspend
aggr-set-option
aggr-space-get-iter
aggr-space-list-info
aggr-spare-get-iter
aggr-split
aggr-status-get-iter
aggr-verify-list-info
aggr-verify-resume
aggr-verify-start
aggr-verify-stop
aggr-verify-suspend

include that a node which takes over storage on behalf of another node temporarily takes ownership of that storage. Also, when giveback occurs, its storage is not returned all at once. Rather, the aggregates with 'cfo' HA policy, including root, and its disks are returned first, followed by the remaining storage for that node.

An aggregate has a home owner, which is the node to which its disks have been administratively assigned.

In cluster environments, aggregates are identified as the standard printable name for the aggregate. UUID, Plex name and raidgroup name are invalid inputs when requested from Admin Vserver LIF.

# aggr-64bit-upgrade-scan-start

[top]

Start the 64-bit upgrade scanner on the specified aggregate. Use the 'aggr-list-info' API to query the status of the 64-bit upgrade scanner. The status is made available in the 'status' element that is part of the 'aggr-64bit-upgrade-info' typedef. Similarly, use the 'd-volume-list-info' API to query the status of the 64-bit upgrade scanner running on each contained flexible volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name or UUID of the aggregate for which to start the 64-bit upgrade scanner. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUME_CANT_OBTAIN_VOLREF** | |
| **EVOLUMEREADONLY** | |
| **EOP_DISALLOWED_ON_TRAD** | |
| **EOP_DISALLOWED_ON_STRIPED_AGGR** | |
| **EAGGR_64BIT_UPGRADE_NOT_IN_PROGRESS** | |
| **EOP_64BIT_UPGRADE_SCANNER_DISABLED** | |

# aggr-64bit-upgrade-scan-stop

[top]

Stop the 64-bit upgrade scanner on the specified aggregate. Use the 'aggr-list-info' API to query the status of the 64-bit upgrade scanner. The status is made available in the 'status' element that is part of the 'aggr-64bit-upgrade-info' typedef. Similarly, use the 'd-volume-list-info' API to query the status of the 64-bit upgrade scanner running on each contained flexible volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name or UUID of the aggregate for which to stop the 64-bit upgrade scanner. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUME_CANT_OBTAIN_VOLREF** | |
| **EVOLUMEREADONLY** | |
| **EOP_DISALLOWED_ON_TRAD** | |
| **EOP_DISALLOWED_ON_STRIPED_AGGR** | |
| **EAGGR_64BIT_UPGRADE_NOT_IN_PROGRESS** | |

# aggr-64bit-upgrade-start

[top]

Trigger upgrade from 32-bit to 64-bit on the specified aggregate without adding disks. This API produces a set of results in the background. These results are not available as output from aggr-64bit-upgrade-start. Use the 'aggr-list-info' and 'volume-list-info' APIs to query the results of the 64-bit upgrade process on the aggregate and contained flexible volumes, respectively.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name or UUID of the aggregate for which to trigger 64-bit upgrade. |
| **upgrade-64bit-mode** | | string optional | Option to specify if and how to grow volumes during the 64-bit upgrade. Legitimate values are "check", "grow_all", "grow_none", and "grow_reserved". If the "check" value is specified, aggr-64bit-upgrade-start produces a summary of the space impact which would result from upgrading the aggregate to 64-bit. This summary includes the space usage of each contained volume after the volume is upgraded to 64-bit and the amount of space that must be added to the volume to successfully complete the 64-bit upgrade. The summary can be obtained by querying the 'aggr-list-info' and 'volume-list-info' APIs. The aggregate's summary is made available in the 'check' element that is part of the 'aggr-64bit-upgrade-info' typedef. The flexible volumes' summary is made available in the 'check' element that is part of the 'volume-64bit-upgrade-info' typedef. This option does not result in an upgrade to 64-bit. If the "grow_all" value is specified, aggr-64bit-upgrade-start upgrades the aggregate to 64-bit. This option allows aggr-64bit-upgrade-start to automatically grow volumes as needed if they run out of space due to the 64-bit upgrade. The volumes will be grown to accommodate all the files within these volumes. This option does not affect volumes which have autosize enabled. If the "grow_none" value is specified, aggr-64bit-upgrade-start upgrades the aggregate to 64-bit. This option does not allow aggr-64bit-upgrade-start to automatically grow volumes if they run out of space due to the 64-bit upgrade. If the "grow_reserved" value is specified, aggr-64bit-upgrade-start upgrades the aggregate to 64-bit. This option allows aggr-64bit-upgrade-start to automatically grow volumes if they run out of space due to the 64-bit upgrade, but only to accommodate the space reserved files within these volumes. This option does not affect volumes which have autosize enabled. The default is "grow_none". |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **upgrade-64bit-cookie** | | integer | The opaque cookie to uniquely identify this 64-bit upgrade transaction. This cookie can be compared against the cookie returned by aggr-list-info to ensure that the output produced by aggr-list-info corresponds to this 64-bit upgrade transaction. Range: [0..2^64-1]. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUME_CANT_OBTAIN_VOLREF** | |
| **EVOLUMEREADONLY** | |
| **EVOLUMEBUSY** | |
| **EVOLUME_ALREADY_64BIT** | |
| **EOP_DISALLOWED_ON_TRAD** | |
| **EAGGR_64BIT_UPGRADE_ENOSPC** | |
| **EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC** | |
| **EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC_OVERWRITE** | |
| **EVOLUME_64BIT_UPGRADE_DISALLOWED** | |
| **EOP_DISALLOWED_ON_AGGR_WITH_SPARSE_VOL** | |
| **EOP_DISALLOWED_ON_STRIPED_AGGR** | |
| **EVOLUME_64BIT_UPGRADE_MODE_INVALID** | |
| **EVOLUME_64BIT_UPGRADE_PREQUAL_NOT_AVAIL** | |
| **EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL** | |
| **EVOLUME_64BIT_UPGRADE_ESTIMATE_IN_PROGRESS** | |
| **EVOLUME_IRON_NON_LOCAL_STATUS** | |

# aggr-add

[top]

Add disks to the specified aggregate. The disks to add are specified in the same way as for "aggr-create". Disks cannot be added to a mirrored aggregate if one or more of the plexes is offline. By the time the API returns, the disk(s) may not yet be completely added. Use 'aggr-list-info' to query the aggregate status to determine when it has finished growing due to the added disk(s). Same can be done using 'aggr-get-iter' when requested from Admin Vserver LIF. When the upgrade-64bit-mode input is provided to this API, the API produces a set of results in the background. These results are not available as output from aggr-add. Use the 'aggr-list-info' and 'volume-list-info' APIs to query the results of the 64-bit upgrade process on the aggregate and flexible volumes, respectively.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **actual-disk-type** | | string optional | Actual disk type of disks to use: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, or VMDISK. When this option is used, only disks of the specified type will be selected for use in the aggregate. One of either "disk-type, "actual-disk-type" or "disk-class" is required to be used when converting an existing aggregate to a hybrid one, or when operating on a hybrid aggregate. Otherwise, the option is not required. |
| **aggregate** | | string | Name or UUID of the aggregate to which the disks will be added. See the synopsis for name/UUID format and restrictions. |
| **allocation-units** | | integer optional | The spare capacity in terms of number of allocation units to be added to a given aggregate. Number of allocation units available and size of each unit can be found using ZAPI 'storage-pool-capacity-get-iter'. This option works only when 'storage-pool' is specified. |

| | | | |
|---|---|---|---|
| **allow-mixed-rpm** | | boolean optional | Disks in an aggregate are normally required to have the same RPM. This behavior is overridden with this option when it is set to true. Default value is false. |
| **allow-same-carrier** | | boolean optional | Using two disks from one carrier that houses multiple disks in one RAID group is not desirable. If that happens, Data ONTAP initiates a series of disk copy operations to correct that situation. Sometimes, selection of available spare disks makes it impossible to avoid placing two disks from one carrier in one RAID group. Setting this option to true allows placing two disks from one carrier in one RAID group. This option has an effect only when disks to be used are specified in 'disks'. This option is ignored when 'disk-count' is used. |
| **cache-raid-group-size** | | integer optional | Specifies the RAID group size of the new SSD RAID groups being created as part of the disk add operation. This option should be used while adding SSD disks for the first time to a hybrid-enabled aggregate. Range : [2..28] |
| **cache-raid-type** | | string optional | Specifies the raid-type of the new RAID groups being created as part of the disk add operation. This option should be used while adding SSD disks for the first time to a hybrid-enabled aggregate. Possible values: raid4, raid_dp and raid_tec only. If not specified, the default value is the raid-type of the aggregate. |
| **checksum-style** | | string optional | Specifies the checksum style for the disks to be added to an aggregate. This input is not allowed if a list of disks to use is specified through the "disks" parameter. The possible values:<br>• "advanced_zoned" - advanced_zoned checksum (azcs),<br>• "block" - block.<br>By default, disks with same checksum style as the aggregate are selected. Use this option to override that behavior and create a mixed checksum aggregate. "zoned" is not supported as one of the possible values as a mixed checksum aggregate can support only block and advanced_zoned checksum styles. |
| **disk-class** | | string optional | Class of disks to use. Disks are grouped into classes based on their performance characteristics. Disks belonging to the same class are compatible for use in the same aggregate. When this option is used, all disks belonging to the specified disk class are considered eligible for selection. Possible values are:<br>• "capacity" - Capacity-oriented, near-line disk types. Includes disk types FSAS, BSAS and ATA.<br>• "performance" - Performance-oriented, enterprise class disk types. Includes disk types FCAL and SAS.<br>• "archive" - Archive class SATA disks in multi-disk carrier storage shelves. Includes disk type MSATA.<br>• "solid-state" - Solid-state drives. Includes disk type SSD and SSD_NVM.<br>• "array" - Logical storage devices backed by storage arrays and used by Data ONTAP as disks. Includes disk type LUN.<br>• "virtual" - Virtual disks that are formatted and managed by the hypervisor. Includes disk type VMDISK.<br>One of either "disk-type, "actual-disk-type" or "disk-class" is required to be used when converting an existing aggregate to a hybrid one, or when operating on a hybrid aggregate. Otherwise, the option is not required. |
| **disk-count** | | integer optional | Number of disks to add, including the parity disks. The disks will come from the pool of spare disks. The smallest disks in this pool join the aggregate first, unless the "disk-size" argument is specified. Either the "disk-count" or "disks" argument must be specified. Range : [0..2^31-1]. |
| | | | The individual disk size in 4KB blocks. For example, a disk-size of 131072000 represents a 500GB drive (131072000 * 4 * 1024 = 500 * |

| | | | |
|---|---|---|---|
| **disk-size** | | integer optional | 1024 * 1024 * 1024). Disks with a usable size between 90% and 105% of the specified size are selected. If neither the "disk-size" nor the "disk-size-with-unit" argument is specified, existing groups are appended with disks that are the best match by size for the largest disk in the group. When starting new groups, disks that are the best match by size for the largest disk in the last raidgroup are selected first, then smaller disks, and finally larger disks. This "disk-size" option is ignored if a specific list of disks is specified through the "disks" parameter. Range : [0..2^63-1]. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned. |
| **disk-size-with-unit** | | string optional | This parameter accepts a disk size in the specified unit. It is a positive integer number followed by unit of "T", "G", "M" or "K". For example, these are accepted: 72G, 36G, 1T and 32M. But "72" will not be accepted. This "disk-size-with-unit" option is ignored if a specific list of disks is specified through the "disks" parameter. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned. |
| **disk-type** | | string optional | Type of disks to use: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, or VMDISK. When this option is used, disks of the specified type or disks of a compatible type will be selected for use in the aggregate. The ability to mix compatible disk types in one aggregate is controlled by these system options: 'raid.mix.hdd.disktype.capacity' 'raid.mix.hdd.disktype.performance' and 'raid.mix.disktype.solid_state'. One of either "disk-type, "actual-disk-type" or "disk-class" is required to be used when converting an existing aggregate to a hybrid one, or when operating on a hybrid aggregate. Otherwise, the option is not required. This option will be deprecated in a future release. Please use "actual-disk-type" or "disk-class" instead. |
| **disks** | | disk-info[] optional | Specific list of disks to add to the aggregate. If the aggregate is mirrored and a specific list of disks is supplied, another list ("mirror-disks") must also be supplied with the same number of disks. Either the "disks" or "disk-count" argument must be specified. |
| **force-cache-size** | | boolean optional | When set to true this parameter forces the addition of SSD disks to hybrid enabled aggregate by skipping the check for total (local + partner) hybrid SSD capacity. This can be used when the partner's cache capacity cannot be retrieved. Default value is false. Warning: If force-cache-size is set to true, the administrator is responsible to ensure that the total limit will not be exceeded. |
| **force-spare-pool** | | boolean optional | Disks in a plex are not normally permitted to span spare pools. This behavior is overridden with this option when it is set to true. This is a deprecated parameter. Use the allow-mixed-rpm and ignore-pool-checks parameters instead. |
| **group-selection-mode** | | string optional | Specifies how DATA ONTAP adds the specified disks to raidgroups. Legitimate values are "last", "one", "new" or "all". group-selection-mode is an optional argument, and the behavior when it is not used is selected by value of raid-group. If raid-group is used, the behavior is the same as for group-selection-mode "one". If raid-group is not used, the behavior is the same as for group-selection-mode "last". The raid-group option must be used with group-selection-mode value "one", and it cannot be used with others. If the string value is "last", Data ONTAP adds the specified disks to the existing last RAID group first. After the last RAID group is full, it creates one or more new RAID groups and adds the remaining disks to the new groups. If the string value is "one", Data ONTAP adds the specified disks to the existing RAID group specified by raid-group option until this specified RAID group is full. If the string value is "new", Data ONTAP creates one or more new RAID groups and adds the specified disks to the new groups, even if they would fit into an existing RAID group. The name of new RAID groups are selected automatically. It is not possible to specify the name for the new RAID groups. If the string value is "all", Data ONTAP adds the specified disks to existing RAID groups first. Only after all existing RAID |

| | | | |
|---|---|---|---|
| | | | groups are full, it creates one or more new RAID groups and adds the remaining disks to the new groups. |
| **ignore-pool-checks** | | boolean optional | Disks in a plex are normally required to come from the same spare pool. Similarly, disks in different plexes of a mirrored aggregate are required to come from different spare pools. This behavior is overridden with this option when it is set to true. Default value is false. |
| **mirror-disks** | | disk-info[] optional | Specific list of mirror disks needed to accompany the list in the "disks" parameter. This list must contain the same number of disks as specified in "disks". |
| **pre-check** | | boolean optional | Only check for the warnings without actually adding the disks. This option cannot be used when "simulate" is specified or "upgrade-64bit-mode" is set to "check". Default value is false. |
| **raid-group** | | string optional | Specifies the RAID group (for example rg0) to which the indicated disks are to be added. When a RAID group other than the last RAID group is specified, the aggregate can no longer be reverted to a version of Data ONTAP prior to 6.2. In such a case, the "force-spare-pool" option must be specified as well. By default, the filer fills up one RAID group with disks before starting another RAID group. Suppose an aggregate currently has one RAID group of 12 disks and its RAID group size is 14. If you add 5 disks to this aggregate, it will have one RAID group with 14 disks and another RAID group with 3 disks. The filer does not evenly distribute disks among RAID groups. |
| **simulate** | | boolean optional | Simulates the addition of disks to the given aggregate or UUID of the aggregate. If set to "true", addition of disks won't happen but returns the list of disks that would be automatically selected for the addition of the aggregate. By default, simulate option is set to false. |
| **so-aggr** | | boolean optional | Specifies that disks are being added to an unmirrored aggregate during Switchover. |
| **storage-pool** | | string optional | Name of the storage pool from which the capacity will be added. This parameter cannot be used with disk-list or disk-count option. |
| **upgrade-64bit-mode** | | string optional | Allows the aggregate to grow past 16 TB and begin 64-bit upgrade. If not supplied, adding disks past 16 TB to a 32-bit aggregate will fail. Legitimate values are "check", "grow_all", "grow_none", and "grow_reserved". If the "check" value is specified, aggr-add produces a summary of the space impact which would result from upgrading the aggregate to 64-bit. This summary includes the space usage of each contained volume after the volume is upgraded to 64-bit and the amount of space that must be added to the volume to successfully complete the 64-bit upgrade. The summary can be obtained by querying the 'aggr-list-info' and 'volume-list-info' APIs. The aggregate's summary is made available in the 'check' element that is part of the 'aggr-64bit-upgrade-info' typedef. The flexible volumes' summary is made available in the 'check' element that is part of the 'volume-64bit-upgrade-info' typedef. This option does not result in an upgrade to 64-bit or addition of disks. If the "grow_all" value is specified, "aggr-add" upgrades the aggregate to 64-bit if the total aggregate size after adding the specified disks exceeds 16TB. This option allows "aggr-add" to automatically grow volumes as needed if they run out of space due to the 64-bit upgrade. The volumes will be grown to accommodate all the files within these volumes. This option does not affect volumes which have autosize enabled. If the "grow_none" value is specified, "aggr-add" upgrades the aggregate to 64-bit if the total aggregate size after adding the specified disks exceeds 16TB. This option does not allow "aggr-add" to automatically grow volumes if they run out of space due to the 64-bit upgrade. If the "grow_reserved" value is specified, "aggr-add" upgrades the aggregate to 64-bit if the total aggregate size after adding the specified disks exceeds 16TB. This option allows "aggr-add" to automatically grow volumes if they run out of space due to the 64-bit upgrade, but only to accommodate the space reserved files within these volumes. This option does not affect volumes which have autosize enabled. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-capacity** | | integer optional | Estimated increase in aggregate capacity (in bytes). This is returned only if simulate option is set to true. Range : [0..2^64-1]. |
| **bad-disks** | | disk-info[] optional | List of disks that were not added. This is only returned if there are bad disks. |
| **is-upgrade-64bit-ignore** | | boolean optional | "true" if addition of disks does not make the aggregate size exceed 16TB but 'upgrade-64bit-mode' input was "grow-all", "grow-none" or "grow-reserved". This is not present if upgrade-64bit-mode input is not present or if upgrade to 64-bit was triggered. |
| **is-upgrade-64bit-invalid** | | boolean optional | "true" if aggregate is already 64-bit but 'upgrade-64bit-mode' input was "grow-all", "grow-none" or "grow-reserved". This is not present if upgrade-64bit-mode input is not present or if upgrade to 64-bit was triggered. |
| **nonzeroed-disks** | | integer optional | Number of disks that need to be zeroed before being added. This is only returned if there are non-zeroed disks. |
| **pre-check-results** | | warning-code[] optional | Result of the pre-check for possible warnings. Possible warning codes are:<br>• E_WARN_NEW_RAID_GROUP<br>• E_WARN_EXCEEDS_HALF_CLUSTER_SIZE<br>• E_WARN_DISK_DOWNSIZE<br>• E_WARN_LOW_SPARE<br>• E_WARN_NEEDS_PARTITIONING<br>• E_WARN_UNUSED_SPARE_PARTITIONS<br>• ECANT_USE_ALL_DISKS |
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded", "in-progress", "failed". |
| **selected-disks** | | aggr-simulate-disk-info[] optional | List of disks that would be used for the addition of disks to the given aggregate. This is only returned if the simulate option is set to true. |
| **selected-disks-for-shared-pool** | | aggr-simulate-disk-info[] optional | List of disks that would be added to a storage pool to grow the aggregate. This is only returned if the simulate option is set to true. |
| **selected-mirror-disks** | | aggr-simulate-disk-info[] optional | List of mirror disks that would be used for the addition of disks to the given aggregate. This is only returned if the simulate option is set to true on the mirrored aggregate. |
| **simulation-result** | | aggregate-simulate-layout-info optional | Layout of disks selected for addition to the aggregate. This is returned only if simulate option is set to true. |
| **upgrade-64bit-cookie** | | integer optional | The opaque cookie to uniquely identify this 64-bit upgrade transaction. This cookie can be compared against the cookie returned by aggr-list-info to ensure that the output produced by aggr-list-info corresponds to this 64-bit upgrade transaction. Range: [0..2^64-1]. |
| **warning-message** | | string optional | Warning message returned during aggregate addition. |

| Errno | Description |
|---|---|

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|---|---|
| **EINTERNALERROR** | |
| **EDISKADD_RESTRICT_TO_RAIDTP** | |
| **EINVALIDINPUTERROR** | |
| **EAPIMISSINGARGUMENT** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEDISKSIZEINVALID** | |
| **EVOLUMEDISKDUP** | |
| **EVOLUMEGSMINVALID** | |
| **EAGGR_TOO_LARGE** | |
| **EAGGR_TOO_LARGE_SYSTEM_LIMIT** | |
| **EVOLUME_64BIT_UPGRADE_MODE_INVALID** | |
| **EOP_DISALLOWED_ON_AGGR_WITH_SPARSE_VOL** | |
| **EAGGR_WOULD_UPGRADE** | |
| **EVOLUME_64BIT_UPGRADE_PREQUAL_NOT_AVAIL** | |
| **EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL** | |
| **EVOLUME_IRON_NON_LOCAL_STATUS** | |
| **EVOLUME_64BIT_UPGRADE_ESTIMATE_IN_PROGRESS** | |
| **EAGGR_64BIT_UPGRADE_ENOSPC** | |
| **EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC** | |
| **EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC_OVERWRITE** | |
| **EAGGR_64BIT_UPGRADE_RESTRICTED** | |
| **EOP_DISALLOWED_ON_STRIPED_AGGR** | |
| **EAGGR_SIZE_LESS_THAN_16TB** | |
| **EVOLUME_64BIT_UPGRADE_DISALLOWED** | |
| **EDISK_TYPE_MISMATCH** | |
| **EONTAPI_EINVAL** | |
| **ECKSUMNOTKNOWN** | |
| **EMCS_NOT_ALLOWED_WITH_LUNS** | |
| **EHYBRID_NOT_ALLOWED_ON_RESTRICTED_AGGR** | |
| **EVOLUME_ALREADY_64BIT** | |
| **ENOT_A_AZCS_DISK** | |
| **ENO_AZCS_DISKS** | |
| **ESAME_DISK_CARRIER** | |
| **EFAILED_DISK_IN_CARRIER** | |
| **EHYBRID_SSD_NODE_LIMIT_EXCEEDED** | |
| **ENOTORIGDISKOWNER** | |
| **ENOTDISKOWNER** | |
| **EOP_MIXED_RAID_TYPE_NOT_ALLOWED** | |
| **EFAILED_TO_RETRIEVE_PARTNER_CACHE_CAPACITY** | |
| **EOP_FORCE_CACHE_SIZE_NOT_ALLOWED** | |
| **EARRAYLUNUNSUPPORTED** | |
| **ENOTALLOWEDCACHERAIDSIZECHANGE** | |
| **E_CFT_PRECOMMIT_PHASE** | |
| **E_CFT_QUERY_FAIL** | |
| **EDISK_BAD_DISK_ID** | |
| **EDISK_NOT_SPARE_DISK** | |
| **EDISK_DISK_IS_OFFLINE** | |
| **EDISK_DISK_ALREADY_IN_USE** | |
| **EDISK_NOT_A_BLOCK_DISK** | |
| **EDISK_NOT_A_ZONED_DISK** | |
| **EDISK_NOT_DISKS_SIZE** | |

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| **EDISK_NOT_ENOUGH_DISKS** | |
| **EDISK_NO_BLOCK_DISKS** | |
| **EDISK_NO_ZONED_DISKS** | |
| **EDISK_NO_DISKS_MATCHING_TYPE** | |
| **EDISK_NO_DISKS_MATCHING_RPM** | |
| **EDISK_NO_DISKS_MATCHING_IF_SPEED** | |
| **EDISK_NOT_SAME_POOLS** | |
| **EDISK_POOL_ISOLATION_VIOLATION** | |
| **EDISK_DISK_DR_HOME_MISMATCH** | |
| **EWRONG_POOL_SO_AGGR** | |
| **EDISK_DISK_RPM_MISMATCH** | |
| **EDISK_DISK_IF_SPEED_MISMATCH** | |
| **EDISKTYPEWRONGFORSNAPLOCK** | |
| **ERAIDGROUP_DONT_EXIST** | |
| **ERAIDGROUP_IS_FULL** | |
| **EPLEX_IN_BAD_STATE** | |
| **ENOT_MIRROR_VOLUME** | |
| **EWRONG_POOL_MCC** | |
| **EDISK_COUNT_OP_NOT_SUPPORTED** | |
| **ENOT_SUPPORTED_PARAM_SIZE** | |

# aggr-autobalance-aggregate-state-get-iter

[top]

Iterate over a list of aggr-autobalance objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-autobalance-aggregate-state optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aggr-autobalance-aggregate-state optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-autobalance object. All aggr-autobalance objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-autobalance-aggregate-state[] optional | The list of attributes of aggr-autobalance objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr-autobalance objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# aggr-autobalance-config-get

[top]

Displays the configuration for Auto Balance Aggregate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | aggr-autobalance-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | aggr-autobalance-config | The attributes of the aggr-autobalance. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# aggr-autobalance-config-modify

[top]

Modifies Auto Balance Aggregate configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| available-threshold-percent | | integer optional | When Auto Balance Aggregate identifies an aggregate that needs to be balanced, it will attempt to identify other target aggregates it can move volumes to. An aggregate will only be considered as a target if its projected space usage after the move is still under this percentage. Auto Balance Aggregate will attempt to move volumes from an unbalanced aggregate until it is under this percentage. The default value is 40%. |
| hold-duration-after-move | | time-interval optional | This value represents the number of seconds that need to have elapsed since the volume was last moved before it will be considered a movable candidate again. The default value is 48 hours. |
| is-enabled | | boolean optional | 'true' if Auto Balance Aggregate is enabled. 'false' if Auto Balance Aggregate is disabled. |
| move-mode | | string optional | For all modes, Auto Balance Aggregate will identify the volume moves that will help to balance space usage across the aggregates. The mode dictates what Auto Balance Aggregate will do with the suggested moves. In 'recommend' mode, the suggested moves will be displayed, but no further action will be taken.In 'auto' mode, Auto Balance Aggregate will trigger moves to start. The default mode is 'recommend'. |
| state-polling-interval | | time-interval optional | Polling period, in seconds, used by Auto Balance Aggregate to update volume and aggregate stats. The default value is 3600 seconds (1 hour). |
| unbalanced-threshold-percent | | integer optional | This percentage will indicate the space used threshold that will cause Auto Balance Aggregate to consider this aggregate as unbalanced. The default value is 60%. |
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|---|---|---|---|
| **volume-activity-threshold** | | integer optional | The threshold, in number of operations per second preformed on a volume (read/write/internal), that will disqualify the volume from being a candidate to be moved by Auto Balance Aggregate. The default value is 100 operations per second. |
| **volume-inactive-delay-threshold** | | time-interval optional | This value represents a duration in seconds and designates the amount of time that has to elapse after a volume has exceeded the volume-activity-threshold before it can be considered a movable volume by Auto Balance Aggregate. The default value is 24 hours. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# aggr-autobalance-notification-get-iter

[top]

Displays the nodes that notify Auto Balance Aggregate about aggregates that need to be balanced

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-autobalance-notification optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aggr-autobalance-notification optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-autobalance object. All aggr-autobalance objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-autobalance-notification[] optional | The list of attributes of aggr-autobalance objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr-autobalance objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-autobalance-volume-state-get-iter

[top]

Iterate over a list of aggr-autobalance objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | aggr- | |

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|---|---|---|---|
| **desired-attributes** | | autobalance-volume-state optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aggr-autobalance-volume-state optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-autobalance object. All aggr-autobalance objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-autobalance-volume-state[] optional | The list of attributes of aggr-autobalance objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr-autobalance objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-check-spare-low

[top]

Return true if there is no suitable spare disk available for any filesystem (parity or data) disk.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggr-name** | | string optional | The aggregate to get the spares low information for. If not specified the spares low information is obtained for node. |
| **node-name** | | string optional | Low spare condition checked on the requested node. When requested from Admin Vserver LIF and node name not specified, status for the cluster is returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-spare-low** | | boolean | "true", if system has insufficient spare disk, "false" otherwise. When requested from Admin Vserver LIF, "true" is returned if one or more nodes in the cluster have spare low condition, "false" otherwise. When aggregate name has been specified, "true" is returned if the aggregate exists and any RAID groups have a spare low condition. |

# aggr-create

[top]

Create a new aggregate with the given name. The maximum number of aggregates that can be created on a

filer varies by the type of configuration. In a standalone configuration, up to 200 aggregates can be created on a filer. In an HA configuration, this number drops to 100 and to 50 in a C-mode MetroCluster configuration. The aggregate may not yet be operational immediately after the API returns. Use 'aggr-list-info' to query the status of the newly-created aggregate to determine when it is fully operational. Same can be done using 'aggr-get-iter' when requested from Admin Vserver LIF. NOTE: If ECANT_USE_ALL_DISKS is returned, then the requested aggregate was indeed created, just not with all the disks that were specified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **actual-disk-type** | | string optional | Actual type of disks to use: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, or VMDISK. When this option is used, only disks of the specified type will be selected for use in the aggregate. This option is not allowed if a disk type is specified through the "disk-type" option or if a disk class is specified through the "disk-class" option. It is also not allowed if a list of disks to use is specified through the "disks" option. |
| **aggregate** | | string | Name of the aggregate to create. The aggregate name can contain letters, numbers, and the underscore character(_), but the first character must be a letter or underscore. The maximum length of the aggregate name is 255. |
| **allow-mixed-rpm** | | boolean optional | Disks in an aggregate are normally required to have the same RPM. This behavior is overridden with this option when it is set to true. Default value is false. |
| **allow-same-carrier** | | boolean optional | Using two disks from one carrier that houses multiple disks in one RAID group is not desirable. If that happens, Data ONTAP initiates a series of disk copy operations to correct that situation. Sometimes, selection of available spare disks makes it impossible to avoid placing two disks from one carrier in one RAID group. Setting this option to true allows placing two disks from one carrier in one RAID group. This option has an effect only when disks to be used are specified in 'disks'. This option is ignored when 'disk-count' is used. |
| **auto-provision-target-size** | | integer optional | This field is set to indicate the target size of the aggregate when auto provision is creating it in multiple steps. Range : [0..2^63-1]. |
| **autobalance-state** | | autobalance-aggregate-state optional | The state of the aggregate being balanced. Possible values:<br>• "disabled" - Auto Balance Aggregate is disabled,<br>• "balanced" - Auto Balance Aggregate has determined that the aggregate is below the high-watermark.<br>• "unbalanced" - Auto Balance Aggregate has detected that the aggregate is over the high-watermark but has not initiated any jobs to bring it below the high-watermark.,<br>• "ineligible" - Ineligible<br><br>The states excluded, balanced and unbalanced are available only when Auto Balance Aggregate is enabled. The default value is 'ineligible' |
| **block-type** | | string optional | The indirect block format that the aggregate can have. The default is 64_bit. With a 64_bit block-type creation of aggregates that can be larger than 16TB is allowed. Possible values: 64_bit |
| **checksum-style** | | string optional | Specifies the checksum style for the aggregate. This input is not allowed if a list of disks to use is specified through the "disks" parameter. The possible values:<br>• "advanced_zoned" - advanced_zoned checksum (azcs),<br>• "block" - block, |
| | | | Class of disks to use. Disks are grouped into classes based on their performance characteristics. Disks belonging to the same class are compatible for use in the same aggregate. When this option is used, all disks belonging to the specified disk class are considered eligible for selection. Possible values are:<br>• "capacity" - Capacity-oriented, near-line disk types. Includes disk types FSAS, BSAS and ATA. |

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|---|---|---|---|
| **disk-class** | | string optional | • "performance" - Performance-oriented, enterprise class disk types. Includes disk types FCAL and SAS.<br>• "archive" - Archive class SATA disks in multi-disk carrier storage shelves. Includes disk type MSATA.<br>• "solid-state" - Solid-state drives. Includes disk type SSD and SSD_NVM.<br>• "array" - Logical storage devices backed by storage arrays and used by Data ONTAP as disks. Includes disk type LUN.<br>• "virtual" - Virtual disks that are formatted and managed by the hypervisor. Includes disk type VMDISK.<br><br>This option is not allowed if a disk type is specified through the "disk-type" or "actual-disk-type" option. It is also not allowed if a list of disks to use is specified through the "disks" option. |
| **disk-count** | | integer optional | Number of disks to place into the aggregate, including parity disks. The disks in this newly- created aggregate come from the spare disk pool. The smallest disks in this pool join the aggregate first, unless the "disk-size" argument is provided. Range [0..2^31-1]. Either "disk-count" or "disks" must be supplied. |
| **disk-size** | | integer optional | Disk size in 4KB blocks. Disks that are within 10% of the specified size will be selected for use in the aggregate. If neither "disk-size" nor "disk-size-with-unit" is specified, existing groups are appended with disks that are the best match for the largest disk in the group. When starting new groups, the smallest disks are selected first. This option is ignored if a specific list of disks to use is specified through the "disks" parameter. Range : [0..2^63-1]. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned. |
| **disk-size-with-unit** | | string optional | Disk size in the specified unit. It is a positive integer number followed by unit of "T", "G", "M" or "K". This "disk-size-with-unit" option is ignored if a specific list of disks is specified through the "disks" parameter. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned. |
| **disk-type** | | string optional | Type of disks to use: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, or VMDISK. When this option is used, disks of the specified type or disks of a compatible type will be selected for use in the aggregate. The ability to mix compatible disk types in one aggregate is controlled by these system options: 'raid.mix.hdd.disktype.capacity' 'raid.mix.hdd.disktype.performance' and 'raid.mix.disktype.solid_state'. The "disk-type" option is not allowed if a disk type is specified through the "actual-disk-type" option or if a disk class is specified through the "disk-class" option. It is also not allowed if a list of disks to use is specified through the "disks" option. This option will be deprecated in a future release. Please use "actual-disk-type" or "disk-class" instead. |
| **disks** | | disk-info[] optional | Specific list of disks to use for the new aggregate. To create a "mirrored" aggregate with a specific list of disks, both 'disks' and 'mirror-disks' options must be supplied. Additionally, the same number of disks must be supplied in both lists. This option cannot be used when the 'is-mirrored' option is set to true. |
| **encrypt** | | boolean optional | Enable encryption for the aggregate being created. Default value is false. |
| **encrypt-with-aggr-key** | | boolean optional | Enable NetApp Aggregate Encryption for the aggregate being created. The aggregate will support encryption with aggregate keys. Default value is false. |
| **force-small-aggregate** | | boolean optional | Forces the creation of a 2-disk RAID4 aggregate, or a 3-disk or 4-disk RAID-DP aggregate. The default value is false. |
| **force-spare-pool** | | boolean optional | Disks in a plex are not normally permitted to span spare pools. This behavior is overridden with this option when it is set to true. This is a deprecated parameter. Use the allow-mixed-rpm and ignore-pool-checks parameters instead. |
| | | | Aggregate's HA policy. The only allowed values are "cfo" and "sfo". In |

| | | | |
|---|---|---|---|
| **ha-policy** | | ha-policy-type optional | clustered environments default value is 'sfo' if not specified. In unclustered environments, it is not allowed to specify this attribute as it is always be 'cfo' internally. EINVALIDINPUTERROR is returned if value is other than "cfo" and "sfo". EOP_CLUSTER_ATTR_DISALLOWED is returned if this attribute is used in unclustered environments. |
| **ignore-pool-checks** | | boolean optional | Disks in a plex are normally required to come from the same spare pool. Similarly, disks in different plexes of a mirrored aggregate are required to come from different spare pools. This behavior is overridden with this option when it is set to true. Default value is false. This option can be used only when 'mirror-disks' is provided. |
| **is-autobalance-eligible** | | boolean optional | When set to 'true', the aggregate is included in Auto Balance aggregate processing. The default value is false, meaning that the aggregate is included in Auto Balance Aggregate processing. |
| **is-mirrored** | | boolean optional | Specifies that the new aggregate be mirrored (have two plexes). If set to true, then the indicated disks will be split across the two plexes. By default, the new aggregate will not be mirrored. This option cannot be used when a specific list of disks is supplied with either the 'disks' or 'mirror-disks' options. |
| **is-snaplock** | | boolean optional | Specifies the creation of a SnapLock aggregate. By default, is-snaplock is not specified. When is-snaplock is "true" the type of snaplock aggregate is determined in the following way - 1> If snaplock-type is set, create the type specified in snaplock-type (see snaplock-type for more details) 2> Otherwise, create a Snaplock enterprise aggregate if a Snaplock enterprise license has been installed. 3> Otherwise, create a Snaplock compliance aggregate. ESERVICENOTLICENSED is returned if the required Snaplock Compliance or Enterprise license is not installed. EONTAPI_EWORMNOCLOCK is returned if SnapLock Compliance Clock is not running. If you need to create a snaplock aggregate, the suggested method is to specify snaplock-type as "compliance" or "enterprise" and not specify is-snaplock at all. If you want to create a non-snaplock aggregate, the suggested method is to specify neither snaplock-type nor is-snaplock. |
| **language-code** | | string optional | Specifies the language to use for the volume via a language code. The default language is the one used by the filer's root volume.<br><br>For the full list of available language codes, see 'volume-create'. |
| **mirror-disks** | | disk-info[] optional | List of mirror disks to use. It must contain the same number of disks specified in 'disks'. This option cannot be used when 'is-mirrored' option is set to true. |
| **nodes** | | node-name[] optional | Target node to create aggregate. If no node name is provided, aggregate will be created on the local node. If one node name is provided, aggregate(striped or not_striped based on the striping input) will be created on that node.When multiple nodes are specified, striped aggregate will be created across multiple nodes. |
| **pre-check** | | boolean optional | Only check for the warnings without actually creating the aggregate. This option cannot be used when "simulate" is specified. Default value is false. |
| **raid-size** | | integer optional | Specifies the maximum number of disks in each RAID group in the aggregate. The maximum value for this parameter is 28. The default value is platform- dependent. The valid range of values is also platform-dependent, but never wider than [2..28]. |
| **raid-type** | | string optional | Specifies the type of RAID groups to use in the new aggregate. Possible values: raid4, raid_dp, raid_tec. The default value is raid4 on most platforms. |
| **requested-uuid** | | string optional | If this field is set, the aggr will use this value for its uuid if possible. |
| **rpm** | | integer optional | Rotational speed of disks in revolutions per minute. Possible values are: 5400, 7200, 10000, and 15000. This option is needed only when disks with different rotational speeds are connected to the filer. It is not allowed if a list of disks to use is specified through the "disks" parameter. |
| | | | Specifies to return the list of disks getting used to create the new |

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|---|---|---|---|
| **simulate** | | boolean optional | aggregate. If set to "true", new aggregate won't be created but returns the disks that would be automatically selected for the creation of the aggregate. By default, simulate option is set to false. |
| **snaplock-type** | | string optional | Specifies the type of Snaplock aggregate to be created. Possible values - "compliance", "enterprise" or "non-snaplock". ESERVICENOTLICENSED is returned if the necessary Snaplock compliance or enterprise license has not been installed. EINVALIDINPUTERROR is returned if snaplock-type has an illegal value. EONTAPI_EWORMNOCLOCK is returned if SnapLock Compliance Clock is not running. |
| **so-aggr** | | boolean optional | Specifies creation of an unmirrored aggregate during Switchover. |
| **spare-pool** | | string optional | Specifies the spare pool from which to select spare disks to use in creation of a new aggregate. This option is not allowed if a list of disks specified through the "disks" parameter. This option cannot be used when "is-mirrored" is set to true. Possible values:<br>• "Pool0" - Disks associated with spare Pool0.<br>• "Pool1" - Disks associated with spare Pool1. |
| **striping** | | striping-type optional | Specifies the striping information about new aggregate. The only allowed values are "striped" and "not_striped". Default value is "not_striped". "striped" value creates striped aggregate on node. This attribute is not allowed in unclustered environments. EINVALIDINPUTERROR is returned if value is other than "striped" and "not_striped". EOP_CLUSTER_ATTR_DISALLOWED is returned if this attribute is used in unclustered environments. EOP_DISALLOWED_ON_CFO_AGGR is returned if this attribute is set to "striped" when aggregate being created with 'cfo' HA policy. |
| **type** | | string optional | The type of the aggregate. Possible values: aggr - "aggr" (aggregate contains flexible volumes) If not specified, the default is "aggr." |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-capacity** | | integer optional | Estimated aggregate capacity (in bytes). This is returned only if simulate option is set to true. Range : [0..2^64-1]. |
| **bad-disks** | | disk-info[] optional | List of disks that were not added. This is only returned if there are bad disks. |
| **nonzeroed-disks** | | integer optional | Number of disks that need to be zeroed before being added. This is only returned if there are non-zeroed disks. |
| **pre-check-results** | | warning-code[] optional | Result of the pre-check for possible warnings. Possible warning codes are:<br>• E_WARN_EXCEEDS_HALF_CLUSTER_SIZE<br>• E_WARN_DISK_DOWNSIZE<br>• E_WARN_LOW_SPARE<br>• E_WARN_NEEDS_PARTITIONING<br>• E_WARN_UNUSED_SPARE_PARTITIONS<br>• ECANT_USE_ALL_DISKS |
| **selected-disks** | | aggr-simulate-disk-info[] optional | List of disks that would be used for the creation of the new aggregate. This is only returned if the simulate option is set to true. |
| **selected-disks-for-shared-pool** | | aggr-simulate-disk-info[] optional | List of disks that would be added to a storage pool to grow the aggregate. This is only returned if the simulate option is set to true. |
| **selected-mirror-disks** | | aggr-simulate-disk-info[] optional | List of mirror disks that would be used for the creation of the new aggregate. This is only returned if both the simulate option and the is-mirrored option are set to true. |

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|---|---|---|---|
| **simulation-result** | | aggregate-simulate-layout-info optional | Layout of disks selected for creation of the aggregate. This is returned only if simulate option is set to true. |
| **warning-message** | | string optional | Warning message returned during aggregate creation. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **ECANT_USE_ALL_DISKS** | |
| **ENO_POOL_EXISTS** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ESERVICENOTLICENSED** | |
| **EOP_CLUSTER_ATTR_DISALLOWED** | |
| **EOP_DISALLOWED_ON_CFO_AGGR** | |
| **EAGGR_TOO_LARGE** | |
| **EAGGR_TOO_LARGE_SYSTEM_LIMIT** | |
| **EDISKTYPEWRONGFORSNAPLOCK** | |
| **EDISKTYPEWRONGFORVOL** | |
| **ENOT_A_AZCS_DISK** | |
| **ENO_AZCS_DISKS** | |
| **EONTAPI_EWORMNOCLOCK** | |
| **ESYNCMIRROR_BAD_CONFIG** | |
| **ESYNCMIRROR_NO_PLATFORM** | |
| **ESAME_DISK_CARRIER** | |
| **EFAILED_DISK_IN_CARRIER** | |
| **ENOTORIGDISKOWNER** | |
| **ENOTDISKOWNER** | |
| **EARRAYLUNUNSUPPORTED** | |
| **E_CFT_PRECOMMIT_PHASE** | |
| **E_CFT_QUERY_FAIL** | |
| **EDISK_BAD_DISK_ID** | |
| **EDISK_NOT_SPARE_DISK** | |
| **EDISK_DISK_IS_OFFLINE** | |
| **EDISK_DISK_ALREADY_IN_USE** | |
| **EDISK_NOT_DISKS_SIZE** | |
| **EDISK_NOT_ENOUGH_DISKS** | |
| **EDISK_NO_DISKS_MATCHING_TYPE** | |
| **EDISK_NO_DISKS_MATCHING_RPM** | |
| **EDISK_NO_DISKS_MATCHING_IF_SPEED** | |
| **EDISK_NOT_A_BLOCK_DISK** | |
| **EDISK_NOT_A_ZONED_DISK** | |
| **EDISK_INCORRECT_DISKCOUNT** | |
| **EDISK_NOT_SAME_POOLS** | |
| **EDISK_POOL_ISOLATION_VIOLATION** | |
| **EDISK_DISK_RPM_MISMATCH** | |
| **EDISK_DISK_IF_SPEED_MISMATCH** | |
| **EDISKTYPEWRONGFORSNAPLOCK** | |
| **EDISK_DISK_DR_HOME_MISMATCH** | |
| **ENOT_ALLOWED_WITH_SPARES_LOW_OPTION** | |
| **EDISKTOOSMALL** | |

| | |
|---|---|
| **ENOT_POOL0_DISKS** | |
| **EWRONG_POOL_SO_AGGR** | |
| **ENOT_SUPPORTED_PARAM_SIZE** | |

# aggr-destroy

[top]

Destroys the specified aggregate or plex. If an aggregate is specified, all plexes in the aggregate are destroyed. If a plex is specified, only that plex is destroyed, leaving an unmirrored aggregate containing the remaining plex. The disks in the destroyed object become spare disks. Only offline aggregates and plexes can be destroyed. Note: Offline aggregates will be destroyed even if they contain one or more flexible volumes, which should not typically be the case. From cluster interface only aggregates are supported and plexes are not supported.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name of the existing aggregate or plex to be destroyed, using the following format: [/vol/][] UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. |
| **plex** | | string optional | Name of a particular plex to destroy. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUME_HAS_VFILER_STORAGE** | |
| **E_CFT_PRECOMMIT_PHASE** | |
| **E_CFT_QUERY_FAIL** | |

# aggr-efficiency-cumulated-get

[top]

Display the cumulated efficiency ratio for the specified aggregates

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregates** | | string[] optional | List of the aggregates to calculate cumulated efficiency. |
| **nodes** | | string[] optional | List of nodes to calculate cumulated efficiency. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **aggr-efficiency-cumulated-info** | | aggr-efficiency-cumulated-info optional | Aggregate Storage Efficiency Information |

| Errno | Description |
|---|---|
| **ESENOTFOUNDNODE** | |
| **ESENOTFOUNDCLUSTER** | |

# aggr-efficiency-get-iter

[top]

Display the all Flash optimized aggregates and their storage efficiency.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-efficiency-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aggr-efficiency-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-efficiency object. All aggr-efficiency objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-efficiency-info[] optional | The list of attributes of aggr-efficiency objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr-efficiency objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-get-filer-info

[top]

Get information on what possibilities and parameters exist for aggregates on a given filer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string | Name of the node (filer) |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **allowed-raidtypes** | | raidtype-info[] | List of RAID types allowed for aggregates on this filer. |
| **checksum-types** | | string | Checksum types supported by this filer. The possible values:<br>• "zoned" - if all aggregates are Fixed VBN (this value is no longer supported),<br>• "block" - if all aggregates are Block Appended,<br>• "mixed" - if aggregates are mixed (Fixed VBN, Block Appended and Advanced Zoned),<br>• "none" - if no aggregates have zoned or advanced_zoned checksum (azcs) or block checksums,<br>• "advanced_zoned" - if all aggregates have Advanced Zoned Checksum scheme. |

| | | | |
|---|---|---|---|
| **default-raidtype** | | string | Default type of RAID used to protect against disk failure in aggregates on this filer. Possible values: "raid0", "raid4", "raid_dp", "raid_tec", "mixed_raid_type". |
| **default-raidtype-config** | | default-raidtype-config-info[] optional | List of the RAID type parameters for each disk size and disk type supported on this filer. |
| **disk-types** | | string | Sector sizes of disks supported by this filer. Possible values: "512", "520", "4096", "mixed", "none". "512" if all disks are 512 BPS, "520" if all disks are 520 BPS, "4096" if all disks are 4096 BPS, "mixed" if disks are mixed 512, 520 and 4096 BPS, "none" if no disks have 512 or 520 or 4096 BPS. |
| **max-named-disks-per-request** | | integer | The maximum number of named disks which can be specified to 'storage aggregate add', 'storage aggregate create', or 'storage aggregate mirror' operation. Disk addition process may fail if the specified number of named disk is more than this limit. This value is the maximum number of disk entries which can be specified in 'disks' or 'mirror-disks' argument of 'aggr-create' and 'aggr-add' api. Range : [0..2^31-1]. |
| **min-aggr-disk-count** | | min-aggr-disk-count-info[] optional | Information about the minimum number of disks required in an aggregate. |
| **raidgroup-size** | | raidgroup-size-info[] | List of the RAID group sizing parameters for each RAID type supported on this filer. |
| **root-volume** | | string | Current root volume on the filer. |
| **snapshots-max** | | integer | Maximum number of snapshots available per aggregate on the filer. Range : [0..2^31-1]. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-get-iter

[top]

Iterate over a list of aggregate objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-attributes optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aggr-attributes optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-attributes[] optional | The list of attributes of aggr objects. |
| | | string | Tag for the next call. Not present when there are no more aggr objects |

| | | | |
|---|---|---|---|
| **next-tag** | | optional | to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## aggr-get-root-name

[top]

Return the name of the "root" volume on the filer.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **root-volume** | | string | Name of the root volume for the filer. |

| Vfiler-enabled |
|---|
| **Yes** |

## aggr-list-info

[top]

Get aggregate status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | The aggregate name or UUID to get status for. See the synopsis for name/UUID format. If not supplied, get status of all aggregates owned by the local node. |
| **filter-attrs** | | filter-attrs-info optional | This input is used as a discriminant when status is required for one or more aggregates. This option will be ignored when an aggregate name is specified. If no argument is supplied, default value is NULL. If this is NULL or all of its elements are not supplied, then this filter has no effect and the behavior is the same as described in the 'aggregate' input description. |
| **verbose** | | boolean optional | If set to "true", detailed volume and plex information (including all the RAID group and disk information) is returned. If not supplied or set to "false", this extra information is not returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **aggregates** | | aggr-info[] | List of aggregates and their status. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ELOWMEMORY** | |
| **ENODENOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# aggr-mediascrub-list-info

[top]

Get the status of media scrubbing on the named aggregate, plex, or RAID group. Status includes percentage complete and the media scrub's status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of an existing aggregate, plex, or RAID group, using the following format: [/vol/][][] If no name is given, then status is generated for all RAID groups currently being media-scrubbed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **mediascrub-details** | | mediascrub-detail-info[] | List of RAID groups and their media scrub status. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-mirror

[top]

Turns an unmirrored aggregate into a mirrored aggregate by adding a plex to it. The plex is either newly formed from disks chosen from a spare pool or, if the "victim-aggregate" option is specified, taken from another existing unmirrored aggregate. The named aggregate must currently be unmirrored. Disks may be specified explicitly using the "mirror-disks" list option in the same way as with the "aggr-create" and "aggr-add" commands. The number of disks indicated must match the number present in the existing aggregate. If disks are not specified explicitly, then disks are automatically selected to match those in the aggregate's existing plex.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name of the existing aggregate to be mirrored. UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. |
| **allow-mixed-rpm** | | boolean optional | Disks in an aggregate are normally required to have the same RPM. This behavior is overridden with this option when it is set to true. Default value is false. |
| **allow-same-carrier** | | boolean optional | Using two disks from one carrier that houses multiple disks in one RAID group is not desirable. If that happens, Data ONTAP initiates a series of disk copy operations to correct that situation. Sometimes, selection of available spare disks makes it impossible to avoid placing two disks from one carrier in one RAID group. Setting this option to true allows placing two disks from one carrier in one RAID group. This option has an effect only when disks to be used are specified in 'disks'. This option is ignored when 'disk-count' is used. |
| **force** | | boolean optional | Force the mirroring operation through, past the normal roadblocks that would otherwise cause it to be aborted. For example, disks in a plex are not normally permitted to span spare pools. Also, the victim cannot normally be accepted when it is owned by one or more vfilers. All these safety-driven behaviors are overridden when this option is set to true. This is a deprecated parameter. Use the allow-mixed-rpm and ignore-pool-checks parameters instead. |
| **ignore-pool-checks** | | boolean optional | Disks in a plex are normally required to come from the same spare pool. Similarly, disks in different plexes of a mirrored aggregate are required to come from different spare pools. This behavior is overridden with this option when it is set to true. Default value is false. |

| | | | |
|---|---|---|---|
| **mirror-disks** | | disk-info[] optional | Specific list of mirror disks to add. This list must match the number of disks present on the existing aggregate. The specified disks are not permitted to span disk pools unless overridden with the "force-spare-pool" option. |
| **override-vfiler-ownership** | | boolean optional | The victim aggregate cannot normally be accepted when it is owned by one or more vfilers. This option may be set to true in order to override that restriction. The option is ignored if 'victim-aggregate' is not specified. |
| **pre-check** | | boolean optional | Only check for the warnings without actually mirroring the aggregate. Default value is false. |
| **simulate** | | boolean optional | Simulates the addition of a new plex to an existing aggregate. If set to "true", new plex won't be added but returns the disks that would be automatically selected for the creation of the new plex. By default, simulate option is set to false. |
| **victim-aggregate** | | string optional | The "victim" aggregate to cannibalize in order to mirror the named aggregate. The "victim-aggregate" must have been previously joined with the aggregate to be mirrored and then split from it. The resulting mirrored aggregate is otherwise identical to the original aggregate before the operation. The "victim-aggregate" (and all its volumes) is effec- tively destroyed. "victim-aggregate" (and all its volumes) must be offline. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-capacity** | | integer optional | Estimated increase in aggregate capacity (in bytes). This is returned only if simulate option is set to true. Range : [0..2^64-1]. |
| **bad-disks** | | disk-info[] optional | List of disks that were not added. This is only returned if there are bad disks. |
| **nonzeroed-disks** | | integer optional | Number of disks that need to be zeroed before being added. This is only returned if there are non-zeroed disks. |
| **pre-check-results** | | warning-code[] optional | Result of the pre-check for possible warnings.<br>• E_WARN_DISK_DOWNSIZE<br>• E_WARN_LOW_SPARE<br>• E_WARN_NEEDS_PARTITIONING<br>• E_WARN_UNUSED_SPARE_PARTITIONS<br>• ECANT_USE_ALL_DISKS |
| **selected-disks** | | aggr-simulate-disk-info[] optional | List of disks that would be used to create the new plex of an existing aggregate. This is only returned if the simulate option is set to true. |
| **selected-disks-for-shared-pool** | | aggr-simulate-disk-info[] optional | List of disks that would be partitioned as part of mirroring an existing aggregate. This is only returned if the simulate option is set to true. |
| **selected-mirror-disks** | | aggr-simulate-disk-info[] optional | This is a dummy output needed to make aggr mirror disk list processing similar to aggr create and aggr add. |
| **simulation-result** | | aggregate-simulate-layout-info optional | Layout of disks selected for mirroring the existing aggregate. This is returned only if simulate option is set to true. |
| **warning-message** | | string optional | Warning message returned during aggr mirror. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEDISKSIZEINVALID** | |
| | |

| | |
|---|---|
| **ESYNCMIRROR_BAD_CONFIG** | |
| **ESYNCMIRROR_NO_PLATFORM** | |
| **ESAME_DISK_CARRIER** | |
| **EFAILED_DISK_IN_CARRIER** | |
| **ENOTORIGDISKOWNER** | |
| **ENOTDISKOWNER** | |
| **ESYNCMIRROR_JOIN_DISKTYPE_MISMATCH** | |
| **ESYNCMIRROR_JOIN_CKSUMTYPE_MISMATCH** | |
| **ESYNCMIRROR_JOIN_RAIDTYPE_MISMATCH** | |
| **EARRAYLUNUNSUPPORTED** | |
| **E_CFT_PRECOMMIT_PHASE** | |
| **E_CFT_QUERY_FAIL** | |
| **EDISKTYPEWRONGFORSNAPLOCK** | |
| **EDISK_BAD_DISK_ID** | |
| **EDISK_NOT_SPARE_DISK** | |
| **EDISK_DISK_IS_OFFLINE** | |
| **EDISK_DISK_ALREADY_IN_USE** | |
| **EDISK_INCORRECT_DISKCOUNT** | |
| **EDISK_NOT_A_BLOCK_DISK** | |
| **EDISK_NOT_A_ZONED_DISK** | |
| **EDISK_NO_ZONED_DISKS** | |
| **EDISK_NOT_DISKS_SIZE** | |
| **EDISK_DISK_RPM_MISMATCH** | |
| **EDISK_NOT_ENOUGH_DISKS** | |
| **EDISK_NO_DISKS_MATCHING_TYPE** | |
| **EDISK_NO_DISKS_MATCHING_RPM** | |
| **EDISK_NO_DISKS_MATCHING_IF_SPEED** | |
| **EJOIN_NO_COMMON_SNAPSHOT** | |
| **EJOIN_SNAP_CURRENTLY_INVALID** | |
| **EJOIN_CONFIG_MISMATCH** | |
| **EJOIN_WAFL_INCONSISTENT** | |
| **EJOIN_CKSUM_STATE_MISMATCH** | |
| **EJOIN_LOCAL_ID_MISMATCH** | |
| **EDISK_NOT_SAME_POOLS** | |
| **ECKSUM_ZONED_CKSUM_INITIALIZING_PHASE1** | |
| **EDISK_DISK_IF_SPEED_MISMATCH** | |
| **ESNAPSHOT_CANT_INCREASE_SNAP_RESERVE** | |
| **EDISK_DISK_DR_HOME_MISMATCH** | |

# aggr-modify-raid-type

[top]

Modify the RAID type for the given aggregate to the specified "raid-type". This API can also selectively change the RAID type of specific raid groups in the aggregate based on the specified "disk-type". The change remains effective even if the filer is rebooted. This API does not support modifying options of a striped aggregate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name or UUID of the aggregate whose option is to be set. See the synopsis for name/UUID format and restrictions. |
| | | | Type of disks to use : ATA, BSAS, FCAL, FSAS, LUN, SAS, SSD, SSD_NVM, |

| | | | |
|---|---|---|---|
| **disk-type** | | string optional | or VMDISK. This option is required if we want to change the raid type of raid groups created out of the specified disks only. Otherwise, if this is not specified then the raid type for all raid groups in the aggregate would change. |
| **raid-type** | | string | possible values: "raid4","raid_dp","raid_tec" The type of RAID group used for this aggregate. The "raid4" setting provides one parity disk per RAID group, while "raid_dp" provides two. Changing this option immediately changes the RAID group type for the RAID groups in the aggregate. When upgrading RAID groups from "raid4" to "raid_dp", each RAID group begins a reconstruction onto a spare disk allocated for the second "dparity" parity disk. Similarly, when upgrading RAID groups from "raid_dp" to "raid_tec", each RAID group begins a reconstruction onto a spare disk allocated for the third "tparity" parity disk. |
| **simulate** | | boolean optional | Simulates modifying the raid type of the aggregate. If set to "true", raid type will not be changed but, any possible warnings will be returned back. Default value is "false". |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **pre-check-results** | | warning-code[] optional | Warnings from pre checking of raid type modification. Possible warning codes are:<br>• E_WARN_LOW_SPARE |
| **simulation-result** | | modify-raid-type-simulate-info optional | Results from simulation of raid type modification. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EMIXED_RAIDTYPE_AGGR_NOT_HYBRID** | |
| **EMIN_DISK_FOR_UPGRADE_TO_RAIDTP** | |
| **EGROUPTYPE_ALREADY_RAIDTP** | |
| **EGROUPTYPE_ALREADY_RAIDDP** | |
| **EGROUPTYPE_ALREADY_RAID4** | |
| **EMIXED_TREE_MISSING_DISKTYPE** | |
| **EGROUP_NOT_FOUND_DISKTYPE** | |

# aggr-object-store-attach

[top]

Attach an object store to an aggregate

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name of the Aggregate |
| **allow-flexgroup** | | boolean optional | Allow Existing FlexGroup Constituents in the Aggregate on Attach |
| **check-only** | | boolean optional | Validate But Do Not Attach |
| **object-store-name** | | string | Object Store Configuration Name |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ELOWMEMORY** | |
| **ENODENOTFOUND** | |
| **E_AGGREGATE_ALREADY_FABRIC_POOL** | |
| **E_AGGREGATE_OBJ_STORE_CAPABILITY_CHECK_FAILED** | |
| **E_AGGREGATE_OBJ_STORE_CAPABILITY_NOT_ENABLED** | |
| **E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_HYBRID_AGGR** | |
| **E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_HYBRID_ENABLED_AGGR** | |
| **E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_NON_SSD** | |
| **E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_MIRRORED_AGGR** | |
| **E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_SNAPLOCK_COMPLIANCE_AGGR** | |
| **E_AGGREGATE_ECV_UNSUPPORTED_ADD_OBJ_STORE_TO_SNAPLOCK_ENTERPRISE_AGGR** | |
| **E_AGGREGATE_ECV_UNSUPPORTED_ADD_OBJ_STORE_TO_SNAPLOCK_COMPLIANCE_AGGR** | |
| **E_AGGREGATE_OBJ_STORE_FABRICPOOL_PVR_LICENSE_DOESNT_EXIST** | |
| **E_AGGREGATE_OBJ_STORE_FABRICPOOL_PVR_LICENSE_INCORRECT** | |
| **E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_ROOT_AGGR** | |
| **E_AGGREGATE_CANNOT_ADD_OBJ_STORE_TO_ADB_AGGR** | |
| **E_AGGREGATE_OBJ_STORE_INCOMPATIBLE_GUARANTEE** | |
| **E_AGGREGATE_OBJ_STORE_INCOMPATIBLE_VOLUME_TYPE_FLEXGROUP** | |
| **E_AGGREGATE_OBJ_STORE_INCOMPATIBLE_VOLUME_TYPE_IV** | |
| **E_AGGREGATE_OBJ_STORE_MIN_TPT_CHECK_FAILED** | |
| **E_VSERVERDR_CANNOT_CONVERT_TO_FABRIC_POOL** | |
| **E_AGGREGATE_CANNOT_ATTACH_OBJ_STORE_TO_DISK_TYPE** | |
| **E_OBJSTORE_CLIENT_OPERATION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_SERVER_ERROR** | |
| **E_OBJSTORE_CLIENT_CONNECTION_ERROR** | |
| **E_OBJSTORE_CLIENT_INTERNAL_ERROR** | |
| **E_OBJSTORE_CLIENT_ACCESS_DENIED** | |
| **E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED** | |
| **E_OBJSTORE_CLIENT_DNS_NOT_FOUND** | |
| **E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_NO_SUCH_BUCKET** | |
| **E_OBJSTORE_CLIENT_INTER_CLUSTER_LIF_NOT_CONFIGURED** | |
| **E_OBJSTORE_CLIENT_SERVER_CERTIFICATE_VERIFY_FAILED** | |
| **E_OBJSTORE_CLIENT_STORE_INACCESSIBLE** | |
| **E_OBJSTORE_CLIENT_TLS** | |
| **E_OBJSTORE_CLIENT_OTHER** | |
| **E_OBJSTORE_CLIENT_IPV4_INTER_CLUSTER_LIF_NOT_CONFIGURED** | |
| **E_OBJSTORE_CLIENT_SERVER_IPV4_NOT_FOUND** | |

# aggr-object-store-config-create

[top]

Create an object store configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-key** | | string optional | Access key ID for AWS_S3, SGWS and ONTAP_S3 provider types |
| | | | Authentication used to access the object store. Supported values are: |

| | | | |
|---|---|---|---|
| **auth-type** | | string optional | • 'key' - Access keys provided by admin<br>• 'CAP' - Access keys and session token retrieved from the C2S Access Portal (CAP)<br>• 'EC2-IAM' - In Cloud Volumes ONTAP access keys and session token retrieved from the EC2 instance metadata for the IAM role associated with EC2 instance<br>• 'GCP-SA' - In Cloud Volumes ONTAP session token retrieved from the GCP instance metadata for the Service Account associated with GCP instance<br>• 'Azure-MSI' - In Cloud Volumes ONTAP session token retrieved from the Azure Managed Service Identity (MSI) associated with the instance |
| **azure-account** | | string optional | Azure account |
| **azure-private-key** | | string optional | Azure access key |
| **azure-sas-token** | | string optional | Azure Account Shared Access Signature token |
| **cap-url** | | string optional | URL to request temporary credentials for a C2S account. |
| **check-only** | | boolean optional | Do not create a config. Only check that create could succeed. |
| **ignore-warning-codes** | | integer[] optional | Input list with warning codes which can be ignored. |
| **ipspace** | | string optional | IPspace to use in order to reach the object store. |
| **is-certificate-validation-enabled** | | boolean optional | Is SSL/TLS certificate validation enabled. The default value is 'true'. |
| **object-store-name** | | string | Name for the object store configuration to be created. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. |
| **port** | | integer optional | Port number of the object store |
| **provider-type** | | string | Type of object store provider. Allowed values are:<br>• 'AWS_S3' - AWS S3<br>• 'SGWS' - StorageGRID Webscale<br>• 'Azure_Cloud' - Microsoft Azure Cloud<br>• 'IBM_COS' - IBM Cloud Object Storage<br>• 'AliCloud' - Alibaba Cloud Object Storage Service<br>• 'GoogleCloud' - Google Cloud Storage<br>• 'ONTAP_S3' - ONTAP S3 |
| **s3-name** | | string | Data bucket/container name |
| **secret-password** | | string optional | Secret access key for AWS_S3, SGWS and ONTAP_S3 provider types |
| **server** | | string | Fully qualified domain name of the object store |
| **ssl-enabled** | | boolean optional | SSL/HTTPS enabled or not. The default value is 'true'. |
| **url-style** | | object-store-url-style optional | URL style used to access S3 bucket. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **confirm-warning-** | | integer[] | Output list with warning codes which have to be confirmed. |

| | | | |
|---|---|---|---|
| **codes** | | optional | |
| **confirm-warning-texts** | | string[]<br>optional | Output list with warning texts which have to be confirmed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ELOWMEMORY** | |
| **ENODENOTFOUND** | |
| **E_OBJSTORE_CLIENT_OPERATION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_SERVER_ERROR** | |
| **E_OBJSTORE_CLIENT_CONNECTION_ERROR** | |
| **E_OBJSTORE_CLIENT_INTERNAL_ERROR** | |
| **E_OBJSTORE_CLIENT_ACCESS_DENIED** | |
| **E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED** | |
| **E_OBJSTORE_CLIENT_DNS_NOT_FOUND** | |
| **E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_NO_SUCH_BUCKET** | |
| **E_OBJSTORE_CLIENT_INTER_CLUSTER_LIF_NOT_CONFIGURED** | |
| **E_OBJSTORE_CLIENT_SERVER_CERTIFICATE_VERIFY_FAILED** | |
| **E_OBJSTORE_CLIENT_INVALID_BUCKET_NAME** | |
| **E_OBJSTORE_CLIENT_STORE_INACCESSIBLE** | |
| **E_OBJSTORE_CLIENT_TLS** | |
| **E_OBJSTORE_CLIENT_OTHER** | |
| **E_AGGREGATE_OBJ_STORE_CREATION_NOT_ALLOWED** | |
| **E_AGGREGATE_OBJ_STORE_SERVER_NAME_INVALID** | |
| **E_AGGREGATE_OBJECT_STORE_AVAILABILITY_CHECK_FAILED** | |
| **E_AGGREGATE_OBJ_STORE_MAX_LIMIT_REACHED** | |
| **E_AGGREGATE_OBJ_STORE_CREATION_NOT_ALLOWED_SDOT** | |
| **E_AGGREGATE_OBJ_STORE_AZURE_INVALID_FIELDS** | |
| **E_AGGREGATE_OBJ_STORE_NON_AZURE_INVALID_FIELDS** | |
| **E_AGGREGATE_OBJ_STORE_IP_AZURE_ACCOUNT_S3_NAME_NOT_UNIQUE** | |
| **E_AGGREGATE_OBJ_STORE_AZURE_PROVIDER_NOT_ALLOWED** | |
| **E_AGGREGATE_OBJ_STORE_S3_COMPATIBLE_CAPABILITY_CHECK_FAILED** | |
| **E_AGGREGATE_OBJ_STORE_S3_COMPATIBLE_CAPABILITY_NOT_ENABLED** | |
| **E_AGGREGATE_OBJ_STORE_FABRICPOOL_PVR_LICENSE_DOESNT_EXIST** | |
| **E_AGGREGATE_OBJ_STORE_FABRICPOOL_PVR_LICENSE_INCORRECT** | |
| **E_AGGREGATE_OBJ_STORE_SERVER_TYPE_MISMATCH** | |
| **E_AGGREGATE_OBJ_STORE_CERTIFICATE_VALIDATION_MUST_BE_ENABLED** | |
| **E_AGGREGATE_OBJ_STORE_CERTIFICATE_VALIDATION_INAPPLICABLE** | |
| **E_AGGREGATE_OBJ_STORE_CERTIFICATE_VALIDATION_WARNING** | |
| **E_AGGREGATE_OBJ_STORE_DISABLING_CERTIFICATE_VALIDATION_NOT_ALLOWED** | |
| **E_AGGREGATE_OBJ_STORE_URL_STYLE_INVALID** | |
| **E_OBJSTORE_CLIENT_IPV4_INTER_CLUSTER_LIF_NOT_CONFIGURED** | |
| **E_OBJSTORE_CLIENT_SERVER_IPV4_NOT_FOUND** | |

# aggr-object-store-config-delete

[top]

Delete an object store configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **object-store-name** | | string | Name for the object store configuration to be created. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ELOWMEMORY** | |
| **ENODENOTFOUND** | |

# aggr-object-store-config-get

[top]

Get the attributes of an object store configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-object-store-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **object-store-name** | | string | Name for the object store configuration to be created. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | aggr-object-store-config-info | The attributes of the aggr. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# aggr-object-store-config-get-iter

[top]

Iterate over a list of object store configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-object-store-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| | | | |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aggr-object-store-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-object-store-config-info[] optional | The list of attributes of aggr objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-object-store-config-modify

[top]

Modify an existing object store configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-key** | | string optional | Access key ID for AWS_S3, SGWS and ONTAP_S3 provider types |
| **auth-type** | | string optional | Authentication used to access the object store. Supported values are:<br>• 'key' - Access keys provided by admin<br>• 'CAP' - Access keys and session token retrieved from the C2S Access Portal (CAP)<br>• 'EC2-IAM' - In Cloud Volumes ONTAP access keys and session token retrieved from the EC2 instance metadata for the IAM role associated with EC2 instance<br>• 'GCP-SA' - In Cloud Volumes ONTAP session token retrieved from the GCP instance metadata for the Service Account associated with GCP instance<br>• 'Azure-MSI' - In Cloud Volumes ONTAP session token retrieved from the Azure Managed Service Identity (MSI) associated with the instance |
| **azure-account** | | string optional | Azure account |
| **azure-private-key** | | string optional | Azure access key |
| **azure-sas-token** | | string optional | Azure Account Shared Access Signature token |
| **cap-url** | | string optional | URL to request temporary credentials for a C2S account. |

| | | | |
|---|---|---|---|
| **check-only** | | boolean optional | Do not create a config. Only check that create could succeed. |
| **ignore-warning-codes** | | integer[] optional | Input list with warning codes which can be ignored. |
| **ipspace** | | string optional | IPspace to use in order to reach the object store. |
| **is-certificate-validation-enabled** | | boolean optional | Is SSL/TLS certificate validation enabled. The default value is 'true'. |
| **new-object-store-name** | | string optional | New object store configuration name |
| **object-store-name** | | string | Name for the object store configuration to be created. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. |
| **port** | | integer optional | Port number of the object store |
| **secret-password** | | string optional | Secret access key for AWS_S3, SGWS and ONTAP_S3 provider types |
| **server** | | string optional | Fully qualified domain name of the object store |
| **ssl-enabled** | | boolean optional | SSL/HTTPS enabled or not. The default value is 'true'. |
| **url-style** | | object-store-url-style optional | URL style used to access S3 bucket. |
| **use-iam-role** | | boolean optional | Use IAM role for AWS Cloud Volumes ONTAP |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **confirm-warning-codes** | | integer[] optional | Output list with warning codes which have to be confirmed. |
| **confirm-warning-texts** | | string[] optional | Output list with warning texts which have to be confirmed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ELOWMEMORY** | |
| **ENODENOTFOUND** | |
| **E_OBJSTORE_CLIENT_OPERATION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_SERVER_ERROR** | |
| **E_OBJSTORE_CLIENT_CONNECTION_ERROR** | |
| **E_OBJSTORE_CLIENT_INTERNAL_ERROR** | |
| **E_OBJSTORE_CLIENT_ACCESS_DENIED** | |
| **E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED** | |
| **E_OBJSTORE_CLIENT_DNS_NOT_FOUND** | |
| **E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_NO_SUCH_BUCKET** | |
| **E_OBJSTORE_CLIENT_INTER_CLUSTER_LIF_NOT_CONFIGURED** | |
| **E_OBJSTORE_CLIENT_SERVER_CERTIFICATE_VERIFY_FAILED** | |
| **E_OBJSTORE_CLIENT_STORE_INACCESSIBLE** | |

| | |
|---|---|
| **E_OBJSTORE_CLIENT_TLS** | |
| **E_OBJSTORE_CLIENT_OTHER** | |
| **E_AGGREGATE_OBJ_STORE_SERVER_NAME_INVALID** | |
| **E_AGGREGATE_OBJECT_STORE_AVAILABILITY_CHECK_FAILED** | |
| **E_AGGREGATE_OBJ_STORE_AZURE_INVALID_FIELDS** | |
| **E_AGGREGATE_OBJ_STORE_NON_AZURE_INVALID_FIELDS** | |
| **E_AGGREGATE_OBJ_STORE_IP_AZURE_ACCOUNT_S3_NAME_NOT_UNIQUE** | |
| **E_AGGREGATE_OBJ_STORE_SERVER_TYPE_MISMATCH** | |
| **E_AGGREGATE_OBJ_STORE_CERTIFICATE_VALIDATION_MUST_BE_ENABLED** | |
| **E_AGGREGATE_OBJ_STORE_CERTIFICATE_VALIDATION_INAPPLICABLE** | |
| **E_AGGREGATE_OBJ_STORE_CERTIFICATE_VALIDATION_WARNING** | |
| **E_AGGREGATE_OBJ_STORE_DISABLING_CERTIFICATE_VALIDATION_NOT_ALLOWED** | |
| **E_AGGREGATE_OBJ_STORE_URL_STYLE_INVALID** | |
| **E_OBJSTORE_CLIENT_IPV4_INTER_CLUSTER_LIF_NOT_CONFIGURED** | |
| **E_OBJSTORE_CLIENT_SERVER_IPV4_NOT_FOUND** | |

# aggr-object-store-config-provider-list

[top]

Returns a list of supported object store providers.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **available-provider-status** | | string[] optional | Indicates status (enabled or disabled) of available object store providers |
| **available-providers** | | string[] optional | List of all available object store providers including those that can be enabled |
| **supported-providers** | | string[] optional | List of supported object store providers that are enabled |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# aggr-object-store-get-iter

[top]

Display a list of aggregates which object stores are attached to.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | object-store-information optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | object-store-information optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-object-store object. All aggr-object-store objects matching this query up to 'max-records' will be returned. |
| **tag** | | string | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' |

| | | | |
|---|---|---|---|
| | | optional | obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | object-store-information[] optional | The list of attributes of aggr-object-store objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr-object-store objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-object-store-get-resync-status-iter

[top]

Display a list of cloud mirrored FabricPools and their mirror object store resync related info. This information is only available when the aggregate is online.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-object-store-resync-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aggr-object-store-resync-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-object-store object. All aggr-object-store objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-object-store-resync-info[] optional | The list of attributes of aggr-object-store objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr-object-store objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-object-store-mirror

[top]

Attaches a second object store to a FabricPool aggregate to create a mirror

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name of the Aggregate |
| **object-store-name** | | string | Object Store Configuration Name |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ENODENOTFOUND** | |
| **E_AGGREGATE_CLOUD_MIRROR_ECV_INVALID** | |
| **E_AGGREGATE_NOT_FABRIC_POOL** | |
| **E_AGGREGATE_ALREADY_CLOUD_MIRRORED_FABRIC_POOL** | |
| **E_AGGREGATE_OBJ_STORE_CAPABILITY_CHECK_FAILED** | |
| **E_AGGREGATE_OBJ_STORE_CAPABILITY_NOT_ENABLED** | |
| **E_OBJSTORE_ALREADY_ATTACHED_TO_FABRICPOOL** | |
| **E_OBJSTORE_UNMIRRORED_CLEANING_UP_IN_PROGRESS** | |
| **E_OBJSTORE_CLIENT_OPERATION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_SERVER_ERROR** | |
| **E_OBJSTORE_CLIENT_CONNECTION_ERROR** | |
| **E_OBJSTORE_CLIENT_INTERNAL_ERROR** | |
| **E_OBJSTORE_CLIENT_ACCESS_DENIED** | |
| **E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED** | |
| **E_OBJSTORE_CLIENT_DNS_NOT_FOUND** | |
| **E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_NO_SUCH_BUCKET** | |
| **E_OBJSTORE_CLIENT_INTER_CLUSTER_LIF_NOT_CONFIGURED** | |
| **E_OBJSTORE_CLIENT_SERVER_CERTIFICATE_VERIFY_FAILED** | |
| **E_MIRROR_AGGREGATE_UNMIRROR_IN_PROGRESS** | |

# aggr-object-store-modify

[top]

Modify object store specific parameters.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name of the aggregate. |
| **force-tiering-on-metrocluster** | | boolean optional | Force tiering on the primary object store, for FabricPool in a MetroCluster configuration. |
| **migrate-threshold** | | integer optional | Minimum Aggregate Space Threshold |
| **mirror-type** | | string optional | Object store mirror type. |
| **object-store-name** | | string | Name of the object store configuration attached to the aggregate. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| | |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **E_AGGREGATE_OBJ_STORE_CAPABILITY_CHECK_FAILED** | |
| **E_AGGREGATE_OBJ_STORE_CAPABILITY_NOT_ENABLED** | |
| **E_AGGREGATE_OBJ_STORE_BIN_SIZE_LIMIT_INVALID** | |
| **E_AGGREGATE_OBJ_STORE_BAD_UNRECLAIM_THRESHOLD** | |
| **E_CAPABILITY_NOT_CLUSTERWIDE** | |
| **E_AGGREGATE_FABRICPOOL_NOT_CLOUDMIRRORED** | |
| **E_AGGREGATE_OBJ_STORE_NOT_IN_SYNC** | |
| **E_AGGREGATE_FAILED_TO_SWAP_MIRROR_TYPE** | |
| **E_AGGREGATE_OBJ_STORE_MODIFY_MIRROR_NOT_ALLOWED** | |
| **E_AGGREGATE_CAPABILITY_NOT_ENABLED_ON_MCC** | |
| **E_AGGREGATE_FP_CLOUD_MIRRORED_IN_MCC** | |
| **E_AGGREGATE_FP_MCC_NOT_CONFIGURED** | |
| **E_AGGREGATE_FAILED_TO_FORCE_TIER_ON_MCC** | |

# aggr-object-store-profiler-abort

[top]

Abort the object store profiler

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Node on Which the Profiler Should Run |
| **object-store-name** | | string | Object Store Configuration Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# aggr-object-store-profiler-get-iter

[top]

Get object store profiler status

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-object-store-profiler-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aggr-object-store-profiler-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-object-store-profiler object. All aggr-object-store-profiler objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-object-store-profiler-info[] optional | The list of attributes of aggr-object-store-profiler objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr-object-store-profiler objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-object-store-profiler-start

[top]

Start the object store profiler to measure latency and throughput

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Node on Which the Profiler Should Run |
| **object-store-name** | | string | Object Store Configuration Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# aggr-object-store-unmirror

[top]

Remove the second object store from a mirrored FabricPool

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name of the Aggregate |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ENODENOTFOUND** | |
| **E_AGGREGATE_CLOUD_MIRROR_ECV_INVALID** | |
| **E_AGGREGATE_NOT_FABRIC_POOL** | |
| **E_AGGREGATE_NOT_CLOUD_MIRRORED_FABRIC_POOL** | |
| **E_AGGREGATE_PRIMARY_OBJ_STORE_UNAVAILABLE** | |
| **E_AGGREGATE_OBJ_STORE_CAPABILITY_CHECK_FAILED** | |
| **E_AGGREGATE_OBJ_STORE_CAPABILITY_NOT_ENABLED** | |
| **E_OBJSTORE_UNMIRROR_CLEAN_UP_ALREADY_IN_PROGRESS** | |
| **E_OBJSTORE_CLIENT_OPERATION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_SERVER_ERROR** | |

| | |
|---|---|
| **E_OBJSTORE_CLIENT_CONNECTION_ERROR** | |
| **E_OBJSTORE_CLIENT_INTERNAL_ERROR** | |
| **E_OBJSTORE_CLIENT_ACCESS_DENIED** | |
| **E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED** | |
| **E_OBJSTORE_CLIENT_DNS_NOT_FOUND** | |
| **E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_NO_SUCH_BUCKET** | |
| **E_OBJSTORE_CLIENT_INTER_CLUSTER_LIF_NOT_CONFIGURED** | |
| **E_OBJSTORE_CLIENT_SERVER_CERTIFICATE_VERIFY_FAILED** | |
| **E_UNMIRROR_AGGREGATE_DELETED_CLEAN_UP_IN_PROGRESS** | |
| **E_UNMIRROR_AGGREGATE_MIRROR_IN_PROGRESS** | |
| **E_AGGREGATE_UNMIRROR_TRY_AGAIN** | |

# aggr-object-store-vol-btuuids-get-iter

[top]

Display a list of volume buftree UUIDs in a FabricPool aggregate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | object-store-vol-btuuids-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | object-store-vol-btuuids-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-object-store-vol-btuuids object. All aggr-object-store-vol-btuuids objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | object-store-vol-btuuids-info[] optional | The list of attributes of aggr-object-store-vol-btuuids objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr-object-store-vol-btuuids objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-offline

[top]

Take the specified aggregate or plex offline. The operation takes effect before the API returns. Except in maintenance mode, the current root aggregate may not be taken offline. An aggregate marked to become the root aggregate cannot be taken offline. An aggregate containing one or more flexible volumes cannot be taken offline; its contained volumes must first be destroyed. A number of operations being performed on the given aggregate can prevent this operation from succeeding, either at all or for various lengths of time. If such operations are found, the system waits up to one second for them to finish. If they don't, the command is aborted. A check is also made for files in the aggregate opened by internal Data ONTAP processes. The command is aborted if any are found.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name of the existing aggregate or plex to offline, using the following format: [[/vol]/][] UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. If the aggregate hosts any online volumes, then the offline request will fail unless the optional "unmount-volumes" argument (see below) appears and is set to TRUE. If we've been cleared to unmount any such online volumes hosted by the aggregate, the caller may also specify the number of seconds to wait should any of those volumes have active CIFS shares through the optional "cifs-delay-seconds" argument (see below). If a plex name is specified, the plex must be part of a mirrored aggregate, and both plexes must be online. Prior to offlining a plex, the system will flush all internally-buffered data associated with the plex and create a snapshot that is written out to both plexes. The snapshot allows for efficient resynchronization when the plex is subsequently brought back online. For ontap-cluster, plexinfo is being deprecated in lieu of the plex parameter. |
| **cifs-delay-seconds** | | integer optional | The number of seconds to wait before offlining any volumes that are hosted in the given aggregate that have active CIFS shares (if any). A value of 0 means that all such volumes are to be offlined immediately with no warning. CIFS users can lose data if they aren't given a chance to terminate applications gracefully. By default, "cifs-delay-seconds" is 0. NOTE: This argument may ONLY appear if the "unmount-volumes" argument (see above) also appears and is set to "TRUE". |
| **cloning-disks** | | boolean optional | The aggregate is being taken offline to initiate disk cloning for fast resync. The offline operation with this flag set is only allowed on mirrored aggregate which has a failed plex. Default value of "cloning-disks" is "false". |
| **force-offline** | | boolean optional | An aggregate cannot normally be brought offline if it contains a system volume. This behavior is overridden when this option is set "true". Forcing the aggregate offline might impact cross cluster replication. By default "force-offline" is "false". |
| **plex** | | string optional | Name of a particular plex to offline. If no plex is specified, then the aggregate will be taken offline. If a plex is specified, the plex must be part of a mirrored aggregate, and both plexes must be online. Prior to offlining a plex, the system will flush all internally-buffered data associated with the plex and create a snapshot that is written out to both plexes. The snapshot allows for efficient resynchronization when the plex is subsequently brought back online. |
| **unmount-volumes** | | boolean optional | If set to "TRUE", this option specifies that all of the volumes hosted by the given aggregate are to be unmounted before the offline operation is executed. By default, the system will reject any attempt to offline an aggregate that hosts one or more online volumes. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEBUSY** | |

# aggr-online

[top]

Bring the specified aggregate or plex online. This command takes effect immediately. All volumes on the aggregate are brought to whatever state they were in before the aggregate was restricted or taken offline. If there are CIFS shares associated with the any of the aggregate's volumes that were also onlined, they are enabled.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name of the existing aggregate or plex to online, using the following format: [/vol/][] UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. If an aggregate is specified, it must currently be offline, restricted, or foreign (consisting of disks moved from another filer, and never having been brought online on the current filer). If the aggregate is foreign, it will be made native before being brought online on the current filer. Aggregates that aren't foreign are termed "native". If the aggregate is inconsistent but has not lost data, it is advisable to run WAFL_check or wafliron (or do a "snapmirror initialize" in case of a replica aggregate) prior to bringing it online. Bringing an inconsistent aggregate online increases the risk of further file system corruption. If the aggregate is inconsistent and has experienced possible loss of data, it can't be brought online unless WAFL_check or wafliron (or snapmirror initialize) is run on it. If a plex is specified, it must be part of an online mirrored aggregate. The system initiates resynchro- nization of the plex as part of online processing. For ontap-cluster, plexinfo is being deprecated in lieu of the plex parameter. |
| **force-online** | | boolean optional | An aggregate can not normally be brought online under the following conditions: 1. It has only 1 plex that is offline and not up-to-date. 2. It is an unmirrored or CFO aggregate that has been switched over to its DR partner as part of an MCC configuration. This behavior is overridden when this option is set "true". By default, "force-online" is "false". |
| **keep-same-uuid** | | boolean optional | Keep existing foreign raidtree id (aggregate uuid). Normally when a foreign raidtree is onlined, the raidtree rtid (aggregate uuid) is changed to guarantee uniqueness. The behavior is overridden when this option is set "true." By default, "keep-same-uuid" is "false." |
| **plex** | | string optional | Name of a particular plex to online. If no plex is specified, then the aggregate will be onlined. If a plex is specified, it must be part of an online mirrored aggregate. The system initiates resynchro- nization of the plex as part of online processing. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ESYNCMIRROR_NO_PLATFORM** | |
| **EVOL_ONLINE_LICENSE_CHECK_PENDING** | |

# aggr-options-list-info

[top]

Get the options that have been set for the specified aggregate. This API does not support listing options of striped aggregate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name or UUID of the aggregate whose options to retrieve. See the synopsis for name/UUID format and restrictions. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **options** | | aggr-option-info[] | List of options set for this aggregate. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |

# aggr-relocation

[top]

Aggregate Relocation

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-list** | | string[] | List of aggregate names. |
| **destination-node-name** | | string | Name of destination node where aggregates are to be relocated. |
| **is-ndo-controller-upgrade** | | boolean optional | Relocation of aggregates as part of controller upgrade. Aggregate relocation will not change home ownership of the aggregates while relocating as part of controller upgrade. Default: false |
| **is-override-destination-checks** | | boolean optional | Override checks done on destination node. This option could be used to force a relocation of aggregates even if the destination has outstanding issues. Note that this could make the relocation dangerous or disruptive. Default: false |
| **is-override-vetoes** | | boolean optional | Override veto checks for relocating an aggregate. Initiating aggregate relocation with vetoes overridden will result in relocation proceeding even if the node detects outstanding issues that would make aggregate relocation dangerous or disruptive. Default: false |
| **is-relocate-to-higher-version** | | boolean optional | Relocate to a node running higher major Data ONTAP version. If an aggregate is relocated to this destination then that aggregate cannot be relocated back to the source node till the source is also upgraded to the same or higher Data ONTAP version. This option is not required if the destination is running on higher minor version but the same major version. Default: false |
| **source-node-name** | | string | Name of the source node in which aggregate resides. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# aggr-relocation-status

[top]

Iterate over the list of aggregate relocation status

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-relocation-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | aggr- | |

| | | | |
|---|---|---|---|
| **query** | | relocation-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-relocation-info[] optional | The list of attributes of aggr objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-rename

[top]

Rename the specified aggregate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name or UUID of the aggregate to rename. See the synopsis for name/UUID format and restrictions. |
| **new-aggregate-name** | | string | The new name desired for the aggregate. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |

# aggr-restrict

[top]

Restrict the specified aggregate. An aggregate with one or more flexible volumes cannot be restricted; all of its contained volumes must first be destroyed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name or UUID of the aggregate to restrict. See the synopsis for name/UUID format and restrictions. |
| **cifs-delay-seconds** | | integer optional | The number of seconds to wait before restricting any volumes that are hosted in the given aggregate that have active CIFS shares (if any). A value of 0 means that all such volumes are to be offlined immediately with no warning. CIFS users can lose data if they aren't given a chance to terminate applications gracefully. By default, "cifs-delay-seconds" is 0. NOTE: This argument may ONLY appear if the "unmount-volumes" argument (see above) also appears and is set to "true". |
| | | | If set to "TRUE", this option specifies that all of the volumes hosted by the |

| | | | |
|---|---|---|---|
| **unmount-volumes** | | boolean optional | given aggregate are to be unmounted before the restrict operation is executed. By default, the system will reject any attempt to restrict an aggregate that hosts one or more online volumes. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |

# aggr-resync-options-get

[top]

Get aggregate resynchronization options for a node in the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-resync-options-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | string | Name of the node for which the resynchronization option is defined |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | aggr-resync-options-info | The attributes of the aggr. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# aggr-resync-options-get-iter

[top]

Get aggregate resynchronization options for each node in the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-resync-options-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aggr-resync-options-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-resync-options-info[] optional | The list of attributes of aggr objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-resync-options-set

[top]

Modify aggregate resynchronization options for a node in the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **max-concurrent-resyncs-allowed** | **[1..200]** | integer optional | The number of aggregates, owned by the specified node, that are allowed to resync at a time |
| **node** | | string | Name of the node for which the resynchronization option is defined |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# aggr-scrub-list-info

[top]

Get the status of parity scrubbing on the named aggregate. Status includes percentage complete and the scrub's suspended status (if appropriate). If an aggregate or node is not given, then status is generated for all RAID groups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name or UUID of the entity to show scrubbing status for. See the synopsis for name/UUID format and restrictions. |
| **node** | | string optional | Name of the node. |
| **verbose** | | boolean optional | If set to "true", this operation will be verbose. If not supplied or set to false, normal output levels will be used. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **scrub-details** | | scrub-detail-info[] optional | List of RAID groups and their scrub status. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-scrub-resume

[top]

Resume parity scrubbing on the named aggregate, plex, or RAID group. If an aggregate or node is not given, then resume parity scrubbing on all RAID groups for which it has been suspended. Use "aggr-scrub-list-info" to check scrubbing status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name or UUID of the entity for which scrubbing is to resume. See the synopsis for name/UUID format and restrictions. |
| **node** | | string optional | Name of node. |
| **plex** | | string optional | If provided, this specifies the plex name. ex. plex0 Must be used in conjunction with aggregate input. |
| **raidgroup** | | string optional | If provided, this specifies the RAID group. ex. rg2 Must be used in conjunction with aggregate and plex inputs. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-scrub-start

[top]

Start parity scrubbing on the named aggregate, plex, or RAID group. Parity scrubbing compares the data disks to the parity disk in a RAID group, correcting the parity disk's contents as necessary. If an aggregate or node is not given, then parity scrubbing is started on all online aggregates. If an aggregate name is given, scrubbing is started on all RAID groups in the aggregate. If a plex name is given, scrubbing is started on all RAID groups contained in the plex. If a RAID group name is given, scrubbing is started only on that group. Use "aggr-scrub-list-info" to check scrubbing status. If a node is given, scrubbing is started on all raid groups on that node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name or UUID of the entity for which scrubbing is to start. See the synopsis for name/UUID format and restrictions. |
| **node** | | string optional | Name of node. |
| **plex** | | string optional | If provided, this specifies the plex name. ex. plex0 Must be used in conjunction with aggregate input. |
| **raidgroup** | | string optional | If provided, this specifies the RAID group. ex. rg2 Must be used in conjunction with aggregate and plex inputs. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-scrub-stop

[top]

Stop parity scrubbing on the named aggregate, plex, or RAID group. If an aggregate or node is not given, scrubbing will stop on all RAID groups currently being scrubbed. Use "aggr-scrub-list-info" to check scrubbing status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name or UUID of the entity for which scrubbing is to stop. See the synopsis for name/UUID format and restrictions. |
| **node** | | string optional | Name of node. |
| **plex** | | string optional | If provided, this specifies the plex name. ex. plex0 Must be used in conjunction with aggregate input. |
| **raidgroup** | | string optional | If provided, this specifies the RAID group. ex. rg2 Must be used in conjunction with aggregate and plex inputs. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-scrub-suspend

[top]

Suspend parity scrubbing on the named aggregate, plex, RAID group, or node. If an aggregate or node is not given, suspend scrubbing on all RAID groups currently being scrubbed. Use "aggr-scrub-list-info" to check scrubbing status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name or UUID of the entity for which scrubbing is to suspend. See the synopsis for name/UUID format and restrictions. |
| **node** | | string optional | Name of node. |
| **plex** | | string optional | If provided, this specifies the plex name. ex. plex0 Must be used in conjunction with aggregate input. |
| **raidgroup** | | string optional | If provided, this specifies the RAID group. ex. rg2 Must be used in conjunction with aggregate and plex inputs. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-set-option

[top]

Set the specified option for the given aggregate to "option-value". The change remains effective even if the filer is rebooted. Some options have values that are numbers, and some have values that are "on" (also expressible as "yes", "true", or "1" ) or "off" (also expressible as "no", "false", or "0"). A mixture of uppercase and lowercase characters may be used when typing an option's value. Note that the "root" option is special in that it doesn't have a corresponding value. This API does not support modifying options of striped aggregate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name or UUID of the aggregate whose option to be set. See the synopsis for name/UUID format and restrictions. |
| | | | Option name. Possible values:<br><br>"free_space_realloc" (value: "on" \| "off" \| "no_redirect")<br>Setting this option to "on" enables free space reallocation (continuous segment cleaning) on a block checksum aggregate. Possible values : on, off, no_redirect "on" : Free space reallocation enabled with automatically starting the redirect scanner "off": Free space reallocate disabled "no_redirect": Free space reallocation enabled without running the redirect |

scanner The default value for this option is "off"

"fs_size_fixed" (value: "on" | "off")
Setting this option to "on" causes the file system to remain the same size (and not grow) when the mirror is broken on a SnapMirrored aggregate or when a "storage aggregate add" is performed on it. This option is automatically set to be "on" when an aggregate becomes SnapMirrored. This option allows an embedded aggregate to be SnapMirrored back to the source without needing to add disks to the source aggregate. If the aggregate size is larger than the file system size, turning off this option forces the file system to grow to the size of the aggregate. This option is not supported when the request is sent to the Admin Vserver LIF.

"ha_policy" (value: "cfo" | "sfo")
This option is used to change the HA policy of given aggregate and restricted to clustered environments. It is not allowed in unclustered environments. Changing the HA policy of an aggregate from SFO to CFO is allowed only in Maintenance mode. HA policy can not be changed if: 1. aggregate is striped. 2. aggregate contains node volumes. 3. aggregate is root. 4. aggregate is partner aggregate during takeover i.e. when it is not home to local node. EOP_CLUSTER_ATTR_DISALLOWED is returned if this option is used in unclustered environments.
EOP_DISALLOWED_ON_STRIPED_AGGR is returned if this option is used with striped aggregate. EOP_DISALLOWED_ON_AGGR_WITH_NODE_VOLS is returned if this option is used on aggregate which contains node volumes. EOP_DISALLOWED_ON_ROOT_AGGR is returned if this option is used on root aggregate. EOP_DISALLOWED_ON_NOT_HOME_AGGR is returned if this option is used on partner aggregate during takeover.

"ignore_inconsistent" (value: "on" | "off")
This command can only be used in maintenance mode. If this option is set to "on", then the root aggregate may be brought online when booting even if it is marked as inconsistent. The user is cautioned that bringing it online prior to running WAFL_check or wafliron may result in further file system inconsistency. This option is not supported when the request is sent to the Admin Vserver LIF.

"max_write_alloc_blocks" (value: value: < number >)
The maximum number of blocks used for write allocation. Some sequential read workloads may benefit from increasing this value. Default value is 0 which uses the controller-wide default value of 64. The default is optimal for most users. The controller-wide default can be adjusted with the bootarg "wafl-max-write-alloc-blocks"

"striping" (value: "striped" | "not_striped")
This option sets the striping information of given aggregate. It is restricted to clustered environments and not allowed in unclustered environments. When set to true, it marks given aggregate as member of stripe. This option is not allowed if given aggregate is of 'cfo' HA policy.
EOP_CLUSTER_ATTR_DISALLOWED is returned if this option is used in unclustered environments. EOP_DISALLOWED_ON_CFO_AGGR is returned if given aggregate is of 'cfo' HA policy. This option is not supported when the request is sent to the Admin Vserver LIF.

"nosnap" (value: "on" | "off")
Setting this option to "on" disables automatic snapshots on the aggregate.

"raid_cv" (value: "on" | "off")
Setting this option to "off" disables block or advanced_zoned checksum (azcs) protection on the aggregate. The default is "on". The user is cautioned that turning off this option exposes the filesystem(s) contained in the aggregate to inconsistency that could be caused by a misbehaving hardware component in the system.

| | | | |
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| **option-name** | | string | "raid_lost_write" (value: "on" \| "off")<br>Setting this option to "off" disables RAID Lost Write protection on the aggregate. The default is "on". The user is cautioned that turning off this option may expose the filesystem(s) contained in the aggregate to data loss and data corruption. The option should not be disabled, unless directed to do so by support personnel.<br><br>"raidsize" (value: < number >>)<br>The maximum size of a RAID group within the aggregate. Changing this option doesn't cause existing RAID groups to grow or shrink. Rather, it only affects whether more disks will be added to the last existing RAID group in the future, and how large new RAID groups will be.<br><br>"cache_raid_group_size" (value: < number >>)<br>The current maximum size of a SSD RAID group within the hybrid aggregate. This option can only be modified for hybrid aggregate. Changing this option doesn't cause existing RAID groups to grow or shrink. Rather, it only affects whether more disks will be added to the existing SSD RAID group in the future, and how large new SSD RAID groups will be.<br><br>"raidtype" (value: "raid4" \| "raid_dp" \| "raid_tec" \| "raid0")<br>The type of RAID group used for this aggregate. The "raid4" setting provides one parity disk per RAID group, while "raid_dp" provides two and "raid_tec" provides three. Changing this option immediately changes the RAID group type for all RAID groups in the aggregate. When upgrading RAID groups from "raid4" to "raid_dp", each RAID group begins a reconstruction onto a spare disk allocated for the second "dparity" parity disk. Simlarly, when upgrading RAID groups from "raid_dp" to "raid_tec", each RAID group begins a reconstruction onto a spare disk allocated for the third "tparity" parity disk.<br><br>"resyncsnaptime" (value: < number >)<br>Sets the mirror resynchronization snapshot frequency to be the given number of minutes. The default value is 60 (minutes).<br><br>"root" (value: < none >)<br>The specified aggregate is to become the root aggregate for the filer on the next reboot. This option can be used only in maintenance mode and on only one aggregate at any given time. The existing root aggregate will become a non-root aggregate after the reboot. Until the system is rebooted, the original aggregate will continue to show root as an option, and the new root aggregate will show diskroot as an option. In general, the aggregate that has the diskroot option is the one that becomes the root aggregate following the next reboot. The only way to remove the root status of an aggregate is to set it on another aggregate. In clustered environments, this option is not allowed with aggregates with 'sfo' HA policy as root has to be an aggregate with 'cfo' HA policy. EOP_DISALLOWED_ON_SFO_AGGR is returned if given aggregate is of 'sfo' HA policy.<br><br>"snapmirrored" (value : "off")<br>If SnapMirror is enabled, the filer auto- matically sets this option to "on". Set this option to "off" with the "snapmirror" command if SnapMirror should no longer be used to update the mirror. After setting this option to "off", the mirror becomes a regular writable aggregate, and all its volumes are restored to whatever state they were last in. Note that it is not possible to set this option directly through this interface. Rather, it is automatically changed as a side effect of running the appropriate "snapmirror" commands. This option is not supported when the request is sent to the Admin Vserver LIF.<br><br>"snapshot_autodelete" (value: "on" \| "off")<br>Setting this option to "off" disables automatic snapshot deletion on the aggregate. |

"thorough_scrub" (value: "on" | "off")
Setting this option to "on" enables thorough scrub on a block checksum aggregate. That means that a scrub will initialize any zeroed checksum entries that it finds. If there are any checksum entries to be initialized, scrub will run slower than normal.

"percent_snapshot_space" (value: < number >)
Percentage of total blocks in the aggregate reserved for snapshots.

"nearly_full_threshold" (value: < number >)
Threshold of used space as a percentage of aggregate size for which to emit aggregate nearly full warning. The default value is 95%. The maximum value for this option is 99%. It must be less than the full_threshold. Setting this threshold to 0 disables the alert.

"full_threshold" (value: < number >)
Threshold of used space as a percentage of aggregate size for which to emit aggregate full warning. The default value is 98%. The maximum value for this option is 100%. It must be greater than the nearly_full_threshold. Setting this threshold to 0 disables the alert.

"is_flash_pool_caching_enabled" (value: "true" | "false")
Setting this option to "false" will disable the caching on the Flash Pool while setting "true" will enable the caching again on the Flash Pool. Changing this option will have no effect on individual caching policies associated with the volumes under this Flash Pool.

"hybrid_enabled" (value: "true" | "false")
Setting this option to "true" would mark the aggregate as hybrid_enabled. That means the aggregate can contain a mix of SSDs and HDDs(Hard Disk Drives, e.g., SAS, SATA, and/or FC). The operation can be forced by using the hybrid_enabled_force option for the aggregates having flexvols which cannot be write cached. EAGGR_CANT_UNDO_HYBRID is returned when we are trying to set the option hybrid_enabled to false on an aggregate that already contains a mix of HDDs and SSDs. EAGGR_HYBRID is returned when we are trying to set option hybrid_enabled to true on an aggregate which is already hybrid. EOP_DISALLOWED_WORM_HYBRID_AGGR is returned when we are trying to set option hybrid_enabled to true on an snaplock aggregate. ERAID_HYA_SUPPORT_DISABLED is returned when the partner node in HA pair is running a version of Data ONTAP which does not support hybrid aggregates. EOP_DISALLOWED_ON_SSD_AGGR is returned if this option is used on aggregates created out of SSD disks. EOP_DISALLOWED_HYA_ON_RAID0_AGGR is returned if this option is used on raid0 aggregates. EOP_DISALLOWED_HYA_ON_ZONED_AGGR is returned if this option is used on aggregates with zoned checksums. EOP_DISALLOWED_HYA_ON_LUNS_AGGR is returned if this option used on aggregates created out of LUNs. EOP_DISALLOWED_ON_COMPOSITE_AGGR is returned if this option is used on composite aggregates.

"hybrid_enabled_force" (value: "true" | "false")
Setting this option to "true" would mark the aggregate as hybrid_enabled. That means the aggregate can contain a mix of SSDs and HDDs(Hard Disk Drives, e.g., SAS, SATA, and/or FC). This option is used for force marking of aggregates having flexvols which cannot be write cached as hybrid enabled. FlexVols in the aggregate marked as hybrid enabled using this option which cannot participate in write-caching only have read-caching enabled. All other flexvols in the aggregate can participate in both read and write caching. EAGGR_CANT_UNDO_HYBRID is returned when we are trying to set the option hybrid_enabled_force to false on an aggregate that already contains a mix of HDDs and SSDs. EAGGR_HYBRID is returned when we are trying to set option hybrid_enabled_force to true on an aggregate which is already hybrid.
EOP_DISALLOWED_WORM_HYBRID_AGGR is returned when we are trying

| | | | |
|---|---|---|---|
| | | | to set option hybrid_enabled_force to true on an snaplock aggregate. ERAID_HYA_SUPPORT_DISABLED is returned when the partner node in HA pair is running a version of Data ONTAP which does not support hybrid aggregates. EOP_DISALLOWED_ON_SSD_AGGR is returned if this option is used on aggregates created out of SSD disks. EOP_DISALLOWED_HYA_ON_RAID0_AGGR is returned if this option is used on raid0 aggregates. EOP_DISALLOWED_HYA_ON_ZONED_AGGR is returned if this option is used on aggregates with zoned checksums. EOP_DISALLOWED_ON_COMPOSITE_AGGR is returned if this option is used on composite aggregates.<br><br>"mirror_resync_priority" (value: "low" \| "medium" \| "high")<br>Modifying this option changes the ordering of resynchronization of mirrored aggregates on a node. By default all data aggregates have a "low" priority. Changing it to "high" or "medium" would mean that the aggregate will be resynchronized before lower priority aggregates. The "storage aggregate resynchronization options" CLI command, or the aggr-resync-options-set ZAPI, can be used to set the number of aggregates that can be resynchronized concurrently on a node.<br><br>"enable_cold_data_reporting" (value: "true" \| "false")<br>Setting this option to "true" would enable inactive data reporting on the specified aggregate. Setting this option to "false" would disable inactive data reporting. This option can only be set on non-FabricPool aggregates which are FabricPool compatible. |
| **option-value** | | string | The value to set the named option. It may be the NULL/empty value only in the case of the "root" option. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAGGR_CANT_UNDO_HYBRID** | |
| **EAGGR_HYBRID** | |
| **ERAID_HYA_SUPPORT_DISABLED** | |
| **EOP_CLUSTER_ATTR_DISALLOWED** | |
| **EOP_DISALLOWED_ON_CFO_AGGR** | |
| **EOP_DISALLOWED_ON_SFO_AGGR** | |
| **EOP_DISALLOWED_ON_STRIPED_AGGR** | |
| **EOP_DISALLOWED_ON_AGGR_WITH_NODE_VOLS** | |
| **EOP_DISALLOWED_ON_ROOT_AGGR** | |
| **EOP_DISALLOWED_ON_NOT_HOME_AGGR** | |
| **EOP_DISALLOWED_WORM_HYBRID_AGGR** | |
| **EOP_DISALLOWED_ON_SSD_AGGR** | |
| **EOP_DISALLOWED_HYA_ON_RAID0_AGGR** | |
| **EOP_DISALLOWED_HYA_ON_ZONED_AGGR** | |
| **EOP_DISALLOWED_HYA_ON_LUNS_AGGR** | |
| **ECIFS_HAVE_MIRRORED_LOCKS** | |
| **EAGGR_CANT_WRITE_CACHE_INCOMPATIBLE_FS** | |
| **EAGGR_CANT_WRITE_CACHE_FLEXVOLS** | |
| **ERAID_HYA_PLATFORM_NOT_SUPPORTED** | |
| **ECACHE_SIZE_AGGR_NOT_HYBRID** | |
| **EOP_DISALLOWED_ON_COMPOSITE_AGGR** | |

# aggr-space-get-iter

[top]

Display a list of aggregates and a breakup of their used space. This information is only available when the aggregate is online. Some fields are expensive to compute, and if the system is under load, the information may not be returned. Best practice would be to only request the fields needed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | space-information optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | space-information optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr-space object. All aggr-space objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | space-information[] optional | The list of attributes of aggr-space objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr-space objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-space-list-info

[top]

Show the space usage of the aggregate on a per flexible volume basis. This API is deprecated in Data ONTAP 8.2 and later. Use the aggr-space-info attributes in the aggr-list-info API for details related to aggregate space usage. Use volume-space-list-info and volume-footprint-list-info APIs for details related to volume space usage.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | The aggregate to get the space information for. If not specified the space information for all aggregates is obtained. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **aggregates** | | aggr-space-info[] | Various counts describing space usage in the aggregate. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-spare-get-iter

[top]

Iterate over a list of spare disks

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-spare-disk-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 2000 |
| **query** | | aggr-spare-disk-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-spare-disk-info[] optional | The list of attributes of aggr objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-split

[top]

Remove the specified plex from a mirrored aggregate and create a new unmirrored aggregate with the specified name that contains the plex. The original mirrored aggregate thus becomes unmirrored. The plex to be split from the original aggregate must be functional (not partial), but it can otherwise be inactive, resyncing, or out-of-date. "Aggr split" can therefore be used to gain access to a plex that isn't up to date with respect to its partner plex if its partner plex is currently failed. If the plex is offline at the time of the split, the resulting aggregate will be offline. Otherwise, the resulting aggregate will be in the same online/offline/restricted state as the original aggregate. A split mirror can be joined back together via the "victim-aggregate" option to "aggr-mirror".

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string | Name of the plex to split out of its aggregate, using the following format: [/vol/][][] |
| **new-aggr-name** | | string | Name of the new aggregate to create from the split plex. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEDOESNOTEXIST** | |

# aggr-status-get-iter

[top]

Aggregate enumeration ZAPI. Get status and topology information about one or more aggregates from RAID subsystem.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aggr-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 2000 |
| **query** | | aggr-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aggr-status-info[] optional | The list of attributes of aggr objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-verify-list-info

[top]

Get the status of RAID mirror verification on the named aggregate. Status includes percentage complete and whether it's currently suspended.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of an existing aggregate. If no name is given, then mirror verification status is generated for all aggregates currently being verified. UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | verify- | |

| | | | |
|---|---|---|---|
| **verify-details** | | detail-info[] optional | List of aggregates and their mirror verification status. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |

# aggr-verify-resume

[top]

Resume RAID mirror verification on the named aggregate. If no name is given, then resume mirror verification on all aggregates that have been suspended.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of the existing aggregate for which mirror verification is to resume. UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-verify-start

[top]

Start RAID mirror verification on the named aggregate. Verification compares the data in both plexes of a mirrored aggregate. In the default case, any blocks that differ are logged and no changes are made. The fix-plex option is used to fix any mismatches. It specifies which plex to fix. If no name is given, then mirror verification is started on all online aggregates. Use the "aggr-verify-list-info" API to check mirror verification status. If the fix-plex option is used, then a name must be specified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of the mirrored aggregate to verify. UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. |
| **fix-plex** | | integer optional | If provided, this specifies the plex to fix in case the two plexes do not match. The default is to log any discrepancies instead of fixing them. |
| **log-only** | | boolean optional | If provided, and if the value is "true", then simply log any discrepancies instead of fixing them. The default value is "true". If log-only is "false", then the fix-plex option must also be specified. If log-only is "true" and fix-plex is also specified, then the log-only option will be ignored. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# aggr-verify-stop

[top]

Stop RAID mirror verification on the named aggregate. If no name is given, stop mirror verification on all aggregates currently being verified.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **aggregate** | | string optional | Name of the aggregate for which we are to stop mirror verification. UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## aggr-verify-suspend

[top]

Suspend RAID mirror verification on the named aggregate. If no name is given, suspend mirror verification on all aggregates currently being verified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of the aggregate for which we are to suspend mirror verification. UUID can be specified instead of aggregate name. See the synopsis for name/UUID format and restrictions. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## Element definition: **aggr-attributes**

[top]

Attributes of an aggregate. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-64bit-upgrade-attributes** | | aggr-64bit-upgrade-attributes optional | Information related to 64-bit upgrade. After 64-bit upgrade completes, this information is no longer available. |
| **aggr-fs-attributes** | | aggr-fs-attributes optional | This field contains file system related information about the aggregate. This information will not be returned for a striped aggregate. |
| **aggr-inode-attributes** | | aggr-inode-attributes optional | This field contains inode related information about the aggregate. This information will not be returned for a striped aggregate. |
| **aggr-ownership-attributes** | | aggr-ownership-attributes optional | This field contains ownership related information about the aggregate. This information will not be returned for a striped aggregate. |
| **aggr-performance-attributes** | | aggr-performance-attributes optional | This field contains performance related informtaion about the aggregate. |
| **aggr-raid-** | | aggr-raid- | |

| | | | |
|---|---|---|---|
| **attributes** | | attributes optional | This field contains RAID specific information of the aggregate |
| **aggr-snaplock-attributes** | | aggr-snaplock-attributes optional | This field contains snaplock specific information of the aggregate |
| **aggr-snapmirror-attributes** | | aggr-snapmirror-attributes optional | This field contains snapMirror specific information of the aggregate This information will not be returned for a striped aggregate. |
| **aggr-snapshot-attributes** | | aggr-snapshot-attributes optional | This field contains snapshot specific information of the aggregate. This information will not be returned for a striped aggregate. |
| **aggr-space-attributes** | | aggr-space-attributes optional | This field contains space specific information of the aggregate |
| **aggr-striping-attributes** | | aggr-striping-attributes optional | This field contains striping specific information of the aggregate This information is returned only if aggregate is striped. |
| **aggr-volume-count-attributes** | | aggr-volume-count-attributes optional | This field contains various counts information of volume in the aggregate. |
| **aggr-wafliron-attributes** | | aggr-wafliron-attributes optional | This field contains wafliron specific information of the aggregate |
| **aggregate-name** | | string optional | Name of the aggregate. |
| **aggregate-uuid** | | string optional | Aggregate's Universal Unique IDentifier. UUIDs are 16-byte quantities that are typically displayed as having five hexadecimal fields separated by hyphens. For example: d2da3566-da53-11d7-a841-000100000529 |
| **autobalance-available-threshold-percent** | **[0..99]** | integer optional | The threshold when an aggregate is considered balanced by the Auto Balance Aggregate feature. |
| **autobalance-state** | | autobalance-aggregate-state optional | The state of the aggregate being balanced. Possible values:<br>• "disabled" - Auto Balance Aggregate is disabled,<br>• "balanced" - Auto Balance Aggregate has determined that the aggregate is below the high-watermark.<br>• "unbalanced" - Auto Balance Aggregate has detected that the aggregate is over the high-watermark but has not initiated any jobs to bring it below the high-watermark.,<br>• "ineligible" - Ineligible<br>The states excluded, balanced and unbalanced are available only when Auto Balance Aggregate is enabled. |
| **autobalance-state-change-counter** | | integer optional | The number of times an aggregate has been transitioned from balanced to unbalanced and vice-versa. |
| **autobalance-unbalanced-threshold-percent** | **[1..100]** | integer optional | The threshold when an aggregate is considered unbalanced by the Auto Balance Aggregate feature. |
| | | | |

| | | | |
|---|---|---|---|
| **inactive-data-reporting-start-timestamp** | | integer optional | Timestamp at which inactive data reporting was enabled on the aggregate. The time value is in seconds since January 1, 1970. Range : [0..2^32-1]. |
| **is-autobalance-eligible** | | boolean optional | When set to 'true', the aggregate is included in Auto Balance aggregate processing. When set to 'false' the aggregate is excluded from Auto Balance Aggregate processing. |
| **is-cft-precommit** | | boolean optional | When set to 'true', the aggregate is a 7-mode transitioned aggregate in pre-commit phase. |
| **is-inactive-data-reporting-enabled** | | boolean optional | "true" if the inactive data reporting is enabled on an aggregate, "false" otherwise. |
| **is-object-store-attach-eligible** | | boolean optional | When set to 'true', the aggregate is is eligible to have an object store attached to it. |
| **is-transition-out-of-space** | | boolean optional | When set to 'true', the aggregate is a 7-mode transitioned aggregate that is not yet committed on C-mode, and is currently out of space. |
| **nodes** | | node-name[] optional | List of node names. If aggregate-name is also specified, then the matching aggregate on given nodes is returned. If not, all aggregates on specified nodes are returned. If this element is omitted when the request is sent to the Admin Vserver LIF, then all matching aggregates in the cluster are returned. |
| **striping-type** | | string optional | Specifies the striping information about the aggregate. Possible values are "not_striped", "striped", and "unknown" |

# Element definition: **aggr-autobalance-aggregate-state**

[top]

State related to each aggregate monitored by Auto Balance Aggregate. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of the aggregate.<br><br>Attributes: key, non-creatable, non-modifiable |
| **autobalance-threshold** | | size optional | Threshold used by AutoBalance aggregate to determine if an aggregate is eligible for balancing, in bytes.<br><br>Attributes: non-creatable, non-modifiable |
| **incoming-volume-size** | | size optional | Size of volumes that are moving towards the aggregate, in bytes.<br><br>Attributes: non-creatable, non-modifiable |
| **is-balanceable** | | boolean optional | Indicates if the aggregate should be balanced.<br><br>Attributes: non-creatable, non-modifiable |
| **is-considered-for-balance** | | boolean optional | Indicates if the aggregate should be considered for balancing. |

| | | | |
|---|---|---|---|
| | | | Attributes: non-creatable, non-modifiable |
| **is-hybrid** | | boolean optional | Is a hybrid aggregate.<br><br>Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node the aggregate resides on.<br><br>Attributes: key, non-creatable, non-modifiable |
| **outgoing-volume-size** | | size optional | Size of volumes that are moving away from the aggregate, in bytes.<br><br>Attributes: non-creatable, non-modifiable |
| **raidtype** | | raid-type optional | RAID type of the aggregate.<br><br>Attributes: non-creatable, non-modifiable |
| **total-size** | | size optional | Total size of the aggregate in bytes.<br><br>Attributes: non-creatable, non-modifiable |
| **used-size** | | size optional | Used size of the aggregate in bytes.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-autobalance-config**

[top]

Configuration of Auto Balance Aggregate When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **available-threshold-percent** | **[0..99]** | integer optional | When Auto Balance Aggregate identifies an aggregate that needs to be balanced, it will attempt to identify other target aggregates it can move volumes to. An aggregate will only be considered as a target if its projected space usage after the move is still under this percentage. Auto Balance Aggregate will attempt to move volumes from an unbalanced aggregate until it is under this percentage. The default value is 40%.<br><br>Attributes: non-creatable, modifiable |
| **hold-duration-after-move** | | time-interval optional | This value represents the number of seconds that need to have elapsed since the volume was last moved before it will be considered a movable candidate again. The default value is 48 hours.<br><br>Attributes: non-creatable, modifiable |
| **is-enabled** | | boolean optional | 'true' if Auto Balance Aggregate is enabled. 'false' if Auto Balance Aggregate is disabled.<br><br>Attributes: non-creatable, modifiable |
| **move-mode** | | string | For all modes, Auto Balance Aggregate will identify the volume moves that will help to balance space usage across the aggregates. The mode dictates what Auto Balance Aggregate will do with the suggested moves. In 'recommend' mode, the suggested moves will be displayed, but no further action will be taken .In 'auto' mode, Auto Balance Aggregate will trigger moves to start. The default mode is 'recommend'. |

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|---|---|---|---|
| | | optional | Attributes: non-creatable, modifiable Possible values:<br><br>• "auto" ,<br>• "recommend" |
| **state-polling-interval** | | time-interval optional | Polling period, in seconds, used by Auto Balance Aggregate to update volume and aggregate state. The default value is 3600 seconds.<br><br>Attributes: non-creatable, modifiable |
| **unbalanced-threshold-percent** | **[1..100]** | integer optional | This percentage will indicate the space used threshold that will cause Auto Balance Aggregate to consider this aggregate as unbalanced. The default value is 60%.<br><br>Attributes: non-creatable, modifiable |
| **volume-activity-threshold** | **[0..2^32-1]** | integer optional | The threshold, in number of operations per second preformed on a volume (read/write/internal), that will disqualify the volume from being a candidate to be moved by Auto Balance Aggregate. The default value is 100 operations per second.<br><br>Attributes: non-creatable, modifiable |
| **volume-inactive-delay-threshold** | | time-interval optional | This value represents a duration in seconds and designates the amount of time that has to elapse after a volume has exceeded the volume-activity-threshold before it can be considered a movable volume by Auto Balance Aggregate. The default value is 24 hours.<br><br>Attributes: non-creatable, modifiable |

# Element definition: **aggr-autobalance-notification**

[top]

Notifications for nodes that need to be balanced. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **notifying-node** | | node-name optional | The node that contains the aggregate which is considered a candidate for Auto Balance Aggregate.<br><br>Attributes: key, required-for-create, non-modifiable |

# Element definition: **aggr-autobalance-volume-state**

[top]

The state related to each volume monitored by Auto Balance Aggregate. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a

value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | The aggregate that contains the volume.<br><br>Attributes: non-creatable, non-modifiable |
| **dsid** | **[0..2^64-1]** | integer optional | The dsid of the volume.<br><br>Attributes: key, non-creatable, non-modifiable |
| **is-volume-moving** | | boolean optional | Indicates if volume is currently moving.<br><br>Attributes: non-creatable, non-modifiable |
| **is-volume-quiesced** | | boolean optional | Indicates if volume is currently quiesced.<br><br>Attributes: non-creatable, non-modifiable |
| **last-time-threshold-exceeded** | | datetime optional | Timestamp related to when we exceeded the threshold of operations for the volume.<br><br>Attributes: non-creatable, non-modifiable |
| **last-time-was-placed** | | datetime optional | Timestamp related to when the volume was last moved.<br><br>Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | The node the volume resides on.<br><br>Attributes: key, non-creatable, non-modifiable |
| **volume-name** | | string optional | The name of the volume.<br><br>Attributes: non-creatable, non-modifiable |
| **volume-total-size** | | size optional | Total size of the volume, in bytes.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-cumulated-info**

[top]

Aggregate Storage Efficiency Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-efficiency-cumulated-additional-details-info** | | aggr-efficiency-cumulated-additional-details-info | Additional details related to storage efficiency in the given aggregates. |
| **aggr-efficiency-cumulated-aggr-info** | | aggr-efficiency-cumulated-aggr-info | Storage efficiency achieved at the aggregate level using techniques like data compaction. |

| | | | |
|---|---|---|---|
| | | optional | |
| **aggr-efficiency-cumulated-snapshot-and-flexclone-info** | | aggr-efficiency-cumulated-snapshot-and-flexclone-info | Aggregated information of storage efficiency of Snapshot copies and FlexClone volumes in the given aggregates. |
| **aggr-efficiency-cumulated-volume-info** | | aggr-efficiency-cumulated-volume-info optional | Aggregated information of storage efficiency achieved at the volume level using techniques like deduplication, compression, zero detection and FlexClones for files or LUNs. |
| **aggr-efficiency-total-cumulated-info** | | aggr-efficiency-total-cumulated-info optional | cumulated storage efficiency information from the given aggregates. |

# Element definition: **aggr-efficiency-info**

[top]

Aggregate Storage Efficiency Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-efficiency-additional-details-info** | | aggr-efficiency-additional-details-info optional | Additional details related to storage efficiency in this aggregate. |
| **aggr-efficiency-aggr-info** | | aggr-efficiency-aggr-info optional | Storage efficiency achieved at the aggregate level using techniques like data compaction. |
| **aggr-efficiency-cumulative-info** | | aggr-efficiency-cumulative-info optional | Cumulative storage efficiency information of an aggregate. |
| **aggr-efficiency-snapshot-and-flexclone-volume-info** | | aggr-efficiency-snapshot-and-flexclone-volume-info | Aggregated information of storage efficiency of Snapshots and FlexClone volumes in the aggregate. |
| **aggr-efficiency-volume-info** | | aggr-efficiency-volume-info optional | Aggregated information of storage efficiency achieved at the volume level using techniques like deduplication, compression, zero detection and FlexClones for files or LUNs. |
| **aggregate** | | string optional | Name of the aggregate. Attributes: key, non-creatable, non-modifiable |
| **node** | | string optional | Name of the node where the aggregate resides. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-info**

[top]

Aggregate status information.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-64bit-upgrade** | | aggr-64bit-upgrade-info optional | Information related to 64-bit upgrade. After 64-bit upgrade completes, this information is no longer available. |
| **aggregate-space-details** | | aggregate-space-info optional | Contains all size-related information for the aggr and its set of snapshots. |
| **azcs-read-optimization** | | string optional | Indicates if azcs read optimization is enabled and available on the aggreagte. This feature is supported only on Cloud ONTAP or FSx. Possible values: "on", "off"<br>• "on" : azcs read optimization is enabled and available<br>• "off" : azcs read optimization is disabled.<br>The default value is "on" |
| **azcs-read-optimization-enabled** | | boolean optional | Is azcs read optimizaion enabled for the aggregate in SDOT ? |
| **block-type** | | string | The indirect block format that the aggregate can have. The default is 64_bit. With a 64_bit block-type creation of aggregates that can be larger than 16TB is allowed. Possible values: 64_bit |
| **cache-raid-group-size** | | integer | Current maximum cache RAID group size of hybrid aggregate. Range : [1..28]. RAID group size is the maximum number of disks that can be added to a RAID group. This information will only be returned for hybrid aggregate i.e. for the aggregates whose "is-hybrid" field is set to true. |
| **checksum-status** | | string | Checksum status. Possible values: "active", "off", "reverting", "none", "unknown", "initializing", "reinitializing", "reinitialized", "upgrading_phase1", "upgrading_phase2" |
| **checksum-style** | | string | Checksum style. The possible values:<br>• "advanced_zoned" - advanced_zoned checksum (azcs),<br>• "block" - block,<br>• "mixed" - mixed,<br>• "none" - none,<br>• "unknown" - unknown<br>• "wafl" - wafl,<br>• "zoned" - zoned (this value is no longer supported). |
| **creation-timestamp** | | integer optional | Timestamp of aggregate creation. Range : [0..2^32-1]. |
| **disk-count** | | integer | Number of disks in the aggregate. Range: [0..2^31-1]. |
| **dr-home-dblade-id** | | string optional | Dblade ID of the DR (disaster recovery) node to which this aggregate's disks have been administratively assigned. This is the UUID equivalent of dr-home-id. |
| **dr-home-id** | **[0..2^32-1]** | integer optional | NVRAM ID of the DR (disaster recovery) node to which this aggregate's disks have been administratively assigned. This information is derived from the sanown information for an aggregate's disks. See 'disk-sanown-detail-info' |
| **dr-home-name** | | string optional | Name of the DR node to which this aggregate's disks have been administratively assigned. |
| **drive-protection-enabled** | | boolean | Indicates the aggregate is entirely composed of self-encrypting drives with data protection enabled. |
| **effective-disk-type** | | string optional | Effective type of disks in aggregate: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, VMDISK, unknown. For hybrid aggregate this represents effective disk type of HDD raidgroups. |
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|---|---|---|---|
| **encrypt-with-aggr-key** | | boolean optional | If true, returns aggregates supporting encryption with NAE (NetApp Aggregate Encryption). |
| **files-private-used** | | integer | Number of system (not user-visible) files used. Range: [0..2^64-1]. |
| **files-total** | | integer | Total count of user-visible files. Range: [0..2^64-1]. |
| **files-used** | | integer | Number of user-visible files used. Range: [0..2^64-1]. |
| **free-space-realloc** | | string optional | Indicate if free space reallocation (continuous segment cleaning) is enabled on a specific aggregate. Possible values: on, off, no_redirect "on" (Free space reallocation enabled with automatically starting the redirect scanner) "off" (Free space reallocation disabled) "no_redirect" (Free space reallocation enabled without running the redirect scanner) The default value for this option is "off" |
| **fsid** | | integer optional | Aggregate's File System IDentifier. Range: [0..2^32-1] |
| **ha-policy** | | ha-policy-type optional | Aggregate's HA policy. Possible return values: "cfo", "sfo", "none" |
| **has-local-root** | | boolean | Whether the aggregate contains the local root volume. |
| **has-partner-root** | | boolean | Whether the aggregate contains the partner's root volume. |
| **home-dblade-id** | | string optional | Dblade ID of the node to which this aggregate's disks have been administratively assigned. This is the UUID equivalent of home-id. |
| **home-id** | | integer optional | NVRAM ID of the node to which this aggregate's disks have been administratively assigned. This information is derived from the sanown information for an aggregate's disks. See 'disk-sanown-detail-info' Range : [0..2^32-1]. |
| **home-name** | | string optional | Name of the node to which this aggregate's disks have been administratively assigned. |
| **hybrid-cache-tier-disk-count** | | integer optional | Disk count of hybrid cache tier if hybrid config. This information will only be returned for hybrid aggregate i.e. for the aggregates whose "is-hybrid" field is set to true. |
| **hybrid-cache-tier-raid-type** | | string optional | Raid type for hybrid cache tier if hybrid config. This information will only be returned for hybrid aggregate i.e. for the aggregates whose "is-hybrid" field is set to true. |
| **inactive-data-reporting-start-timestamp** | | integer optional | Timestamp at which inactive data reporting was enabled on the aggregate. The time value is in seconds since January 1, 1970. Range : [0..2^32-1]. |
| **inodefile-private-capacity** | | integer | Number of inodes that can currently be stored on disk for system (not user-visible) files. This number will dynamically increase as more system files are created. Range: [0..2^64-1]. |
| **inodefile-public-capacity** | | integer | Number of inodes that can currently be stored on disk for user-visible files. This number will dynamically increase as more user-visible files are created. Range: [0..2^64-1]. |
| **inofile-version** | | integer | The inofile-version of the aggregate. Range: [0..2^32-1]. |
| **is-checksum-enabled** | | boolean | Is checksumming enabled for the aggregate? |
| **is-composite** | | boolean optional | If true, aggregate currently contains two tiers of storage. |
| **is-fabricpool-mirrored** | | boolean optional | If true, aggregate currently contains two copies of the capacity tier. |
| **is-hybrid** | | boolean optional | If true, aggregate currently contains both SSD and non-SSD RAID groups. |
| **is-hybrid-** | | boolean | If true, aggregate is eligible to contain both SSD and non-SSD RAID |

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|---|---|---|---|
| **enabled** | | optional | groups. |
| **is-inconsistent** | | boolean | Whether or not the aggregate is inconsistent. |
| **is-mirrored** | | boolean optional | If true, aggregate is mirrored. |
| **is-nve-capable** | | boolean optional | If true, the aggregate is capable of supporting NVE. |
| **is-root-aggregate** | | boolean | Whether this is a root aggregate. This differs from has-local-root and has-partner-root by evaluating true when the aggregate may contain a root volume for any node. The has-local-root and has-partner-root fields only evaluate true when the aggregate contains the active root for the specified node. The is-root-aggregate field will still evaluate true for an offline root aggregate. The has-local-root and has-partner-root fields will evaluate false, since the aggregate has no mounted filesystem. |
| **is-snaplock** | | boolean | Whether or not it's a SnapLock aggregate. |
| **is-transition-out-of-space** | | boolean | Whether this is a 7-to-C transitioned aggregate that is not yet committed on C-mode, and is currently out of space. |
| **is-transitioned-aggregate** | | boolean | Whether this is a 7-to-C transitioned aggregate that is not yet committed on C-mode. |
| **licensed-plex-capacity** | | integer optional | This field represents the sum of the raw sizes of all non-parity disks in an aggregate. This is not necessarily the final capacity licensed for the aggregate. The license manager may double this for a mirrored aggregate or ignore it for a root aggregate. Range : [0..2^64-1] |
| **max-write-alloc-blocks** | | integer optional | The maximum number of blocks used for write allocation. Some sequential read workloads may benefit from increasing this value. Default value is 0 which uses the controller-wide default value of 64. The default is optimal for most users. The controller-wide default can be adjusted with the bootarg "wafl-max-write-alloc-blocks" |
| **mirror-status** | | string | Aggregate's mirror status. Possible values: invalid, uninitialized, needs CP count check, CP count check in progress, unmirrored, mirrored, mirror degraded, mirror resynchronizing, failed, limbo, and . |
| **mount-state** | | string optional | [not settable, always] This field shows the volume's mount state. Possible values: "unmounted", "online", "frozen", "destroying", "creating", "mounting", "unmounting", "inconsistent", "reverted", "quiescing", "quiesced", "iron_restricted" |
| **name** | | string | Aggregate name. |
| **owner-id** | | integer optional | NVRAM ID of node which currently owns this aggregate's disks. Normally, home-id matches owner-id. But these may be changed by SFO takeover to match the takeover node, and restored by SFO giveback to match home-id. CFO takeover and giveback do not affect owner-id. This information is derived from the sanown information for an aggregate's disks. See 'disk-sanown-detail-info' Range : [0..2^32-1]. |
| **owner-name** | | string optional | Name of node which currently owns this aggregate's disks. Normally, home-name matches owner-name. But these may be changed by SFO takeover to match the takeover node, and restored by SFO giveback to match home-name. CFO takeover and giveback do not affect owner-name. |
| **plex-count** | | integer | Number of plexes in the aggregate. This value tells us the size of the returned "plex" array. Range: [0..2^31-1]. |
| **plexes** | | plex-info[] | List of plexes in the aggregate. |
| **primary-checksum-style** | | string optional | Checksum type of primary tier. |
| **primary-disk-class** | | string optional | Diskclass of primary tier. |
| **primary-** | | integer | Disk count of primary tier. For non-hybrid aggregate config, signifies |

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| **disk-count** | | optional | the total disk count. For hybrid config excludes cache-tier count. |
| **primary-raid-type** | | string optional | Raid type for primary tier. |
| **raid-lost-write-state** | | string optional | State of the RAID Lost Write feature for an aggregate. The possible values are:<br>• "aborted" - The RAID Lost Write scrub is no longer running and was aborted on all RAID groups in this aggregate, possibly due to an error.<br>• "illegal" - The aggregate contains RAID groups with RAID Lost Write disabled and other RAID groups with RAID Lost Write enabled. This is an invalid state.<br>• "inoperative" - The RAID Lost Write scrub is allowed on the aggregate, but it cannot start because the system-wide RAID Lost Write option "raid.lost_write.enable" is set to "off".<br>• "off" - RAID Lost Write protection and scrub are disabled on this aggregate.<br>• "on" - The aggregate is RAID Lost Write protected and that the RAID Lost Write scrub completed successfully on all RAID groups in this aggregate.<br>• "partial" - The RAID Lost Write scrub completed successfully on some of the RAID groups in this aggregate, but was aborted on at least one of the RAID groups.<br>• "unknown" - The RAID Lost Write scrub status could not be determined.<br>• "upgrade_partial" - The RAID Lost Write scrub is still in progress on some of the RAID groups in this aggregate and was aborted on at least one of the RAID groups.<br>• "upgrading" - The RAID Lost Write scrub is still not completed or not yet started on at least one of the RAID groups in this aggregate. |
| **raid-size** | | integer | Current RAID group size. Range : [0..2^31-1]. |
| **raid-status** | | string | RAID status. Possible values: "copying", "degraded", "foreign", "growing", "hybrid", "hybrid_enabled", "initializing", "invalid", "ironing", "mirror degraded", "mirrored", "mixed_raid_type", "needs check", "normal", "noparity", "out-of-date", "parity uninit'd", "partial", "raid0", "raid4", "raid_dp", "raid_tec", "reconstruct", "resyncing", "tier_unavailable", "verifying". These values may appear by themselves or in combination separated by commas (e.g., "mixed_raid_type, hybrid, normal"). An aggregate could be of only one of the following RAID types:<br>• "raid0" - All the raid groups in the aggregate are of type raid0,<br>• "raid4" - All the raid groups in the aggregate are of type raid4,<br>• "raid_dp" - All the raid groups in the aggregate are of type raid_dp,<br>• "raid_tec" - All the raid groups in the aggregate are of type raid_tec,<br>• "mixed_raid_type" - This aggregate contains RAID groups of different RAID types (raid0, raid4, raid_dp, raid_tec). |
| **size-available** | | integer | Available bytes in the aggregate. Range: [0..2^64-1]. |
| **size-percentage-used** | | integer optional | Percentage of aggregate used. This value is not returned if the aggregate is unusable (i.e., it's offline). Range : [0..100]. |
| **size-total** | | integer | Aggregate total usable size in bytes, not including WAFL reserve and aggregate snapshot reserve. If the aggregate is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]. |
| **size-used** | | integer | Aggregate bytes used. This value is not returned if the aggregate is unusable (i.e., it's offline). Range: [0..2^64-1]. |

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|---|---|---|---|
| **snaplock-type** | | string optional | The type of the snaplock aggregate. Possible values - "compliance" or "enterprise" or "non-snaplock" |
| **state** | | string | Aggregate state. The possible values: "creating", "destroying", "failed", "frozen", "inconsistent", "iron_restricted", "mounting", "offline", "online", "partial", "quiesced", "quiescing", "restricted", "reverted", "unknown", "unmounted", "unmounting". |
| **striping** | | striping-type optional | Specifies the striping information about the aggregate. Possible values are "striped", "not_striped" and "unknown" In unclustered environments, all aggregates are not striped. In clustered environments, aggregates can be either striped or not striped. When striping information is not known, "unknown" will be returned. |
| **type** | | string | The type of aggregate. Possible values: aggr "aggr" (for aggregates that can contain flexible volumes) |
| **uses-data-partitions** | | boolean optional | If true, aggregate is using data partitions. |
| **uses-root-partitions** | | boolean optional | If true, aggregate is using root partitions. |
| **uses-shared-disks** | | boolean optional | If true, aggregate is using shared disks. |
| **uuid** | | string | Aggregate's Universal Unique IDentifier. UUIDs are 16-byte quantities that are typically displayed as having five hexadecimal fields separated by hyphens. For example: d2da3566-da53-11d7-a841-000100000529 |
| **volume-count** | | integer | Number of volumes in the aggregate. Range: [0..2^31-1]. |
| **volume-count-collective** | | integer optional | Number of striped volume constituents in the aggregate which also represent a collective striped volume. This field is for internal use only. Range: [0..2^31-1]. |
| **volume-count-mirrors** | | mirror-count-info optional | Various counts information for mirror volumes in the aggregate. This information is returned only when the aggregate contains mirror volumes. |
| **volume-count-not-online** | | integer optional | When present, this field indicates the number of volumes that are not online (offline and restricted volumes).<br><br>Range: [0..2^31-1] |
| **volume-count-quiesced** | | integer optional | When present, this field indicates the number of quiesced online volumes.<br><br>Range: [0..2^31-1] |
| **volume-count-striped** | | integer optional | Number of striped volume constituents in the aggregate. These volumes are also reported in the full volume-count value. This field is for internal use only. Range: [0..2^31-1]. |
| **volumes** | | contained-volume-info[] | List of volumes contained the aggregate. |
| **wafl-reserve-percent** | | integer optional | Percent of aggr raw capacity that WAFL reserves Range: [0..100]. |
| **wafliron** | | aggr-wafliron-info optional | Information related to wafliron, the online WAFL file system check/repair tool. This information is returned only when wafliron specific information is available. |

# Element definition: **aggr-object-store-config-info**

[top]

Object Store Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the

caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **access-key** | | string optional | Access key ID for AWS_S3, SGWS and ONTAP_S3 provider types Attributes: optional-for-create, modifiable |
| **auth-type** | | string optional | Authentication used to access the object store. Supported values are:<br>• 'key' - Access keys provided by admin<br>• 'CAP' - Access keys and session token retrieved from the C2S Access Portal (CAP)<br>• 'EC2-IAM' - In Cloud Volumes ONTAP access keys and session token retrieved from the EC2 instance metadata for the IAM role associated with EC2 instance<br>• 'GCP-SA' - In Cloud Volumes ONTAP session token retrieved from the GCP instance metadata for the Service Account associated with GCP instance<br>• 'Azure-MSI' - In Cloud Volumes ONTAP session token retrieved from the Azure Managed Service Identity (MSI) associated with the instance<br>Attributes: optional-for-create, modifiable |
| **azure-account** | | string optional | Azure account Attributes: optional-for-create, non-modifiable |
| **cap-url** | | string optional | URL to request temporary credentials for a C2S account. Attributes: optional-for-create, modifiable |
| **ipspace** | | string optional | IPspace to use in order to reach the object store. Attributes: optional-for-create, modifiable |
| **is-certificate-validation-enabled** | | boolean optional | Is SSL/TLS certificate validation enabled. The default value is 'true'. Attributes: optional-for-create, modifiable |
| **license-used-percent** | **[0..2^32-1]** | integer optional | Percentage of the object store's total licensed capacity used by this config. This field is not returned in MetroCluster configurations or for Cloud Volumes ONTAP. Attributes: non-creatable, non-modifiable |
| **object-store-name** | | string optional | Name for the object store configuration to be created. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. Attributes: key, required-for-create, non-modifiable |
| **object-store-uuid** | | string optional | UUID of the object store configuration Attributes: non-creatable, non-modifiable |
| **port** | **[0..65535]** | integer optional | Port number of the object store Attributes: optional-for-create, modifiable |
| **provider-type** | | string optional | Type of object store provider. Allowed values are:<br>• 'AWS_S3' - AWS S3<br>• 'SGWS' - StorageGRID Webscale<br>• 'Azure_Cloud' - Microsoft Azure Cloud<br>• 'IBM_COS' - IBM Cloud Object Storage<br>• 'AliCloud' - Alibaba Cloud Object Storage Service<br>• 'GoogleCloud' - Google Cloud Storage<br>• 'ONTAP_S3' - ONTAP S3<br>Attributes: required-for-create, non-modifiable |
| | | string | Data bucket/container name Attributes: required-for-create, non- |

| | | | |
|---|---|---|---|
| **s3-name** | | optional | modifiable |
| **server** | | string optional | Fully qualified domain name of the object store Attributes: required-for-create, modifiable |
| **ssl-enabled** | | boolean optional | SSL/HTTPS enabled or not. The default value is 'true'. Attributes: optional-for-create, modifiable |
| **used-space** | **[0..2^63-1]** | integer optional | Capacity used in the object store by this config. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-object-store-profiler-info**

[top]

Object Store Profiler Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | Name of the node where the profiler ran. Attributes: key, non-creatable, non-modifiable |
| **object-name-prefix** | | string optional | Object name prefix. Attributes: non-creatable, non-modifiable |
| **object-store-name** | | string optional | Name for the object store configuration profiled. Attributes: non-creatable, non-modifiable |
| **op-count** | **[0..2^64-1]** | integer optional | Number of operations performed. Attributes: non-creatable, non-modifiable |
| **op-failed** | **[0..2^64-1]** | integer optional | Number of operations that failed. Attributes: non-creatable, non-modifiable |
| **op-latency-average** | **[0..2^64-1]** | integer optional | Average latency for operation in milliseconds. Attributes: non-creatable, non-modifiable |
| **op-latency-maximum** | **[0..2^64-1]** | integer optional | Maximum latency for operation in milliseconds. Attributes: non-creatable, non-modifiable |
| **op-latency-minimum** | **[0..2^64-1]** | integer optional | Minimum latency for operation in milliseconds. Attributes: non-creatable, non-modifiable |
| **op-name** | | string optional | Operation name - PUT/GET. Attributes: non-creatable, non-modifiable |
| **op-size** | **[0..2^63-1]** | integer optional | Size of operation. Attributes: non-creatable, non-modifiable |
| **op-throughput** | **[0..2^63-1]** | integer optional | Throughput per second for the operation. Attributes: non-creatable, non-modifiable |
| **profiler-status** | | string optional | Profiler status. Attributes: non-creatable, non-modifiable |
| **start-time** | | string optional | Profiler start time. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-object-store-resync-info**

[top]

Object store mirror resync info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of the aggregate. Attributes: key, non-creatable, non-modifiable |
| **mirror-object-store-name** | | string optional | This field represents the name of the mirror object store used by the FabricPool. Attributes: non-creatable, non-modifiable |
| **primary-object-store-name** | | string optional | This field represents the name of the primary object store used by the FabricPool. Attributes: non-creatable, non-modifiable |
| **resync-progress** | **[0..100]** | integer optional | This field identifies the resync progress (as a percentage) of the mirror object store from the primary object store of a FabricPool. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-option-info**

[top]

Option key and value. The possible values are described in the "aggr-set-option" API below.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Option key. |
| **value** | | string | Option value. |

# Element definition: **aggr-relocation-info**

[top]

Aggregate Information When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Aggregate Name Attributes: non-creatable, non-modifiable |
| **destination** | | string optional | Destination for Relocation Attributes: non-creatable, non-modifiable |
| | | | Aggregates Relocation Status Attributes: non-creatable, non-modifiable Possible values include:<br>• Done |

| | | | |
|---|---|---|---|
| **relocation-status** | | string optional | • Failed<br>• In progress<br>• Not attempted yet<br>• Failed: Migration of the aggregate failed<br>• Failed: Node is being shut down<br>• Failed: Aggregate does not have SFO HA policy<br>• Failed: Aggregate is in failed or limbo state.<br>• Failed to offline the aggregate<br>• Failed: Aggregate is being given back or relocated<br>• Failed: Operation was vetoed<br>• No aggregates to relocate<br>• Performing relocation veto checks<br>• check EMS logs<br>• Failed: Node cannot communicate with the destination node<br>• Failed: Destination node did not online the aggregate on time<br>• Failed: Destination node failed to online the aggregate. Check EMS logs on destination node<br>• Failed: Destination cannot receive the aggregate<br>• Failed: Aggregate is restricted<br>• Failed: Aggregate does not have disks<br>• Operation was aborted<br>• Failed: Aggregate is foreign<br>• Failed: Aggregate is offline<br>• Failed: Mirrored aggregate does not have both plexes online<br>• Aborted. Failed to disable background disk firmware updates on the source node.<br>• Aborted. Failed to disable background disk firmware updates on the destination node.<br>• Deferred. Background disk firmware update is in progress on source node.<br>• Deferred. Background disk firmware update is in progress on destination node.<br>• Failed. Migration of a non-SSD aggregate to an All-Flash Optimized destination node is not allowed. |
| **source-node** | | string optional | Name of the source node in which aggregate resides Attributes: key, non-creatable, non-modifiable |

# Element definition: **aggr-resync-options-info**

[top]

Aggregate resynchronization options info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **max-concurrent-resyncs-allowed** | **[1..200]** | integer optional | The number of aggregates, owned by the specified node, that are allowed to resync at a time Attributes: non-creatable, modifiable |
| **node** | | string optional | Name of the node for which the resynchronization option is defined Attributes: key, non-creatable, non-modifiable |

# Element definition: **aggr-simulate-disk-info**

[top]

Information for each disk selected during the simulation of aggregate provisioning operations.

| Name | Range | Type | Description |
|---|---|---|---|
| **added-to-new-raid-group** | | boolean optional | Indicates whether disk will be added to new or existing raid group. True if the disk will be added to new raid group. False if the disk will be added to existing raid group. |
| **checksum-type** | | string optional | Checksum type of the raidgroup to which this disk will be added.<br><br>Possible values:<br><br>• "zoned checksum" - (this value is no longer supported)<br>• "wafl checksum"<br>• "block checksum"<br>• "advanced_zoned checksum" |
| **disk-type** | | string optional | Disk type.<br><br>Possible values:<br><br>• "ATA"<br>• "BSAS"<br>• "FCAL"<br>• "LUN"<br>• "MSATA"<br>• "SAS"<br>• "SSD"<br>• "SSD_NVM"<br>• "FSAS"<br>• "VMDISK"<br>• "unknown" |
| **eff-disk-type** | | string optional | Effective Disk type.<br><br>Possible values:<br><br>• "LUN"<br>• "MSATA"<br>• "SAS"<br>• "SSD"<br>• "FSAS"<br>• "VMDISK"<br>• "unknown" |
| **file-system-size** | | integer optional | File system size of disk (in bytes). Range : [0..2^64-1]. |
| **is-disk-shared** | | boolean optional | Indicates whether the disk is a partitioned disk or a physical disk. True if the disk is a partitioned disk. False if the disk is a physical disk. |
| **name** | | string | Name of a member disk. |
| **physical-size** | | integer optional | Raw size of disk (in bytes). Range : [0..2^64-1]. |
| **position** | | string optional | Position of disk within raid group.<br><br>Possible values:<br><br>• "tparity"<br>• "dparity"<br>• "parity"<br>• "data" |

| | | | |
|---|---|---|---|
| **raid-group-number** | | integer optional | Raid group number to which this disk will be added. |
| **raid-type** | | string optional | Raid type of the raidgroup to which this disk will be added.<br><br>Possible values:<br><br>• "raid0"<br>• "raid4"<br>• "raid_dp"<br>• "raid_tec" |
| **syncmirror-pool** | | integer optional | SyncMirror pool 0 or 1. Range : [0..1]. |

# Element definition: **aggr-space-info**

[top]

List of aggregates and their space usage information.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-name** | | string | Name of the aggregate. |
| **size-asis-used** | | integer | Space used by A-SIS metafiles. Range : [0..2^64-1] |
| **size-bssm-nvlog-used** | | integer optional | Space used by bi-directional Synchronous SnapMirror for NVLOG files. This element will be returned only if the value is not zero. Range : [0..2^64-1] |
| **size-free** | | integer | Total free space in the aggregate Range : [0..2^64-1] |
| **size-image-backup-used** | | integer | Space used by Image Backup metafiles. Range : [0..2^64-1] |
| **size-metadata** | | integer | Total space used by aggregates metadata. Range : [0..2^64-1] |
| **size-nominal** | | integer | Total space contained in the aggreate minus the wafl reserve space. Range : [0..2^64-1] |
| **size-snap-used** | | integer | Space used by aggregate snapshots. Range : [0..2^64-1] |
| **size-used** | | integer | The total used space in the aggregate except the space used by snapshots. Range : [0..2^64-1] |
| **size-volume-allocated** | | integer | Total space allocated to volumes in the aggregate. Range : [0..2^64-1] |
| **size-volume-used** | | integer | Total space used by volumes in the aggregate. Range : [0..2^64-1] |
| **volume-count** | | integer | Count of online virtual volumes in the aggregate. Range : [0..2^64-1] |
| **volumes** | | volume-space-info[] | List of flexible volumes and their allocated space information. |

# Element definition: **aggr-spare-disk-info**

[top]

Spare disk Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the

caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **checksum-style** | | string optional | An indication of the checksum types that this disk is capable of supporting. Each possible return value represents one or more checksum types. Attributes: non-creatable, non-modifiable Possible values:<br>• "advanced_zoned" - Supports advanced zoned checksum,<br>• "block" - Supports block checksum,<br>• "none" - No checksum support,<br>• "zoned_advanced_zoned" - Supports zoned and advanced zoned checksums |
| **disk** | | string optional | Name of the spare disk. Attributes: non-creatable, non-modifiable |
| **disk-class** | | string optional | Disk class. Disks are grouped into classes based on their performance characteristics. Disks with the same 'disk-class' value are compatible for use in the same aggregate. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown disk class.,<br>• "capacity" - Capacity-oriented, near-line disk types. Includes disk types BSAS, FSAS and ATA.,<br>• "performance" - Performance-oriented, enterprise class disk types. Includes disk types SAS and FCAL.,<br>• "archive" - Archive class SATA disks in multi-disk carrier storage shelves. Includes disk type MSATA.,<br>• "solid_state" - Solid-state drives. Includes disk type SSD, SSD-CAP and SSD-NVM.,<br>• "array" - Logical storage devices backed by storage arrays and used by Data ONTAP as disks. Includes disk type LUN.,<br>• "virtual" - Virtual disks that are formatted and managed by the hypervisor. Includes disk type VMDISK.,<br>• "data_center" - Data center grade solid-state drives. Includes the disktype SSD-DC,<br>• "virtual_lun" - Virtual LUNs that is used in the ONTAP Select shared HA,<br>• "virtual_lunssd" - Virtual LUNs of type SSDs that is used in the ONTAP Select shared HA |
| **disk-rpm** | **[0..2^32-1]** | integer optional | Rotational speed in revolutions per minute. Possible values are: 5400, 7200, 10000, and 15000. Omitted if information is unavailable, or if the rpm does not apply to this 'disk-type'. Attributes: non-creatable, non-modifiable |
| **disk-type** | | string | Disk interface type Attributes: non-creatable, non-modifiable Possible values:<br>• "ata" - Advanced Technology Attachment,<br>• "bsas" - Bridged Serial Attached SCSI (bridged from SATA),<br>• "fcal" - Fibre Channel Arbitrated Loop,<br>• "fsas" - High-Capacity (Fat) Serial Attached SCSI,<br>• "lun" - SCSI Logical Unit Number (e.g. Array),<br>• "sas" - Serial Attached SCSI,<br>• "msata" - Multiple bridged SATA disks in a single carrier,<br>• "ssd" - Solid-State Disk, |

| | | | |
|---|---|---|---|
| | | optional | • "vmdisk" - Hypervisor Virtual Disk,<br>• "unknown" - unknown,<br>• "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_dc" - Data Center Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_cap" - High Capacity Solid-State Disk,<br>• "vmlun" - Hypervisor Virtual LUN,<br>• "vmlun_ssd" - Hypervisor Virtual SSD LUN,<br>• "ssd_zns" - Zoned Namespaces Solid-State Disk |
| **effective-disk-rpm** | **[0..2^32-1]** | integer optional | Effective rotational speed in revolutions per minute. Disks can report different actual 'rpm', but have the same 'effective-disk-rpm'. Disks with the same 'effective-disk-rpm' are compatible for use within the same aggregate. Omitted if information is unavailable, or excluded by 'desired-attributes'. Attributes: non-creatable, non-modifiable |
| **effective-disk-type** | | string optional | Effective disk interface type. Disk can report different physical 'disk-type', but the same 'effective-disk-type'. Disk with the same 'effective-disk-type' are compatible for use within the same aggregate. Attributes: non-creatable, non-modifiable Possible values:<br>• "ata" - Advanced Technology Attachment,<br>• "bsas" - Bridged Serial Attached SCSI (bridged from SATA),<br>• "fcal" - Fibre Channel Arbitrated Loop,<br>• "fsas" - High-Capacity (Fat) Serial Attached SCSI,<br>• "lun" - SCSI Logical Unit Number (e.g. Array),<br>• "sas" - Serial Attached SCSI,<br>• "msata" - Multiple bridged SATA disks in a single carrier,<br>• "ssd" - Solid-State Disk,<br>• "vmdisk" - Hypervisor Virtual Disk,<br>• "unknown" - unknown,<br>• "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_dc" - Data Center Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_cap" - High Capacity Solid-State Disk,<br>• "vmlun" - Hypervisor Virtual LUN,<br>• "vmlun_ssd" - Hypervisor Virtual SSD LUN,<br>• "ssd_zns" - Zoned Namespaces Solid-State Disk |
| **is-disk-left-behind** | | boolean optional | True if disk is was left behind during giveback/switchback. Attributes: non-creatable, non-modifiable |
| **is-disk-shared** | | boolean optional | True if disk is a shared disk. Attributes: non-creatable, non-modifiable |
| **is-disk-zeroed** | | boolean optional | True if disk is pre-zeroed. Attributes: non-creatable, non-modifiable |
| **is-disk-zeroing** | | boolean optional | True if disk is in process of being zeroed. Attributes: non-creatable, non-modifiable |
| **is-sparecore** | | boolean optional | True if disk is a sparecore disk. Attributes: non-creatable, non-modifiable |
| **local-usable-data-size** | **[0..2^63-1]** | integer optional | Usable spare capacity in bytes present in the data partition of this disk. This field is omitted<br>• If this disk is not a partitioned disk.<br>• If none of the data partitions are assigned to the current node.<br>• If none of the data partitions are spare.<br>If the disk is a root-data1-data2 partitioned disk, both data partitions are assigned to the current node and are spare then this field is sum of usable capacity from both the data partitions. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **local-usable-data-size-blks** | **[0..2^64-1]** | integer optional | Usable spare capacity in number of 4K blocks present in the data partition of this disk. This field is omitted<br><br>• If this disk is not a partitioned disk.<br>• If none of the data partitions are assigned to the current node.<br>• If none of the data partitions are spare.<br><br>If the disk is a root-data1-data2 partitioned disk, both data partitions are assigned to the current node and are spare then this field is sum of usable capacity from both the data partitions. Attributes: non-creatable, non-modifiable |
| **local-usable-data1-size** | **[0..2^63-1]** | integer optional | Usable spare capacity in bytes present in the first data partition of this disk. This field is omitted<br><br>• If this disk is not a root-data1-data2 partitioned disk.<br>• If first data partition is not assigned to the current node.<br>• If first data partition is not spare.<br><br>Attributes: non-creatable, non-modifiable |
| **local-usable-data1-size-blks** | **[0..2^64-1]** | integer optional | Usable spare capacity in number of 4K blocks present in the first data partition of this disk. This field is omitted<br><br>• If this disk is not a root-data1-data2 partitioned disk.<br>• If first data partition is not assigned to the current node.<br>• If first data partition is not spare.<br><br>Attributes: non-creatable, non-modifiable |
| **local-usable-data2-size** | **[0..2^63-1]** | integer optional | Usable spare capacity in bytes present in the second data partition of this disk. This field is omitted<br><br>• If this disk is not a root-data1-data2 partitioned disk.<br>• If second data partition is not assigned to the current node.<br>• If second data partition is not spare.<br><br>Attributes: non-creatable, non-modifiable |
| **local-usable-data2-size-blks** | **[0..2^64-1]** | integer optional | Usable spare capacity in number of 4K blocks present in the second data partition of this disk. This field is omitted<br><br>• If this disk is not a root-data1-data2 partitioned disk.<br>• If second data partition is not assigned to the current node.<br>• If second data partition is not spare.<br><br>Attributes: non-creatable, non-modifiable |
| **local-usable-root-size** | **[0..2^63-1]** | integer optional | Usable spare capacity in bytes present in the root partition of this disk. This field is omitted<br><br>• If this disk is not a partitioned disk.<br>• If root partition is not assigned to the current node<br>• If root partition is not spare<br><br>Attributes: non-creatable, non-modifiable |
| **local-usable-root-size-blks** | **[0..2^64-1]** | integer optional | Usable spare capacity in number of 4K blocks present in the root partition of this disk. This field is omitted<br><br>• If this disk is not a partitioned disk.<br>• If root partition is not assigned to the current node<br>• If root partition is not spare<br><br>Attributes: non-creatable, non-modifiable |
| **original-owner** | | string optional | Node for which the spare information is returned. Attributes: key, non-creatable, non-modifiable |
| | | | Industry standard disk type. Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **standard-disk-type** | | standarddisktype optional | • "sata" - SATA, Serial Advanced Technology Attachment,<br>• "fc" - FC, Fibre Channel,<br>• "nl_sas" - NL-SAS, Near Line SAS,<br>• "lun" - LUN, SCSI Logical Unit Number (e.g. Array),<br>• "sas" - SAS, Serial Attached SCSI,<br>• "scsi" - SCSI, Small Computer System Interface,<br>• "ssd" - SSD, Solid-State Disk,<br>• "vm_disk" - VM Disk, Hypervisor Virtual Disk,<br>• "unknown" - Unknown Disk Type,<br>• "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_dc" - DC SSD, Data Center Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_cap" - CAP SSD, High Capacity Solid-State Disk,<br>• "vm_lun" - VM LUN, Hypervisor Virtual LUN,<br>• "vm_lun_ssd" - VM SSD LUN, Hypervisor Virtual SSD LUN,<br>• "ssd_zns" - SDF SSD, Non-Volatile Memory Express Solid-State Disk |
| **syncmirror-pool** | | string optional | SyncMirror Pool to which disk is assigned Attributes: non-creatable, non-modifiable |
| **total-size** | **[0..2^63-1]** | integer optional | Total raw capacity of this disk in bytes Attributes: non-creatable, non-modifiable |
| **usable-size** | **[0..2^63-1]** | integer optional | Total usable capacity of this disk in bytes Attributes: non-creatable, non-modifiable |
| **usable-size-blks** | **[0..2^64-1]** | integer optional | Total usable capacity of this disk in number of 4K blocks Attributes: non-creatable, non-modifiable |
| **zeroing-percent** | **[0..100]** | integer optional | If 'is-disk-zeroing' is true, this field indicates the percentage of zeroing that has completed. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-status-info**

[top]

Aggregate Status & Topology Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-cksumstyle** | | string optional | Checksum Style of Aggregate. Attributes: non-creatable, non-modifiable |
| **aggr-plex-list** | | aggr-plex-info[] optional | Information about the Plex |
| **aggr-raid-status** | | string optional | RAID Status of Aggregate. Attributes: non-creatable, non-modifiable |
| **aggr-raid-type** | | string optional | RAID Type of Aggregate. Attributes: non-creatable, non-modifiable |
| **aggr-wafl-status** | | string optional | WAFL Status of Aggregate. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **aggregate** | | string optional | Name of the aggregate. Attributes: key, non-creatable, non-modifiable |
| **aggregate-uuid** | | string optional | Aggregate's Universal Unique IDentifier. Attributes: non-creatable, non-modifiable |
| **is-mirror-verifying** | | boolean optional | True if mirror verification is in progress Attributes: non-creatable, non-modifiable |
| **mirror-verification-pct-with-precision** | | string optional | This field indicates the percentage of mirror verification that has completed, rounded down to two decimal places. Attributes: non-creatable, non-modifiable |
| **mirror-verification-percent** | **[0..100]** | integer optional | This field indicates the percentage of mirror verification that has completed. Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Node hosting the aggregate. Attributes: non-creatable, non-modifiable |

# Element definition: **aggregate-simulate-layout-info**

[top]

Aggregate Layout

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-capacity** | | size[] optional | Estimated Aggregate Usable Capacity Attributes: non-creatable, non-modifiable |
| **checksum-types** | | checksum-style[] optional | Checksum Type of the RAID Groups to Which Selected Disks Belong Attributes: non-creatable, non-modifiable |
| **disk-physical-sizes** | | size[] optional | Physical Raw Size of Selected Disks Attributes: non-creatable, non-modifiable |
| **disk-positions** | | disk-position-type[] optional | Position of Selected Disks within the RAID Groups Attributes: non-creatable, non-modifiable |
| **disk-sizes** | | size[] optional | FileSystem Size of Selected Disks Attributes: non-creatable, non-modifiable |
| **disk-types** | | disktype[] optional | Disk Type of Selected Disks Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "ata" - Advanced Technology Attachment,<br>• "bsas" - Bridged Serial Attached SCSI (bridged from SATA),<br>• "fcal" - Fibre Channel Arbitrated Loop,<br>• "fsas" - High-Capacity (Fat) Serial Attached SCSI,<br>• "lun" - SCSI Logical Unit Number (e.g. Array),<br>• "msata" - Multiple bridged SATA disks in a single carrier,<br>• "sas" - Serial Attached SCSI,<br>• "ssd" - Solid-State Disk,<br>• "vmdisk" - Hypervisor Virtual Disk,<br>• "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_dc" - Data Center based Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_cap" - High Capacity Solid-State Disk,<br>• "vmlun" - Hypervisor Virtual LUN,<br>• "vmlun_ssd" - Hypervisor Virtual SSD LUN,<br>• "ssd_zns" - Zoned Namespaces Solid-State Disk |
| **disks** | | disk-name[] optional | List of Selected Disks for Aggregate Create Simulation Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **eff-disk-types** | | disktype[] optional | Effective Disk Type of Selected Disks Attributes: non-creatable, non-modifiable Possible values:<br>• "ata" - Advanced Technology Attachment,<br>• "bsas" - Bridged Serial Attached SCSI (bridged from SATA),<br>• "fcal" - Fibre Channel Arbitrated Loop,<br>• "fsas" - High-Capacity (Fat) Serial Attached SCSI,<br>• "lun" - SCSI Logical Unit Number (e.g. Array),<br>• "msata" - Multiple bridged SATA disks in a single carrier,<br>• "sas" - Serial Attached SCSI,<br>• "ssd" - Solid-State Disk,<br>• "vmdisk" - Hypervisor Virtual Disk,<br>• "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_dc" - Data Center based Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_cap" - High Capacity Solid-State Disk,<br>• "vmlun" - Hypervisor Virtual LUN,<br>• "vmlun_ssd" - Hypervisor Virtual SSD LUN,<br>• "ssd_zns" - Zoned Namespaces Solid-State Disk |
| **raid-types** | | raid-type[] optional | RAID Type of the RAID Groups to Which Selected Disks Belong Attributes: non-creatable, non-modifiable |
| **raidgroups** | | string[] optional | RAID Groups to Which Selected Disks Belong Attributes: non-creatable, non-modifiable |

# Element definition: **autobalance-aggregate-state**

[top]

Auto Balance Aggregate state Possible values:

- "disabled" - Auto Balance Aggregate is disabled,
- "balanced" - Auto Balance Aggregate has determined that the aggregate is below the high-watermark.,
- "unbalanced" - Auto Balance Aggregate has detected that the aggregate is over the high-watermark but has not initiated any jobs to bring it below the high-watermark.,
- "ineligible" - Ineligible

[none]

# Element definition: **default-raidtype-config-info**

[top]

Default RAID type for each disk size and disk type supported on this filer.

| Name | Range | Type | Description |
|---|---|---|---|
| **default-raid-type** | | string optional | Name of the RAID type allowed on this filer. Possible values: raid0, raid4, raid_dp and raid_tec. |
| **disk-type** | | string optional | Name of the Disk type present on this controller. Possible values include FCAL, ATA, LUN, SAS, SSD, SSD_NVM, BSAS, FSAS, MSATA and VMDISK. |
| **maximum-disk-capacity** | | size optional | Maximum capacity (in TiB) of the disk for which the raid types are specified. This appears only for SATA family disks of size less than or equal to 4TiB. If this field is not present in output then there is no restriction on maximum disk capacity for given disk type. This will appear for SATA family disks and when the default RAID type is raid_dp. |
| **minimum-disk-** | | size | Minimum capacity (in TiB) of the disk for which the raid types are specified. This appears only for SATA family disks of size greater than 4TiB. If this field is not present in output then there is no restriction on minimum disk capacity for given |

| | | | |
|---|---|---|---|
| **capacity** | | optional | disk type. This will appear for SATA family disks and when the default RAID type is raid_tec. |

## Element definition: **disk-info**

[top]

Information for each disk in the plex.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of a member disk. |
| **vbn-end** | **[0..2^64-1].** | integer optional | VBN end value of a disk. |
| **vbn-start** | **[0..2^64-1].** | integer optional | VBN start value of a disk. |

## Element definition: **filter-attrs-info**

[top]

List of filters based on attributes of an aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **all** | | boolean optional | If true, returns all aggregates owned by the local node and also taken over by the local node. Default is false. |
| **is-cfo** | | boolean optional | If true, returns aggregates with 'cfo' HA policy which includes local and taken over aggregates. Default is false. |
| **is-dr-auxiliary** | | boolean optional | If true, returns aggregates taken over by the local node but owned by the partner of DR (disaster recovery) partner (i.e. auxiliary partner). Default is false. |
| **is-dr-partner** | | boolean optional | If true, returns aggregates taken over by the local node but owned by the DR (disaster recovery) partner. Default is false. |
| **is-local** | | boolean optional | If true, returns aggregates owned by the local node. It includes taken over aggregates with 'sfo' policy. Default is false. |
| **is-partner** | | boolean optional | If true, returns aggregates taken over by the local node but owned by the partner. Default is false. |
| **is-sfo** | | boolean optional | If true, returns aggregates with 'sfo' HA policy which includes local and taken over aggregates. Default is false. |

## Element definition: **ha-policy-type**

[top]

HA Policy of aggregate. It can be controller failover or storage failover or unspecified. Allowed values are:

- "cfo": Controller FailOver
- "sfo": Storage FailOver
- "none": Unspecified

[none]

[top]

# Element definition: **mediascrub-detail-info**

Information about media scrubbing.

| Name | Range | Type | Description |
|---|---|---|---|
| **mediascrub-status** | | string | Possible values are "suspended", "disabled" and "enabled" "suspended": Media scrub is enabled but temporarily paused because another task is running or it is in the idle cycle of its periodic run. It will resume automatically when the task is done or the idle cycle ends. "disabled": Media scrub feature is turned off. "enabled": Media scrub feature is active. |
| **percentage-complete** | | integer optional | Media scrubbing percentage complete. Range: [0..100]. |
| **raid-group** | | string | Name of the RAID group. |

# Element definition: **min-aggr-disk-count-info**

[top]

Minimum number of disks required in an aggregate of a specific RAID type.

| Name | Range | Type | Description |
|---|---|---|---|
| **minimum-disk-count** | | integer | Minimum disk count for the aggregate. Range : [1..7] Possible values:<br>• 1 for raid-type raid0<br>• 3 for raid-type raid4<br>• 5 for raid-type raid_dp<br>• 7 for raid-type raid_tec |
| **raid-type** | | string | Name of the RAID type allowed on this filer. Possible values: raid0, raid4, raid_dp, raid_tec. |

# Element definition: **modify-raid-type-simulate-info**

[top]

Simulation Result

| Name | Range | Type | Description |
|---|---|---|---|
| **warning-codes** | | warning-code[] optional | Warning Codes from Simulation of Raid Type Modification Attributes: non-creatable, modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **object-store-information**

[top]

Object Store info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of the aggregate. Attributes: key, non-creatable, non-modifiable |
| **aggregate-uuid** | | string optional | UUID of the aggregate. Attributes: non-creatable, non-modifiable |
| **bin-uuid** | | string optional | UUID of the capacity tier bin associated with the aggregate. Attributes: non-creatable, modifiable |
| **force-tiering-on-metrocluster** | | boolean optional | Force tiering on the primary object store, for FabricPool in a MetroCluster configuration. Attributes: non-creatable, modifiable |
| **is-mirror-degraded** | | boolean optional | This field identifies if the mirror object store is in sync with the primary object store of a FabricPool. Attributes: non-creatable, non-modifiable |
| **license-used-percent** | **[0..2^32-1]** | integer optional | Percentage of the object store's total licensed capacity used by this aggregate. This field is not returned for ONTAP Cloud. Attributes: non-creatable, non-modifiable |
| **migrate-threshold** | **[0..100]** | integer optional | Minimum Aggregate Space Threshold Attributes: non-creatable, modifiable |
| **mirror-type** | | string optional | Object store mirror type. Attributes: non-creatable, modifiable Possible values:<br>• "primary" - object store is a primary object store,<br>• "mirror" - object store is a mirror object store |
| **object-store-availability** | | string optional | Availability of the object store. Attributes: non-creatable, non-modifiable Possible values:<br>• "unavailable" - Unavailable,<br>• "available" - Available |
| **object-store-name** | | string optional | Name of the object store configuration attached to the aggregate. Attributes: key, non-creatable, non-modifiable |
| **object-store-uuid** | | string optional | UUID of the object store configuration attached to the aggregate. Attributes: non-creatable, non-modifiable |
| **provider-type** | | string optional | Type of object store provider. Allowed values are:<br>• 'AWS_S3' - AWS S3<br>• 'SGWS' - StorageGRID Webscale<br>• 'Azure_Cloud' - Microsoft Azure Cloud<br>• 'ONTAP_S3' - ONTAP S3<br><br>Attributes: non-creatable, modifiable |
| **size-limit** | **[0..2^63-1]** | integer optional | The maximum amount of space in the object store the aggregate can use. Attributes: non-creatable, modifiable |
| **tiering-fullness-threshold** | **[0..100]** | integer optional | Percentage of space in the performance tier which must be used before data is tiered out to the capacity tier. Attributes: non-creatable, modifiable |
| **used-space** | **[0..2^63-1]** | integer optional | Capacity used in the object store by this aggregate. Attributes: non-creatable, modifiable |

# Element definition: **object-store-url-style**

[top]

path-style | virtual-hosted-style Possible values:

- "path_style" ,
- "virtual_hosted_style"

[none]

# Element definition: **object-store-vol-btuuids-info**

[top]

Object Store Volume Buftree UUIDs Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of the aggregate. Attributes: key, non-creatable, non-modifiable |
| **bin-uuid** | | string optional | UUID of the capacity tier bin associated with the aggregate. Attributes: non-creatable, non-modifiable |
| **buftree-uuid** | | string optional | Buftree UUID of the volume. Attributes: key, non-creatable, non-modifiable |
| **cookie** | **[0..2^32-1]** | integer optional | Token uniquifier for the entry. Attributes: key, non-creatable, non-modifiable |
| **object-store-name** | | string optional | Name of the object store configuration attached to the aggregate. Attributes: key, non-creatable, non-modifiable |
| **vol-uuid** | | string optional | UUID of the volume. Attributes: non-creatable, non-modifiable |

# Element definition: **raidgroup-size-info**

[top]

Default, minimum and maximum raidgroup size for each RAID type supported on this filer.

| Name | Range | Type | Description |
|---|---|---|---|
| **default-size** | | integer | Default size of a RAID group of this type in aggregates. Range : [6..16]. |
| **disktype** | | string optional | Name of the Disk type present on this controller. Possible values include FCAL, ATA, LUN, SAS, SSD, BSAS, FSAS, MSATA and VMDISK. |
| **maximum-disk-capacity** | | size optional | Maximum capacity (in TB) of the disk for which the raidgroup sizes are specified. This appears only for FSAS family disks of size less than or equal to 4TB. If this field is not present in output then there is no restriction on maximum disk capacity for this raidtype and disktype combination. |

| | | | |
|---|---|---|---|
| **maximum-size** | | integer | Maximum size of a RAID group of this type in aggregates. Range : [6..28]. |
| **minimum-disk-capacity** | | size optional | Minimum capacity (in TB) of the disk for which the raidgroup sizes are specified. This appears only for FSAS family disks of size greater than 4TB. If this field is not present in output then there is no restriction on minimum disk capacity for this raidtype and disktype combination. |
| **minimum-size** | | integer | Minimum size of a RAID group of this type in aggregates. Possible values: 2, 3, 5, 7. |
| **raidtype** | | string | Name of the RAID type allowed on this filer. Possible values: raid0, raid4, raid_dp, raid_tec. |

# Element definition: **raidtype-info**

[top]

RAID types allowed on this filer.

| Name | Range | Type | Description |
|---|---|---|---|
| **raidtype** | | string | Name of an allowed RAID type. Possible values: raid0, raid4, raid_dp, raid_tec. |

# Element definition: **scrub-detail-info**

[top]

Scrubbing information.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-suspended** | | boolean | Suspended state of the scrub on that RAID group. |
| **last-scrub-timestamp** | | integer optional | Time at which the last full scrub completed. If a scrub has never been performed, this value will not be returned. The time value is in seconds since January 1, 1970. Range : [0..2^31-1]. |
| **percentage-complete** | | integer optional | Scrubbing percentage complete. I scrubbing is not active, this value will not be returned. Range : [0..100]. |
| **raid-group** | | string | Name of the RAID group involved in the scrub. |

# Element definition: **space-information**

[top]

Space configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of the aggregate for which the space usage is requested. Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **aggregate-metadata** | **[0..2^63-1]** | integer optional | This field represents space used by filesystem metadata of the aggregate. Attributes: non-creatable, non-modifiable |
| **aggregate-metadata-percent** | **[0..2^32-1]** | integer optional | Aggregate Metadata Percent Attributes: non-creatable, non-modifiable |
| **aggregate-size** | **[0..2^63-1]** | integer optional | This field represents the size of the aggregate in bytes. Attributes: non-creatable, non-modifiable |
| **object-store-logical-used** | **[0..2^63-1]** | integer optional | This field represents the total logical amount of space used in the object store (in bytes). Attributes: non-creatable, non-modifiable |
| **object-store-logical-used-percent** | **[0..2^32-1]** | integer optional | Logical Used Percentage. Attributes: non-creatable, non-modifiable |
| **object-store-metadata** | **[0..2^63-1]** | integer optional | (DEPRECATED) - This field represents the space used by metadata in the object store (in bytes). Attributes: non-creatable, non-modifiable |
| **object-store-metadata-percent** | **[0..2^32-1]** | integer optional | (DEPRECATED) - Metadata Percent. Attributes: non-creatable, non-modifiable |
| **object-store-physical-used** | **[0..2^63-1]** | integer optional | This field represents the total amount of space used in the object store. Attributes: non-creatable, non-modifiable |
| **object-store-physical-used-percent** | **[0..2^32-1]** | integer optional | Used Percentage. Attributes: non-creatable, non-modifiable |
| **object-store-referenced-capacity** | **[0..2^63-1]** | integer optional | This field represents the logical space still referenced in the object store (in bytes). Attributes: non-creatable, non-modifiable |
| **object-store-referenced-capacity-percent** | **[0..2^32-1]** | integer optional | Referenced Capacity Percentage. Attributes: non-creatable, non-modifiable |
| **object-store-sis-space-saved** | **[0..2^63-1]** | integer optional | This field represents the space saved by storage efficiency in the object store. Attributes: non-creatable, non-modifiable |
| **object-store-sis-space-saved-percent** | **[0..2^32-1]** | integer optional | Storage efficiency saved percentage. Attributes: non-creatable, non-modifiable |
| **object-store-size** | **[0..2^63-1]** | integer optional | This field represents the size of the object store. Attributes: non-creatable, non-modifiable |
| **object-store-unreclaimed-space** | **[0..2^63-1]** | integer optional | (DEPRECATED) - This field represents the amount of space that is no longer referenced in the object store. This space has yet to be reclaimed. Attributes: non-creatable, non-modifiable |
| **object-store-unreclaimed-space-percent** | **[0..2^32-1]** | integer optional | (DEPRECATED)- Unreclaimed Space Percentage. Attributes: non-creatable, non-modifiable |
| **percent-snapshot-space** | **[0..100]** | integer optional | Space Reserved for Snapshot Copies Attributes: non-creatable, non-modifiable |
| **physical-used** | **[0..2^63-1]** | integer optional | This field represents physical used space in bytes. This differs from 'total-used' space by the space that is guaranteed for future writes. The value includes blocks in use by Snapshot copies. Attributes: non-creatable, non-modifiable |
| **physical-used-percent** | **[0..2^32-1]** | integer optional | Physical Used Percentage Attributes: non-creatable, non-modifiable |
| **snap-size-total** | **[0..2^63-1]** | integer optional | This field represents snapshot size in bytes. Attributes: non-creatable, non-modifiable |
| **snapshot-reserve-unusable** | **[0..2^63-1]** | integer optional | This field represents snapshot reserve that is not available in bytes. Attributes: non-creatable, non-modifiable |
| **snapshot-** | | | |

| | | | |
|---|---|---|---|
| **reserve-unusable-percent** | **[0..2^32-1]** | integer optional | Snapshot Reserve Unusable Percent Attributes: non-creatable, non-modifiable |
| **tier-name** | | string optional | This field represents the name of the performance or capacity tier. Attributes: non-creatable, non-modifiable |
| **total-provisioned-space** | **[0..2^63-1]** | integer optional | This field represents total provisioned space across all the volumes in the aggr. Attributes: non-creatable, non-modifiable |
| **total-provisioned-space-percent** | **[0..2^32-1]** | integer optional | This field represents percentage of total provisioned space across all the volumes against aggr's size. Attributes: non-creatable, non-modifiable |
| **used-including-snapshot-reserve** | **[0..2^63-1]** | integer optional | This field represents space used by the aggregate including the aggregate's Snapshot reserve in bytes. Attributes: non-creatable, non-modifiable |
| **used-including-snapshot-reserve-percent** | **[0..2^32-1]** | integer optional | Total Used Percent Attributes: non-creatable, non-modifiable |
| **volume-footprints** | **[0..2^63-1]** | integer optional | This field represents space used by the sum of all data and metadata of all volumes in the aggregate. Attributes: non-creatable, non-modifiable |
| **volume-footprints-percent** | **[0..2^32-1]** | integer optional | Volume Footprints Percent Attributes: non-creatable, non-modifiable |

# Element definition: **striping-type**

[top]

Striping information of aggregate. Allowed values are:

- "striped": Member of stripe.
- "not_striped": Not member of stripe.
- "unknown": Not known.

[none]

# Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

# Element definition: **verify-detail-info**

[top]

Information about mirror verification.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-suspended** | | boolean | Is mirror verification suspended for this aggregate? |

| | | | |
|---|---|---|---|
| **name** | | string | Name of the aggregate. |
| **pct-with-precision** | | string optional | Mirror verification percentage complete floored to two decimal place. If verification isn't active, this value won't be returned. (e.g. "13.12") |
| **percentage-complete** | | integer optional | Mirror verification percentage complete. If verification isn't active, this value won't be returned. Range: [0..100]. |

## Element definition: **warning-code**

[top]

Warning codes for pre-check mode.

| Name | Range | Type | Description |
|---|---|---|---|
| **code** | **[0..2^64-1]** | integer | Warning code. |

## Element definition: **aggr-64bit-upgrade-attributes**

[top]

Information related to 64-bit upgrade.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-check-attributes** | | aggr-check-attributes optional | Information returned when upgrade-64bit-mode input in aggr-add API is "check". |
| **aggr-start-attributes** | | aggr-start-attributes optional | Information returned when upgrade-64bit-mode in aggr-add API is "grow_all", "grow_none", or "grow_reserved". |
| **aggr-status-attributes** | | aggr-status-attributes | Status information related to 64-bit upgrade. This information includes whether the 64-bit upgrade is in progress. |

## Element definition: **aggr-64bit-upgrade-info**

[top]

Information related to 64-bit upgrade.

| Name | Range | Type | Description |
|---|---|---|---|
| **check** | | aggr-64bit-upgrade-check-info optional | Information returned when upgrade-64bit-mode in aggr-add or aggr-64bit-upgrade-start is "check". |
| **start** | | aggr-64bit-upgrade-start-info optional | Information returned when upgrade-64bit-mode in aggr-add or aggr-64bit-upgrade-start is "grow_all", "grow_none", or "grow_reserved". |
| **status** | | aggr-64bit-upgrade-status-info | Status information related to 64-bit upgrade. This information includes the block format of the aggregate and the progress of the 64-bit upgrade scanner. |

## Element definition: **aggr-efficiency-additional-details-info**

[top]

Additional details related to storage efficiency in this aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **number-of-offline-volumes** | **[0..2^32-1]** | integer optional | Number of volumes that are offline in the aggregate. Attributes: non-creatable, non-modifiable |
| **number-of-sis-change-log-disabled-volumes** | **[0..2^32-1]** | integer optional | Number of volumes on which efficiency change log is disabled in the aggregate. Attributes: non-creatable, non-modifiable |
| **number-of-sis-disabled-volumes** | **[0..2^32-1]** | integer optional | Number of volumes on which volume efficiency is disabled in the aggregate. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-aggr-info**

[top]

Storage efficiency achieved at the aggregate level using techniques like data compaction.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-compaction-saved** | **[0..2^63-1]** | integer optional | The total disk space that is saved by data compaction and cross volume sharing at the aggregate level. Attributes: non-creatable, non-modifiable |
| **aggr-data-reduction-storage-efficiency-ratio** | | string optional | Storage efficiency ratio of the aggregate. Attributes: non-creatable, non-modifiable |
| **aggr-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used by the aggregate. Attributes: non-creatable, non-modifiable |
| **aggr-physical-used** | **[0..2^63-1]** | integer optional | This contains physical size used by the aggregate. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-cumulated-additional-details-info**

[top]

Additional details related to storage efficiency in the given aggregates.

| Name | Range | Type | Description |
|---|---|---|---|
| **number-of-offline-volumes** | **[0..2^32-1]** | integer optional | Number of volumes that are offline in the given aggregates. Attributes: non-creatable, non-modifiable |
| **number-of-sis-change-log-disabled-volumes** | **[0..2^32-1]** | integer optional | Number of volumes on which efficiency change log is disabled in the given aggregates. Attributes: non-creatable, non-modifiable |
| **number-of-sis-disabled-volumes** | **[0..2^32-1]** | integer optional | Number of volumes on which volume efficiency is disabled in the given aggregates. Attributes: non-creatable, non-modifiable |
| **number-of-skipped-aggregates** | **[0..2^32-1]** | integer optional | Number of Skipped aggregates. Attributes: non-creatable, non-modifiable |
| **skipped-aggregates** | | string[] optional | List of Aggregates skipped Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-cumulated-aggr-info**

[top]

Storage efficiency achieved at the aggregate level using techniques like data compaction.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-data-reduction-storage-efficiency-ratio** | | string optional | Storage efficiency ratio of the given aggregates. Attributes: non-creatable, non-modifiable |
| **aggr-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used by the given Aggregates. Attributes: non-creatable, non-modifiable |
| **aggr-physical-used** | **[0..2^63-1]** | integer optional | This contains physical size used by the given Aggregates. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-cumulated-snapshot-and-flexclone-info** [top]

Aggregated information of storage efficiency of Snapshot copies and FlexClone volumes in the given aggregates.

| Name | Range | Type | Description |
|---|---|---|---|
| **flexclone-volume-data-reduction-storage-efficiency-ratio** | | string optional | Flexclone volume data reduction efficiency ratio of the given aggregates. Attributes: non-creatable, non-modifiable |
| **flexclone-volume-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used by all FlexClone volumes residing in the given aggregates. Attributes: non-creatable, non-modifiable |
| **flexclone-volume-physical-used** | **[0..2^63-1]** | integer optional | This contains physical size used by all FlexClone volumes in the given aggregates. Attributes: non-creatable, non-modifiable |
| **snapshot-flexclone-volume-data-reduction-storage-efficiency-ratio** | | string optional | Snapshot and FlexClone volume storage efficiency ratio of the given aggregates. Attributes: non-creatable, non-modifiable |
| **snapshot-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used by all volume Snapshot copies residing in the given aggregates. Attributes: non-creatable, non-modifiable |
| **snapshot-physical-used** | **[0..2^63-1]** | integer optional | This contains physical size used by all volume Snapshot copies residing in the given aggregates. Attributes: non-creatable, non-modifiable |
| **snapshot-volume-data-reduction-storage-efficiency-ratio** | | string optional | Snapshot volume data reduction efficiency ratio of the given aggregates. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-cumulated-volume-info** [top]

Aggregated information of storage efficiency achieved at the volume level using techniques like deduplication, compression, zero detection and FlexClones for files or LUNs.

| Name | Range | Type | Description |
|---|---|---|---|
| **volume-compression-saved** | **[0..2^63-1]** | integer optional | The total disk space that is saved by compressing blocks by all volumes in the given aggregates. Attributes: non-creatable, non-modifiable |
| **volume-data-reduction-storage-efficiency-ratio** | | string optional | Storage efficiency ratio of all the volumes in the given aggregates. Attributes: non-creatable, non-modifiable |
| **volume-dedupe-zero-pattern-saved** | **[0..2^63-1]** | integer optional | The total disk space that is saved by volume Deduplication and pattern detection by all the volumes in the given aggregates. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **volume-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used by all the volumes in the given aggregates. Attributes: non-creatable, non-modifiable |
| **volume-physical-used** | **[0..2^63-1]** | integer optional | This contains physical size used by all volumes in the given aggregates. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-cumulative-info**

[top]

Cumulative storage efficiency information of an aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **total-data-reduction-efficiency-ratio-wo-snapshots** | | string optional | total data reduction efficiency ratio excluding snapshots copies. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-efficiency-ratio-wo-snapshots-flexclones** | | string optional | total data reduction efficiency ratio excluding snapshots copies and flexclones. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-logical-used-wo-snapshots** | **[0..2^63-1]** | integer optional | Total Data reduction logical used excluding snapshot copies in the aggregate. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-logical-used-wo-snapshots-flexclones** | **[0..2^63-1]** | integer optional | Total Data reduction logical used excluding snapshot copies and flexclones in the aggregate. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-physical-used-wo-snapshots** | **[0..2^63-1]** | integer optional | Total Data reduction physical used excluding snapshot copies in the aggregate. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-physical-used-wo-snapshots-flexclones** | **[0..2^63-1]** | integer optional | Total Data reduction physical used excluding snapshot copies and flexclones in the aggregate. Attributes: non-creatable, non-modifiable |
| **total-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used in the aggregate. This includes Volumes, Clones and Snapshots in the aggregate. The logical size is computed based on physical usage and savings obatained in the aggregate. Attributes: non-creatable, non-modifiable |
| **total-physical-used** | **[0..2^63-1]** | integer optional | This contains the physical size used by the aggregate. Attributes: non-creatable, non-modifiable |
| **total-storage-efficiency-ratio** | | string optional | Total storage efficiency ratio of the aggregate. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-snapshot-and-flexclone-volume-info**

[top]

Aggregated information of storage efficiency of Snapshots and FlexClone volumes in the aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **flexclone-volume-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used by all FlexClone volumes residing in the aggregate. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **flexclone-volume-physical-used** | **[0..2^63-1]** | integer optional | This contains physical size used by all FlexClone volumes in the aggregate. Attributes: non-creatable, non-modifiable |
| **snapshot-flexclone-volume-data-reduction-storage-efficiency-ratio** | | string optional | Snapshot and FlexClone volume storage efficiency ratio of the aggregate. Attributes: non-creatable, non-modifiable |
| **snapshot-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used by all Volume Snapshots residing in the aggregate. Attributes: non-creatable, non-modifiable |
| **snapshot-physical-used** | **[0..2^63-1]** | integer optional | This contains physical size used by all Volume Snapshots residing in the aggregate. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-total-cumulated-info**

[top]

cumulated storage efficiency information from the given aggregates.

| Name | Range | Type | Description |
|---|---|---|---|
| **total-data-reduction-efficiency-ratio-wo-snapshots** | | string optional | total data reduction efficiency ratio excluding snapshots copies. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-efficiency-ratio-wo-snapshots-flexclones** | | string optional | total data reduction efficiency ratio excluding snapshots copies and flexclones. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-logical-used-wo-snapshots** | **[0..2^63-1]** | integer optional | Total Data reduction logical used excluding snapshot copies in the aggregate. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-logical-used-wo-snapshots-flexclones** | **[0..2^63-1]** | integer optional | Total Data reduction logical used excluding snapshot copies and flexclones in the aggregate. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-physical-used-wo-snapshots** | **[0..2^63-1]** | integer optional | Total Data reduction physical used excluding snapshot copies in the aggregate. Attributes: non-creatable, non-modifiable |
| **total-data-reduction-physical-used-wo-snapshots-flexclones** | **[0..2^63-1]** | integer optional | Total Data reduction physical used excluding snapshot copies and flexclones in the aggregate. Attributes: non-creatable, non-modifiable |
| **total-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used in the given aggregates. This includes volumes, clones and Snapshot copies in the given aggregates. The logical size is computed based on physical usage and savings obatained in the given aggregates. Attributes: non-creatable, non-modifiable |
| **total-physical-used** | **[0..2^63-1]** | integer optional | This contains the physical size used by the given aggregates. Attributes: non-creatable, non-modifiable |
| **total-storage-efficiency-ratio** | | string optional | Total storage efficiency ratio of the given aggregates. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-efficiency-volume-info**

[top]

Aggregated information of storage efficiency achieved at the volume level using techniques like deduplication, compression, zero detection and FlexClones for files or LUNs.

| Name | Range | Type | Description |
|---|---|---|---|
| **volume-compression-saved** | **[0..2^63-1]** | integer optional | The total disk space that is saved by compressing blocks by all volumes in the aggregate. Attributes: non-creatable, non-modifiable |
| **volume-data-reduction-storage-efficiency-ratio** | | string optional | Storage efficiency ratio of all the volumes in the aggregate. Attributes: non-creatable, non-modifiable |
| **volume-efficiency-saved** | **[0..2^63-1]** | integer optional | The total disk space that is saved by deduplication and FlexClone for files or LUNs by all volumes in the aggregate. Attributes: non-creatable, non-modifiable |
| **volume-logical-used** | **[0..2^63-1]** | integer optional | This contains logical size used by all the volumes in the aggregate. Attributes: non-creatable, non-modifiable |
| **volume-physical-used** | **[0..2^63-1]** | integer optional | This contains physical size used by all volumes in the aggregate. Attributes: non-creatable, non-modifiable |
| **volume-vbn-zero-saved** | **[0..2^63-1]** | integer optional | The total disk space that is saved by inline zero pattern detection by all the volumes in the aggregate. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-fs-attributes**

[top]

File system specific information about the aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **block-type** | | string optional | The indirect block format that the aggregate can have. The default is 64_bit. With a 64_bit block-type creation of aggregates that can be larger than 16TB is allowed. Possible values: 64_bit |
| **fsid** | **[0..2^32-1]** | integer optional | Aggregate's File System Identifier. |
| **type** | | string optional | The type of aggregate. Possible values: aggr "aggr" (for aggregates that can contain flexible volumes) |

# Element definition: **aggr-inode-attributes**

[top]

A structure returning inode-related information for a given aggregate's Active File System (AFS).

| Name | Range | Type | Description |
|---|---|---|---|
| **files-private-used** | **[0..2^64-1]** | integer optional | [not settable, online-only] Number of system (not user-visible) files (inodes) used. If the referenced file system is restricted or offline, a value of 0 is returned. |
| **files-total** | **[0..2^64-1]** | integer optional | [settable, online-only] Total user-visible file (inode) count, i.e., maximum number of user-visible files (inodes) that this referenced file system can currently hold. If the referenced file system is restricted or offline, a value of 0 is returned. |
| | **[0..2^64-** | integer | [not settable, online-only] Number of user-visible files (inodes) used in the |

| | | | |
|---|---|---|---|
| **files-used** | **1]** | optional | referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. |
| **inodefile-private-capacity** | **[0..2^64-1]** | integer optional | [not settable, online-only] Number of inodes that can currently be stored on disk for system (not user-visible) files. This number will dynamically increase as more system files are created. |
| **inodefile-public-capacity** | **[0..2^64-1]** | integer optional | [not settable, online-only] Number of inodes that can currently be stored on disk for user-visible files. This number will dynamically increase as more user-visible files are created. |
| **inofile-version** | **[0..2^32-1]** | integer optional | [not settable, online-only] The inofile-version of the aggregate. If the referenced aggregate is restricted or offline, then a value of 0 is returned. |
| **maxfiles-available** | **[0..2^64-1]** | integer optional | [not settable, always] The count of the maximum number of user-visible files currently allowable on the referenced file system. |
| **maxfiles-possible** | **[0..2^64-1]** | integer optional | [not settable, always] The largest value to which the maxfiles-available parameter can be increased by reconfiguration, on the referenced file system. |
| **maxfiles-used** | **[0..2^64-1]** | integer optional | [not settable, online-only] The number of user-visible files currently in use on the referenced file system. |
| **percent-inode-used-capacity** | **[0..100]** | integer optional | [not settable, online-only] The percentage of disk space currently in use based on user-visible file (inode) count on the referenced file system. |

# Element definition: **aggr-ownership-attributes**

[top]

Ownership information about the aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | string optional | Name of the cluster which has the node that owns this aggregate. |
| **dr-home-id** | **[0..2^32-1]** | integer optional | NVRAM ID of the DR (disaster recovery) node to which this aggregate's disks have been administratively assigned. This information is derived from the sanown information for an aggregate's disks. See 'disk-sanown-detail-info' |
| **dr-home-name** | | string optional | Name of the DR node to which this aggregate's disks have been administratively assigned. |
| **home-id** | **[0..2^32-1]** | integer optional | NVRAM ID of the node to which this aggregate's disks have been administratively assigned. This information is derived from the sanown information for an aggregate's disks. See 'disk-sanown-detail-info' |
| **home-name** | | string optional | Name of the node to which this aggregate's disks have been administratively assigned. |
| **owner-id** | **[0..2^32-1]** | integer optional | NVRAM ID of node to which the aggregate ownership has been assigned. Normally, home-id matches owner-id. But these may be changed by SFO takeover to match the takeover node, and restored by SFO giveback to match home-id. CFO takeover and giveback do not affect owner-id. |
| **owner-name** | | string optional | Name of node to which the aggregate ownership has been assigned. Normally, home-name matches owner-name. But these may be changed by SFO takeover to match the takeover node, and restored by SFO giveback to match home-name. CFO takeover and giveback do not affect owner-name. |

# Element definition: **aggr-performance-attributes**

[top]

Performance specific attributes of the aggregate

| Name | Range | Type | Description |
|---|---|---|---|
| **free-space-realloc** | | string optional | Returns the free space reallocation state of the aggregate. Possible values : "on", "off", "no_redirect"<br>• "on" : Free space reallocation enabled with automatically starting the redirect scanner<br>• "off" : Free space reallocation disabled<br>• "no_redirect" : Free space reallocation enabled without running the redirect scanner<br>The default value is "off" |
| **max-write-alloc-blocks** | **[0..1152]** | integer optional | The maximum number of blocks used for write allocation. Some sequential read workloads may benefit from increasing this value. Default value is 0 which uses the controller-wide default value of 64. The default is optimal for most users. The controller-wide default can be adjusted with the bootarg "wafl-max-write-alloc-blocks" |
| **single-instance-data-logging** | | string optional | Indicates if Single Instance Data Logging is enabled on the aggregate. This feature is supported only on Cloud ONTAP. Possible values : "on", "off"<br>• "on" : Single Instance Data Logging enabled<br>• "off" : Single Instance Data Logging disabled<br>The default value is "off" |

# Element definition: **aggr-plex-info**

[top]

Information about the Plex

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-raidgroup-list** | | aggr-raidgroup-info[] optional | Information about the RAID Groups |
| **plex-is-online** | | boolean optional | True if plex is online. Attributes: non-creatable, non-modifiable |
| **plex-is-resyncing** | | boolean optional | True if plex is resyncing. Attributes: non-creatable, non-modifiable |
| **plex-name** | | string optional | Name of the plex. Attributes: key, non-creatable, non-modifiable |
| **plex-pool** | **[0..1]** | integer optional | SyncMirror Pool associated with the plex. Attributes: non-creatable, non-modifiable |
| **plex-resync-level** | **[0..1]** | integer optional | If plex-is-resyncing is true, this field indicates the resync level of the plex. Attributes: non-creatable, non-modifiable |
| **plex-resync-pct-with-precision** | | string optional | This field indicates percentage of resync that has completed, rounded down to two decimal places. Attributes: non-creatable, non-modifiable |
| **plex-resync-percent** | **[0..100]** | integer optional | This field indicates the percentage of resync that has completed. Attributes: non-creatable, non-modifiable |
| **plex-status** | | string optional | Status of the plex. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-raid-attributes**

[top]

RAID specific information of the aggregate

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-type** | | string optional | Type of aggregate. The possible values:<br>• "hdd" - aggregate consists of only HDDs,<br>• "hybrid" - aggregate consists of both HDDs and SSDs,<br>• "lun" - aggregate consists of only array LUNs,<br>• "ssd" - aggregate consists of only SSDs,<br>• "vmdisk" - aggregate consists of only VMDISKs. |
| **cache-raid-group-size** | **[1..28]** | integer optional | Current maximum cache RAID group size of hybrid aggregate. RAID group size is the maximum number of disks that can be added to a RAID group. This information will only be returned for a hybrid aggregate i.e. whose "is-hybrid" field is set to true. |
| **checksum-status** | | string optional | Checksum status. Possible values: "active", "initializing", "none", "off", "reinitialized", "reinitializing", "reverting", "unknown", "upgrading_phase1", "upgrading_phase2" This information will not be returned for a striped aggregate. |
| **checksum-style** | | string optional | Checksum style. The possible values:<br>• "advanced_zoned" - advanced_zoned checksum (azcs),<br>• "block" - block,<br>• "mixed" - mixed,<br>• "none" - none,<br>• "unknown" - unknown<br>• "wafl" - wafl,<br>• "zoned" - zoned (this value is no longer supported). |
| **disk-count** | **[0..2^32-1]** | integer optional | Number of disks in the aggregate. |
| **encrypt-with-aggr-key** | | boolean optional | If true, returns aggregates supporting encryption with NAE (NetApp Aggregate Encryption). |
| **ha-policy** | | string optional | Aggregate's HA policy. Possible return values: "cfo", "sfo", "none" |
| **has-local-root** | | boolean optional | Whether the aggregate contains the local root volume. This information will not be returned for a striped aggregate. Default value is false. |
| **has-partner-root** | | boolean optional | Whether the aggregate contains the partner's root volume. This information will not be returned for a striped aggregate. Default value is false. |
| **is-checksum-enabled** | | boolean optional | Is checksumming enabled for the aggregate? Default value is false. |
| **is-composite** | | boolean optional | If true, aggregate currently contains two tiers of storage. |
| **is-fabricpool-mirrored** | | boolean optional | If true, the aggregate has two external capacity tiers, which are mirrors, each containing a copy of the data. |
| **is-hybrid** | | boolean optional | If true, aggregate currently contains both SSD and non-SSD RAID groups. |
| **is-hybrid-enabled** | | boolean optional | If true, aggregate is eligible to contain both SSD and non-SSD RAID groups. |
| **is-inconsistent** | | boolean optional | Whether or not the aggregate is inconsistent. Default value is false. |
| **is-mirrored** | | boolean optional | If true, the aggregate is mirrored. Default value is false. |
| **is-nve-capable** | | boolean optional | If true, the aggregate is capable of supporting NVE. |
| | | | |

| | | | |
|---|---|---|---|
| **is-root-aggregate** | | boolean optional | Whether this is a root aggregate. Default value is false. This differs from has-local-root and has-partner-root by evaluating true when the aggregate may contain a root volume for any node. The has-local-root and has-partner-root fields only evaluate true when the aggregate contains the active root for the specified node. The is-root-aggregate field will still evaluate true for an offline root aggregate. The has-local-root and has-partner-root fields will evaluate false, since the aggregate has no mounted filesystem. |
| **mirror-status** | | string optional | Aggregate's mirror status. Possible values: "invalid", "uninitialized", "needs CP count check", "CP count check in progress", "unmirrored", "mirrored", "mirror degraded, "mirror resynchronizing", "failed", "limbo" and . This information will not be returned for a striped aggregate. |
| **mount-state** | | string optional | [not settable, always] This field shows the volume's mount state. Possible values: "creating", "destroying", "frozen", "inconsistent", "iron_restricted", "mounting", "online", "quiescing", "quiesced", "reverted", "unmounted", "unmounting" This information will not be returned for a striped aggregate. |
| **plex-count** | **[0..2^32-1]** | integer optional | Number of plexes in the aggregate. This value tells us the size of the returned "plex" array. |
| **plexes** | | plex-attributes[] optional | List of plexes in the aggregate |
| **raid-lost-write-state** | | string optional | State of the RAID Lost Write feature for an aggregate. The possible values are:<br>• "aborted" - The RAID Lost Write scrub is no longer running and was aborted on all RAID groups in this aggregate, possibly due to an error.<br>• "illegal" - The aggregate contains RAID groups with RAID Lost Write disabled and other RAID groups with RAID Lost Write enabled. This is an invalid state.<br>• "inoperative" - The RAID Lost Write scrub is allowed on the aggregate, but it cannot start because the system-wide RAID Lost Write option "raid.lost_write.enable" is set to "off".<br>• "off" - RAID Lost Write protection and scrub are disabled on this aggregate.<br>• "on" - The aggregate is RAID Lost Write protected and that the RAID Lost Write scrub completed successfully on all RAID groups in this aggregate.<br>• "partial" - The RAID Lost Write scrub completed successfully on some of the RAID groups in this aggregate, but was aborted on at least one of the RAID groups.<br>• "unknown" - The RAID Lost Write scrub status could not be determined.<br>• "upgrade_partial" - The RAID Lost Write scrub is still in progress on some of the RAID groups in this aggregate and was aborted on at least one of the RAID groups.<br>• "upgrading" - The RAID Lost Write scrub is still not completed or not yet started on at least one of the RAID groups in this aggregate. |
| **raid-size** | **[0..2^32-1]** | integer optional | Current RAID group size. This information will not be returned for a striped aggregate. |
| **raid-status** | | string optional | RAID status. Possible values: "copying", "degraded", "foreign", "growing", "hybrid", "hybrid_enabled", "initializing", "invalid", "ironing", "mirror degraded", "mixed_raid_type", "mirrored", "needs check", "normal", "noparity", "out-of-date", "parity uninit'd", "partial", "raid0", "raid4", "raid_dp", "raid_tec", "reconstruct", "resyncing", "verifying". These values may appear by themselves or in combination separated by commas (e.g., "mixed_raid_type, hybrid, normal"). For details on raid-type, refer description of element 'raid-type' below |
| | | | Possible values: |

| | | | |
|---|---|---|---|
| **raid-type** | | string optional | • "raid0" - All the raid groups in the aggregate are of type raid0,<br>• "raid4" - All the raid groups in the aggregate are of type raid4,<br>• "raid_dp" - All the raid groups in the aggregate are of type raid_dp,<br>• "raid_tec" - All the raid groups in the aggregate are of type raid_tec,<br>• "mixed_raid_type" - This aggregate contains RAID groups of different RAID types (raid0, raid4, raid_dp, raid_tec). |
| **state** | | string optional | Aggregate State Possible values:<br>• "creating" ,<br>• "destroying" ,<br>• "failed" ,<br>• "frozen" ,<br>• "inconsistent" ,<br>• "iron_restricted" ,<br>• "mounting" ,<br>• "online" ,<br>• "offline" ,<br>• "partial" ,<br>• "quiesced" ,<br>• "quiescing" ,<br>• "restricted" ,<br>• "reverted" ,<br>• "unknown" ,<br>• "unmounted" ,<br>• "unmounting" ,<br>• "relocating" |
| **uses-shared-disks** | | boolean optional | If true, aggregate is using shared disks. |

# Element definition: **aggr-snaplock-attributes**

[top]

Snaplock specific information of the aggregate

| Name | Range | Type | Description |
|---|---|---|---|
| **is-snaplock** | | boolean optional | Whether or not it's a SnapLock aggregate. |
| **snaplock-type** | | string optional | The type of the snaplock aggregate. Possible values - "compliance" or "enterprise" or "non-snaplock" |

# Element definition: **aggr-snapmirror-attributes**

[top]

SnapMirror specific information of the aggregate

| Name | Range | Type | Description |
|---|---|---|---|
| **dp-snapmirror-destinations** | **[0..2^31-1]** | integer optional | When present, this field indicates the number of data protection (dp) snapmirror destination volumes. |
| **ls-snapmirror-destinations** | **[0..2^31-1]** | integer optional | When present, this field indicates the number of load sharing (ls) snapmirror destination volumes. |
| | | | |

| | | | |
|---|---|---|---|
| **mv-snapmirror-destinations** | **[0..2^31-1]** | integer optional | When present, this field indicates the number of move snapmirror destination volumes that are created for volume move operations. |

## Element definition: **aggr-snapshot-attributes**

[top]

A structure returning consolidated size-related information for all snapshots of the given aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **files-total** | **[0..2^64-1]** | integer optional | [settable, online-only] Total file (inode) count, i.e., current maximum number of files (inodes) that this referenced file system can currently hold. If the referenced file system is restricted or offline, a value of 0 is returned. |
| **files-used** | **[0..2^64-1]** | integer optional | [not settable, online-only] Number of files (inodes) used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. |
| **inofile-version** | **[0..2^32-1]** | integer optional | [not settable, online-only] The inofile-version on the referenced file system. A value of 0 is returned if the referenced file system is restricted or offline. |
| **is-snapshot-auto-create-enabled** | | boolean optional | This option determines if auto snapshot is enabled on the aggregate. Default value is true. |
| **is-snapshot-auto-delete-enabled** | | boolean optional | This option determines if the snapshot auto delete is currently enabled for the aggregate. Default value is true. |
| **maxfiles-available** | **[0..2^64-1]** | integer optional | [not settable, always] The count of the maximum number of files allowable on the referenced file system. |
| **maxfiles-possible** | **[0..2^64-1]** | integer optional | [not settable, always] The largest value to which the maxfiles-available parameter can be increased by reconfiguration, on the referenced file system. |
| **maxfiles-used** | **[0..2^64-1]** | integer optional | [not settable, online-only] The count of the number of files currently in use on the referenced file system. |
| **percent-inode-used-capacity** | **[0..100]** | integer optional | [not settable, online-only] The percentage of disk space currently in use based on file (inode) count on the referenced file system. |
| **percent-used-capacity** | **[0..100]** | integer optional | [not settable, online-only] The percentage of disk space currently in use on the referenced file system. |
| **size-available** | **[0..2^64-1]** | integer optional | [not settable, online-only] Number of bytes still available in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. |
| **size-total** | **[0..2^64-1]** | integer optional | [not settable, online-only] Total size (in bytes) of the referenced file system. If the referenced file system is restricted or offline, a value 0 is returned. |
| **size-used** | **[0..2^64-1]** | integer optional | [not settable, online-only] Number of bytes used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. |
| **snapshot-reserve-percent** | **[0..100]** | integer optional | The percentage of aggregate disk space that has been set aside as reserve for snapshot usage. Default value is 0. |

## Element definition: **aggr-space-attributes**

[top]

A structure returning space-related information for a given aggregate's Active File System (AFS).

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-metadata** | | integer optional | This field is deprecated in Data ONTAP 8.3 and later. Use the aggregate-metadata field of aggr-space-get-iter instead. This field always returns 0. Range : [0..2^64-1] |
| **capacity-tier-used** | | integer optional | This field represents total capacity tier physical used space in bytes in a composite aggregate. Range : [0..2^64-1] |
| **data-compacted-count** | | integer optional | The total physical disk footprint of the compacted data blocks in the referenced file system. Range : [0..2^64-1] |
| **data-compaction-space-saved** | | integer optional | The total disk space saved due to Data Compaction in the referenced file system. Range : [0..2^64-1] |
| **data-compaction-space-saved-percent** | | integer optional | The percentage of the used space in the referenced file system that has been saved by Data Compaction. Range : [0..100] |
| **hybrid-cache-size-total** | **[0..2^64-1]** | integer optional | [not settable, online-only] Total cache size (in bytes) in a hybrid aggregate. If the referenced aggregate is restricted or offline, or if it is not a hybrid aggregate, a value of 0 is returned. |
| **percent-used-capacity** | **[0..100]** | integer optional | [not settable, online-only] The percentage of disk space currently in use on the referenced file system. |
| **performance-tier-inactive-user-data** | | integer optional | The amount of inactive user data in bytes. Range : [0..2^64-1] |
| **performance-tier-inactive-user-data-percent** | | integer optional | The percentage of the used space in the referenced file system that is inactive user data. Range : [0..100] |
| **physical-used** | | integer optional | This field represents physical used space in bytes. This differs from 'total-used' space by the space that is guaranteed for future writes. The value includes blocks in use by Snapshot copies. Range : [0..2^64-1] |
| **physical-used-percent** | | integer optional | This field represents physical used space in percent. Range : [0..2^64-1] |
| **sis-shared-count** | | integer optional | The total physical disk footprint of the shared data blocks in the referenced file system achived by data compation and cross-volume inline deduplication. Range : [0..2^64-1] |
| **sis-space-saved** | | integer optional | The total disk space saved due to Data Compaction and cross-volume inline deduplication in the referenced file system. Range : [0..2^64-1] |
| **sis-space-saved-percent** | | integer optional | The percentage of the used space in the referenced file system that has been saved by Data Compaction and cross-volume inline deduplication. Range : [0..100] |
| **size-available** | **[0..2^64-1]** | integer optional | [not settable, online-only] Number of bytes still available in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. |
| **size-total** | **[0..2^64-1]** | integer optional | [not settable, online-only] Total size (in bytes) of the referenced file system . If the referenced file system is restricted or offline, a value of 0 is returned. |
| **size-used** | **[0..2^64-1]** | integer optional | [not settable, online-only] Number of bytes used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. |
| **total-reserved-space** | **[0..2^64-1]** | integer optional | [not settable, online-only] The total disk space in bytes that is reserved on the referenced file system. The reserved space is already counted in the used space, so this element can be used to see what portion of the used space represents space reserved for future use. |
| **used-including-snapshot-reserve** | | integer optional | This field is deprecated in Data ONTAP 8.3 and later. Use the used-including-snapshot-reserve field of aggr-space-get-iter instead. This field always returns 0. Range : [0..2^64-1] |
| | | | |

| | | | |
|---|---|---|---|
| **volume-footprints** | | integer optional | This field is deprecated in Data ONTAP 8.3 and later. Use the volume-footprints field of aggr-space-get-iter instead. This field always returns 0. Range : [0..2^64-1] |

## Element definition: **aggr-striping-attributes**

[top]

Striping specific information of a striped aggregate This information will not be returned for the not-striped aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **member-count** | **[0..2^32-1]** | integer optional | Number of members in a striped aggregate. |

## Element definition: **aggr-volume-count-attributes**

[top]

WAFL volume count specific information of the aggregate

| Name | Range | Type | Description |
|---|---|---|---|
| **flexvol-count** | **[0..2^31-1]** | integer | Number of volumes in the aggregate. |
| **flexvol-count-collective** | **[0..2^31-1]** | integer optional | Number of striped volume constituents in the aggregate which also represent a collective striped volume. This field is for internal use only. |
| **flexvol-count-not-online** | **[0..2^31-1]** | integer optional | When present, this field indicates the number of volumes that are not online (offline and restricted volumes). |
| **flexvol-count-quiesced** | **[0..2^31-1]** | integer optional | When present, this field indicates the number of quiesced online volumes. |
| **flexvol-count-striped** | **[0..2^31-1]** | integer optional | Number of striped volume constituents in the aggregate. These volumes are also reported in the full volume-count value. This field is for internal use only. |

## Element definition: **aggr-wafliron-attributes**

[top]

WAFL-iron specific information of the aggregate

| Name | Range | Type | Description |
|---|---|---|---|
| **last-start-errno** | | integer optional | The error code of the last attempt to start wafliron on the specific aggregate. This field is present only if 'wafliron start' was previously attempted. |
| **last-start-error-info** | | string optional | The error information of the last attempt to start wafliron on the specific aggregate. This field is present only if 'wafliron start' was previously attempted. |
| **scan-percentage** | **[0..100]** | integer optional | When present, this field indicates the percentage of blocks that have been scanned in the specified aggregate. This field is present only when wafliron is running and its state is "starting" or "scanning". |
| | | | When wafliron is run, it goes through different stages/states. This field indicates the current state of wafliron on the specified aggregate. |

| | | | |
|---|---|---|---|
| **state** | | string optional | Possible values are:<br>"aborting" - wafliron is aborting.<br>"checking_lost_blocks" - wafliron is checking for lost blocks.<br>"checking_lost_inodes" - wafliron is checking link counts.<br>"finishing" - wafliron is cleaning up.<br>"not_running" - wafliron is not running on this aggregate.<br>"scanning" - wafliron is scanning inodes, and/or fixing file system inconsistencies.<br>"starting" - wafliron is starting, allocating, and/or in the initial mounting phase.<br>"unknown" - wafliron state could not be determined. |
| **summary-scan-percentage** | **[-1..100]** | integer optional | When present and the value is other than -1, this field indicates the percentage of summary blocks that have been scanned in the specified aggregate. This field is present only when wafliron is running and its state is "starting" or "scanning". |

# Element definition: **aggr-wafliron-info**

[top]

Information related to wafliron, the online WAFL file system check/repair tool.

| Name | Range | Type | Description |
|---|---|---|---|
| **last-start-errno** | | integer optional | The error code of the last attempt to start wafliron on the specific aggregate. This field is present only if 'wafliron start' was previously attempted. |
| **last-start-error-info** | | string optional | The error information of the last attempt to start wafliron on the specific aggregate. This field is present only if 'wafliron start' was previously attempted. |
| **scan-percentage** | | integer optional | When present, this field indicates the percentage of blocks that have been scanned in the specified aggregate. This field is present only when wafliron is running and its state is "starting" or "scanning".<br>Range: [0..100] |
| **state** | | string | When wafliron is run, it goes through different stages/states. This field indicates the current state of wafliron on the specified aggregate.<br>Possible values are:<br>"waiting_for_commit" - wafliron is finished on this volume but waiting for the changes to be committed or rejected.<br>"not_running" - wafliron is not running on this aggregate.<br>"starting" - wafliron is starting, allocating, and/or in the initial mounting phase.<br>"scanning" - wafliron is scanning inodes, and/or fixing file system inconsistencies.<br>"checking_lost_blocks" - wafliron is checking for lost blocks.<br>"checking_lost_inodes" - wafliron is checking link counts.<br>"finishing" - wafliron is cleaning up.<br>"aborting" - wafliron is aborting. |

| | | | |
|---|---|---|---|
| | | | "unknown" - wafliron state could not be determined. |
| **summary-scan-percentage** | | integer optional | When present and the value is other than -1, this field indicates the percentage of summary blocks that have been scanned in the specified aggregate. This field is present only when wafliron is running and its state is "starting" or "scanning".<br><br>Range: [-1..100] |

# Element definition: **aggregate-space-info**

[top]

A set of two structures returning size-related information for a given aggregate and its set of snapshots.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-space** | | fs-space-info | [not settable, online-only] A structure returning size-related information for a given aggregate. |
| **snapshot-space** | | snapshot-space-info | [not settable, online-only] A structure returning size-related information for a set of snapshots of the given aggregate. |

# Element definition: **checksum-style**

[top]

Checksum style of the aggregate.

The following are the possible values for checksum type and their meanings.

- 'none' - The data written to the aggregate is not protected by checksum.
- 'block' - Every block of data block has checksum written in the same block.
- 'azcs' - Disk is divided into zones of N blocks and the checksum is written in the middle of zone.
- 'wafl' - The checksum information is maintained in the filesystem layer.
- 'mixed' - This means we have both 'block' and 'zone' checksum styles.
- 'unknown' - The checksum style is unknown.

[none]

# Element definition: **contained-volume-info**

[top]

Information about a volume contained in the aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Volume name. |
| **vserver** | | string optional | Name of the vserver to which this volume belongs. This field is returned only when the request is sent to the Admin Vserver LIF. |

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

## Element definition: **disk-name**

[top]

Disk path name

[none]

## Element definition: **disk-position-type**

[top]

Disk position type of the aggregate.

The following are the possible values for disk position type of the aggregate and their meanings.

- 'copy' - The disk serves as the destination for sick disk copy.
- 'data' - The disk serves as a data disk in the aggregate.
- 'dparity' - The disk serves as a double parity disk.
- 'tparity' - The disk serves as a triple parity disk.
- 'orphan' - The disk is in the process of being removed from the aggregate.
- 'parity' - The disk serves as a single parity disk.
- 'pending' - The disk is in the process of being added to a RAID group or is in the process of being reconstructed or sick disk copy.
- 'present' - The disk is part of a RAID group in an aggregate.
- 'shared' - The disk is being used as a shared disk.

[none]

## Element definition: **disktype**

[top]

ATA | BSAS | FCAL | FSAS | LUN | MSATA | SAS | SSD | VMDISK | SSD-NVM | SSD-CAP | SSD-ZNS | VMLUN | VMLUN-SSD Possible values:

- "ata" - Advanced Technology Attachment,
- "bsas" - Bridged Serial Attached SCSI (bridged from SATA),
- "fcal" - Fibre Channel Arbitrated Loop,
- "fsas" - High-Capacity (Fat) Serial Attached SCSI,
- "lun" - SCSI Logical Unit Number (e.g. Array),
- "msata" - Multiple bridged SATA disks in a single carrier,
- "sas" - Serial Attached SCSI,
- "ssd" - Solid-State Disk,
- "vmdisk" - Hypervisor Virtual Disk,
- "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk,
- "ssd_dc" - Data Center based Non-Volatile Memory Express Solid-State Disk,
- "ssd_cap" - High Capacity Solid-State Disk,
- "vmlun" - Hypervisor Virtual LUN,
- "vmlun_ssd" - Hypervisor Virtual SSD LUN,
- "ssd_zns" - Zoned Namespaces Solid-State Disk

[none]

# Element definition: **mirror-count-info**

[top]

Various counts information for mirror volumes in the aggregate. This information is returned only when the aggregate contains mirror volumes. Currently, Vfiler owned mirror destination volumes are counted only if those volumes are online.

| Name | Range | Type | Description |
|---|---|---|---|
| **dp-qtree-snapmirror-destinations** | | integer optional | When present, this field indicates the number of data protection (dp) qtree snapmirror destination volumes.<br><br>Range: [0..2^31-1] |
| **dp-snapmirror-destinations** | | integer optional | When present, this field indicates the number of data protection (dp) snapmirror destination volumes.<br><br>Range: [0..2^31-1] |
| **ls-snapmirror-destinations** | | integer optional | When present, this field indicates the number of load sharing (ls) snapmirror destination volumes.<br><br>Range: [0..2^31-1] |
| **move-snapmirror-destinations** | | integer optional | When present, this field indicates the number of move snapmirror destination volumes that are created for volume move operations.<br><br>Range: [0..2^31-1] |

# Element definition: **plex-info**

[top]

Information for a plex.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-online** | | boolean | "true" if the plex is online, "false" otherwise. |
| **is-resyncing** | | boolean | "true" if the plex is currently resyncing, "false" otherwise. |
| **name** | | string | Plex name, e.g. /myvol/plex0 |
| **plex-resync-pct-with-precision** | | string optional | If the plex is currently being resynced, then the completion percentage floored to two decimal places. (e.g. "13.12") |
| **plex-status** | | string optional | Plex status. Possible values: "normal", "failed", "empty", "invalid", "uninitialized", "failed assimilation", "limbo", "active", "inactive", "resyncing", These values may appear by themselves or in combination separated by commas (e.g., "normal,active") |
| **pool** | **[0..1]** | integer optional | The pool to which the majority of disks in the plex belong. |
| **raid-groups** | | raid-group-info[] optional | List of all RAID groups in the plex. This appears only if the "verbose" parameter above is set to "true". |
| **resync-level** | **[0..1]** | integer optional | If the plex is currently being resynced, then the resync level. |
| **resyncing-percentage** | | integer optional | If the plex is currently being resynced, then the completion percentage. Range : [0..100]. |

# Element definition: **raid-type**

[top]

Raid type of the aggregate.

The following are the possible values for RAID type and their meanings.

- 'raid_tec' - The aggregate is composed of RAID groups that can handle triple disk failures (Triple Erasure Code).
- 'raid_dp' - The aggregate is composed of RAID groups that can handle double disk failures (double parity).
- 'raid4' - The aggregate is composed of RAID groups that can can handle a single non-SSD-ZNS disk failure (single parity).
- 'raid_ep' - The aggregate is composed of RAID groups that can can handle a single SSD-ZNS disk failure (single parity) and one or more block failures inside each SSD-ZNS disk.
- 'raid0' - The aggregate does not have parity protection.
- 'mixed_raid_type' - Cache tier in the aggregate has a different RAID type from the capacity tier.

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **standarddisktype**

[top]

SATA | FC | NL-SAS | LUN | SAS | SCSI | SSD | VM-DISK | NVMe-SSD | SSD-CAP | SSD-ZNS | VM-LUN | VM-LUN-SSDS Possible values:

- "sata" - SATA, Serial Advanced Technology Attachment,
- "fc" - FC, Fibre Channel,
- "nl_sas" - NL-SAS, Near Line SAS,
- "lun" - LUN, SCSI Logical Unit Number (e.g. Array),
- "sas" - SAS, Serial Attached SCSI,
- "scsi" - SCSI, Small Computer System Interface,
- "ssd" - SSD, Solid-State Disk,
- "vm_disk" - VM Disk, Hypervisor Virtual Disk,
- "unknown" - Unknown Disk Type,
- "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk,
- "ssd_dc" - DC SSD, Data Center Non-Volatile Memory Express Solid-State Disk,
- "ssd_cap" - CAP SSD, High Capacity Solid-State Disk,
- "vm_lun" - VM LUN, Hypervisor Virtual LUN,
- "vm_lun_ssd" - VM SSD LUN, Hypervisor Virtual SSD LUN,
- "ssd_zns" - SDF SSD, Non-Volatile Memory Express Solid-State Disk

[none]

# Element definition: **volume-space-info**

[top]

List of flexible volumes in the aggregate and their space usage.

| Name | Range | Type | Description |
|---|---|---|---|
| **guarantee** | | string | Type of guarantee option set on this volume. Possible values: none, file, volume |
| **volume-allocated** | | integer | Total space allocated for this volume in the aggregate. Range : [0..2^64-1] |
| **volume-name** | | string | Name of the volume |
| **volume-used** | | integer | Total space used by this volume. Range : [0..2^64-1] |

# Element definition: **aggr-64bit-upgrade-check-info**

[top]

Information returned when upgrade-64bit-mode in aggr-add or aggr-64bit-upgrade-start is "check".

| Name | Range | Type | Description |
|---|---|---|---|
| **added-space** | | integer optional | The effective total space to be added (in bytes), not including blocks used by the 64-bit upgrade of the aggregate and its contained flexible volumes. Range: [0..2^64-1]. |
| **cookie** | | integer optional | The opaque cookie to uniquely identify a 64-bit upgrade transaction previously triggered on the aggregate. Range: [0..2^64-1]. |
| **last-errno** | | integer optional | The error code of the last attempt to check for space usage on the specific aggregate. This field is present only if a 64-bit upgrade check was previously attempted. Possible values: 0 - indicates success EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL Per-volume upgrade check results may be out of date if last-errno is not 0. |
| **space-estimate-complete** | | boolean optional | True if the space estimate has completed. Check "last-errno" to find out whether the space estimate was successful. |

# Element definition: **aggr-64bit-upgrade-start-info**

[top]

Information returned when upgrade-64bit-mode in aggr-add or aggr-64bit-upgrade-start is "grow_all", "grow_none", or "grow_reserved".

| Name | Range | Type | Description |
|---|---|---|---|
| **last-errno** | | integer optional | The error code of the last attempt to start 64-bit upgrade on the specific aggregate. This field is present only if 64-bit upgrade was previously attempted. Possible values include: EAGGR_64BIT_UPGRADE_ENOSPC EOP_DISALLOWED_ON_AGGR_WITH_SPARSE_VOL EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC_OVERWRITE EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL EVOLUME_64BIT_UPGRADE_PREQUAL_NOT_AVAIL EVOLUME_IRON_NON_LOCAL_STATUS |
| **min-space-for-upgrade** | | integer optional | The minimum additional disk space (in bytes) required to trigger 64-bit upgrade. This field is present when the specified disks do not have sufficient space to upgrade the aggregate and its contained flexible volumes to 64-bit. Range: [0..2^64-1]. |

# Element definition: **aggr-64bit-upgrade-status-info**

[top]

Status information related to 64-bit upgrade. This information includes the block format of the aggregate and the progress of the 64-bit upgrade scanner.

| Name | Range | Type | Description |
|---|---|---|---|
| **block-format** | | string | The block format of the aggregate. Can be "32_bit", "64_bit", or "upgrading". |
| **fbn-progress** | | integer optional | The most recent fbn the 64-bit upgrade scanner is working on. Valid only when the aggregate block format is "upgrading". Range: [0..2^32-1]. |
| **inode-progress** | | integer optional | The most recent inode the 64-bit upgrade scanner is working on. Valid only when the aggregate block format is "upgrading". Value -1 indicates inofile is being scanned. Range: [-1..2^32-2]. |
| **percent-complete** | | integer optional | Estimated percentage of how much of the filesystem has completed the 64-bit upgrade. Valid only when the aggregate block format is "upgrading". Range: [0..100]. |
| **scanner-status** | | string optional | The status of the 64-bit upgrade scanner. Can be "running" or "stopped" if the aggregate block format is "upgrading". Otherwise, no value is returned. |
| **space-progress** | | string optional | The inode space of the most recent inode the 64-bit upgrade scanner is working on. Can be "public" or "private". Valid only when the aggregate block format is "upgrading". |
| **time-estimate** | | integer optional | Estimated time to completion of the 64-bit upgrade in seconds. Valid only when the aggregate block format is "upgrading" and scanner status is "running". Value -1 indicates that time estimate is not available. Range: [-1..(2^32-1)/10]. |
| **total-inodes** | | integer optional | The total number of inodes in the file system. Valid only when the aggregate block format is "upgrading". Range: [0..2^32-1]. |

# Element definition: **aggr-check-attributes**

[top]

Information returned when upgrade-64bit-mode in aggr-add API is "check".

| Name | Range | Type | Description |
|---|---|---|---|
| **added-space** | | integer optional | The effective total space that would be added (in bytes) to the aggregate. This would not include the blocks used by the 64-bit upgrade of the aggregate and its contained flexible volumes. Range: [0..2^64-1]. |
| **check-last-errno** | | integer optional | The error code of the last attempt to check for space usage on the specific aggregate. This field is present only if a previous 64-bit upgrade check failed. Possible values: 0 - indicates success EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL Per-volume upgrade check results may be out of date if last-errno is not 0. |
| **cookie** | | integer optional | The opaque cookie to uniquely identify a 64-bit upgrade transaction previously triggered on the aggregate using aggr-add API. Range: [0..2^64-1]. |
| **is-space-estimate-complete** | | boolean optional | True if the space estimate has completed. Check "check-last-errno" to find out whether the space estimate was successful. |

# Element definition: **aggr-raidgroup-info**

[top]

Information about the RAID Groups

| | | | |
|---|---|---|---|

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-disk-list** | | aggr-disk-info[]<br>optional | Information about the disks |
| **aggr-raidgroup-entity-list** | | aggr-raidgroup-entity-info[]<br>optional | Information about the individual RAID Groups |
| **storage-pool** | | string<br>optional | Name of the Storage Pool. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-start-attributes**

[top]

Information returned when upgrade-64bit-mode in aggr-add API is "grow_all", "grow_none", or "grow_reserved".

| Name | Range | Type | Description |
|---|---|---|---|
| **min-space-for-upgrade** | | integer<br>optional | The minimum additional disk space (in bytes) required to trigger 64-bit upgrade. This field is present when the specified disks do not have sufficient space to upgrade the aggregate and its contained flexible volumes to 64-bit. Range: [0..2^64-1]. |
| **start-last-errno** | | integer<br>optional | The error code of the last attempt to start 64-bit upgrade on the specific aggregate. This field is present only if a previous 64-bit upgrade failed. Possible values include: EAGGR_64BIT_UPGRADE_ENOSPC EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC EVOLUME_64BIT_UPGRADE_VVOL_ENOSPC_OVERWRITE EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL EVOLUME_64BIT_UPGRADE_PREQUAL_NOT_AVAIL |

# Element definition: **aggr-status-attributes**

[top]

Status information related to 64-bit upgrade. This information includes whether the 64-bit upgrade is in progress.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-64-bit-upgrade-in-progress** | | boolean<br>optional | True if the 64-bit upgrade is in progress. |

# Element definition: **fs-space-info**

[top]

A structure returning size-related information for a given aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **fs-aggregate-metadata** | | integer<br>optional | This field is deprecated in Data ONTAP 8.3 and later. Use the aggregate-metadata field of aggr-space-get-iter instead. This field always returns 0. Range : [0..2^64-1] |
| **fs-capacity-tier-used** | | integer<br>optional | This field represents total capacity tier physical used space in bytes in a composite aggregate. Range : [0..2^64-1] |
| **fs-files-private-used** | | integer | [not settable, online-only] Number of system (not user-visible) files (inodes) used. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1] |

| | | | |
|---|---|---|---|
| **fs-files-total** | | integer | [settable, online-only] Total user-visible file (inode) count, i.e., maximum number of user-visible files (inodes) that this referenced file system can currently hold. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1] |
| **fs-files-used** | | integer | [not settable, online-only] Number of user-visible files (inodes) used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1] |
| **fs-hybrid-cache-size-total** | | integer optional | [not settable, online-only] Total cache size (in bytes) in a hybrid aggregate. If the referenced aggregate is restricted or offline, or if it is not a hybrid aggregate, a value of 0 is returned. Range: [0 - 2^64-1] |
| **fs-hybrid-cache-size-used** | | integer optional | [not settable, online-only] Used cache size (in bytes) in a hybrid aggregate. If the referenced aggregate is restricted or offline, or if it is not a hybrid aggregate, a value of 0 is returned. Range: [0 - 2^64-1] |
| **fs-inodefile-private-capacity** | | integer | [not settable, online-only] Number of inodes that can currently be stored on disk for system (not user-visible) files. This number will dynamically increase as more system files are created. Range: [0 - 2^64-1] |
| **fs-inodefile-public-capacity** | | integer | [not settable, online-only] Number of inodes that can currently be stored on disk for user-visible files. This number will dynamically increase as more user-visible files are created. Range: [0 - 2^64-1] |
| **fs-maxfiles-available** | | integer | [not settable, always] The count of the maximum number of user-visible files currently allowable on the referenced file system. Range: [0 - 2^64-1] |
| **fs-maxfiles-possible** | | integer | [not settable, always] The largest value to which the fs-maxfiles-available parameter can be increased by reconfiguration, on the referenced file system. Range: [0 - 2^64-1] Range: [0 - 2^64-1] |
| **fs-maxfiles-used** | | integer | [not settable, online-only] The number of user-visible files currently in use on the referenced file system. Range: [0 - 2^64-1] |
| **fs-percent-inode-used-capacity** | | integer | [not settable, online-only] The percentage of disk space currently in use based on user-visible file (inode) count on the referenced file system. Range: [0..100] |
| **fs-percent-used-capacity** | | integer | [not settable, online-only] The percentage of disk space currently in use on the referenced file system. Range: [0..100] |
| **fs-perf-tier-capacity-tier-used** | | integer optional | This field represents total capacity tier physical used space in bytes in a composite aggregate. Range : [0..2^64-1] |
| **fs-physical-used** | | integer optional | This field represents physical used space in bytes. This differs from 'total-used' space by the space that is guaranteed for future writes. The value includes blocks in use by Snapshot copies. Range : [0..2^64-1] |
| **fs-sis-percent-saved** | | integer | [not settable, online-only] The percentage of disk space saved by eliminating the duplicated blocks on the referenced file system. Range: [0..100] |
| **fs-sis-saved-space** | | integer | [not settable, online-only] The total disk space in bytes that is saved by storing only one copy of the duplicated blocks on the referenced file system. Range: [0 - 2^64-1] |
| **fs-sis-shared-space** | | integer | [not settable, online-only] The amount of data in bytes that is shared by more than one instance on the referenced file system. Range: [0 - 2^64-1] |
| **fs-size-available** | | integer optional | [not settable, online-only] Number of bytes still available in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1] |
| | | | [not settable, online-only] Total size (in bytes) of the referenced file system . If |

| | | | |
|---|---|---|---|
| **fs-size-total** | | integer optional | the referenced file system is restricted or offline, a value 0 is returned. Range: [0 - 2^64-1] |
| **fs-size-used** | | integer optional | [not settable, online-only] Number of bytes used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1] |
| **fs-total-reserved-space** | | integer optional | [not settable, online-only]The total disk space in bytes that is reserved on the referenced file system. The reserved space is already counted in the used space, so this element can be used to see what portion of the used space represents space reserved for future use. Range: [0 - 2^64-1] |
| **fs-used-including-snapshot-reserve** | | integer optional | This field is deprecated in Data ONTAP 8.3 and later. Use the used-including-snapshot-reserve field of aggr-space-get-iter instead. This field always returns 0. Range : [0..2^64-1] |
| **fs-volume-footprints** | | integer optional | This field is deprecated in Data ONTAP 8.3 and later. Use the volume-footprints field of aggr-space-get-iter instead. This field always returns 0. Range : [0..2^64-1] |

# Element definition: **plex-attributes**

[top]

Information about a plex.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-online** | | boolean optional | "true" if the plex is online, "false" otherwise. |
| **is-resyncing** | | boolean optional | "true" if the plex is currently resyncing, "false" otherwise. |
| **plex-name** | | string optional | Name of the plex. |
| **plex-resync-pct-with-precision** | | string optional | If the plex is currently being resynced, then the completion percentage floored to two decimal places. (e.g. "13.12") |
| **plex-status** | | string optional | Plex status. Possible values: "normal", "failed", "empty", "invalid", "uninitialized", "failed assimilation", "limbo", "active", "inactive", "resyncing", These values may appear by themselves or in combination separated by commas (e.g., "normal,active") |
| **pool** | **[0..1]** | integer optional | The pool to which the majority of disks in the plex belong. |
| **raidgroups** | | raidgroup-attributes[] optional | List of all RAID groups in the plex. |
| **resync-level** | **[0..1]** | integer optional | If the plex is currently being resynced, then the resync level. |
| **resyncing-percentage** | **[0..100]** | integer optional | If the plex is currently being resynced, then the completion percentage. |

# Element definition: **raid-group-info**

[top]

Information for a particular RAID group.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **checksum-style** | | string | Checksum style. The possible values:<br>• "advanced_zoned" - advanced_zoned checksum (azcs),<br>• "block" - block,<br>• "mixed" - mixed,<br>• "none" - none,<br>• "unknown" - unknown,<br>• "wafl" - wafl,<br>• "zoned" - zoned (this value is no longer supported). |
| **cluster-disk-names** | | disk-info[] optional | List of disks in this plex by their spatial names, if available. |
| **disks** | | disk-info[] | List of disks in this plex. |
| **is-cache-tier** | | boolean | "true" if the RAID group is composed of SSDs and the owning aggregate is hybrid (group is not part of usable space). |
| **is-recomputing-parity** | | boolean | "true" if the RAID group is currently recomputing parity. |
| **is-reconstructing** | | boolean | "true" if the RAID group is currently reconstructing. |
| **is-scrub-suspended** | | boolean optional | Suspended state of the scrub on that RAID group. |
| **last-scrub-timestamp** | | integer optional | Time at which the last full scrub completed. If a scrub has never been performed, this value will not be returned. The time value is in seconds since January 1, 1970. Range : [0..2^31-1]. |
| **name** | | string | RAID group name. |
| **recomputing-parity-percentage** | | integer optional | The percentage of parity recomputation if is-recomputing-parity is set to true. Range : [0-100] |
| **reconstruction-percentage** | | integer optional | If reconstruction is going on, the the completion percentage. Range : [0-100] |
| **scrub-percentage-complete** | | integer optional | Scrub percentage complete. If scrub is not active, this value will not be returned. Range: [0..100]. |

# Element definition: **snapshot-space-info**

[top]

A structure returning consolidated size-related information for all snapshots of the given volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-files-total** | | integer | [settable, online-only] Total file (inode) count, i.e., current maximum number of files (inodes) that this referenced file system can currently hold. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1] |
| **snapshot-files-used** | | integer | [not settable, online-only] Number of files (inodes) used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1] |
| **snapshot-maxfiles-available** | | integer | [not settable, always] The count of the maximum number of files allowable on the referenced file system. Range: [0 - 2^64-1] |
| **snapshot-maxfiles-possible** | | integer | [not settable, always] The largest value to which the maxfiles-available parameter can be increased by reconfiguration, on the referenced file system. Range: [0 - 2^64-1] |
| **snapshot-** | | | |

| | | | |
|---|---|---|---|
| **maxfiles-used** | | integer | [not settable, online-only] The count of the number of files currently in use on the referenced file system. Range: [0 - 2^64-1] |
| **snapshot-percent-inode-used-capacity** | | integer | [not settable, online-only] The percentage of disk space currently in use based on file (inode) count on the referenced file system. Range: [0..100] |
| **snapshot-percent-used-capacity** | | integer | [not settable, online-only] The percentage of disk space currently in use on the referenced file system. Range: [0..100] |
| **snapshot-sis-percent-saved** | | integer | [not settable, online-only] The percentage of disk space saved by eliminating the duplicated blocks on the referenced file system. Range: [0..100] |
| **snapshot-sis-saved-space** | | integer | [not settable, online-only] The total disk space in bytes that is saved by storing only one copy of the duplicated blocks on the referenced file system. Range: [0 - 2^64-1] |
| **snapshot-sis-shared-space** | | integer | [not settable, online-only] The amount of data in bytes that is shared by more than one instance on the referenced file system. Range: [0 - 2^64-1] |
| **snapshot-size-available** | | integer optional | [not settable, online-only] Number of bytes still available in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1] |
| **snapshot-size-total** | | integer optional | [not settable, online-only] Total size (in bytes) of the referenced file system. If the referenced file system is restricted or offline, a value 0 is returned. Range: [0 - 2^64-1] |
| **snapshot-size-used** | | integer optional | [not settable, online-only] Number of bytes used in the referenced file system. If the referenced file system is restricted or offline, a value of 0 is returned. Range: [0 - 2^64-1] |

# Element definition: **aggr-disk-info**

[top]

Information about the disks

| Name | Range | Type | Description |
|---|---|---|---|
| **copy-percent** | **[0..100]** | integer optional | This field indicates the percentage of copying that has completed. Attributes: non-creatable, non-modifiable |
| **disk** | | disk-name optional | Name of the disk. Attributes: key, non-creatable, non-modifiable |
| **disk-rpm** | **[0..2^32-1]** | integer optional | Rotational speed in revolutions per minute. Possible values are: 5400, 7200, 10000, and 15000. Omitted if information is unavailable, or if the rpm does not apply to this 'disk-type'. Attributes: non-creatable, non-modifiable |
| **disk-type** | | string optional | Disk interface type. Attributes: non-creatable, non-modifiable |
| **effective-disk-rpm** | **[0..2^32-1]** | integer optional | Effective rotational speed in revolutions per minute. Disks can report different actual 'rpm', but have the same 'effective-disk-rpm'. Disks with the same 'effective-disk-rpm' are compatible for use within the same aggregate. Omitted if information is unavailable, or excluded by 'desired-attributes'. Attributes: non-creatable, non-modifiable |
| **effective-disk-type** | | string optional | Effective disk interface type. Disk can report different physical 'disk-type', but the same 'effective-disk-type'. Disk with the same 'effective-disk-type' are compatible for use within the same aggregate. Attributes: non-creatable, non-modifiable |
| **is-cache** | | boolean optional | True if the disk is being used as cache. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **is-evacuating** | | boolean optional | True if the disk is being evacuated. Attributes: non-creatable, non-modifiable |
| **is-failed** | | boolean optional | True if the disk is marked as failed. Attributes: non-creatable, non-modifiable |
| **is-offline** | | boolean optional | True if the disk is marked as offline. Attributes: non-creatable, non-modifiable |
| **is-recons-active** | | boolean optional | True if reconstruction is active on this disk. Attributes: non-creatable, non-modifiable |
| **is-replacing** | | boolean optional | True if the disk is being replaced. Attributes: non-creatable, non-modifiable |
| **is-sdc-active** | | boolean optional | True if the sick disk copy is active. Attributes: non-creatable, non-modifiable |
| **is-sick** | | boolean optional | True if the disk is marked as sick. Attributes: non-creatable, non-modifiable |
| **physical-size** | | size optional | Total raw capacity of this disk in bytes. Attributes: non-creatable, non-modifiable |
| **position** | | disk-position-type optional | Position of the disk within aggregate. Attributes: non-creatable, non-modifiable |
| **reconstruction-percent** | **[0..100]** | integer optional | This field indicates the percentage of reconstruction that has completed. Attributes: non-creatable, non-modifiable |
| **standard-disk-type** | | standarddisktype optional | Industry standard disk type. Attributes: non-creatable, non-modifiable Possible values:<br>• "sata" - SATA, Serial Advanced Technology Attachment,<br>• "fc" - FC, Fibre Channel,<br>• "nl_sas" - NL-SAS, Near Line SAS,<br>• "lun" - LUN, SCSI Logical Unit Number (e.g. Array),<br>• "sas" - SAS, Serial Attached SCSI,<br>• "scsi" - SCSI, Small Computer System Interface,<br>• "ssd" - SSD, Solid-State Disk,<br>• "vm_disk" - VM Disk, Hypervisor Virtual Disk,<br>• "unknown" - Unknown Disk Type,<br>• "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_dc" - DC SSD, Data Center Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_cap" - CAP SSD, High Capacity Solid-State Disk,<br>• "vm_lun" - VM LUN, Hypervisor Virtual LUN,<br>• "vm_lun_ssd" - VM SSD LUN, Hypervisor Virtual SSD LUN,<br>• "ssd_zns" - SDF SSD, Non-Volatile Memory Express Solid-State Disk |
| **syncmirror-pool** | | string optional | SyncMirror Pool to which disk is assigned. Attributes: non-creatable, non-modifiable |
| **usable-size** | | size optional | Total usable capacity of this disk in bytes. Attributes: non-creatable, non-modifiable |

# Element definition: **aggr-raidgroup-entity-info**

[top]

Information about the individual RAID Groups

| Name | Range | Type | Description |
|---|---|---|---|
| **is-rg-recomputing-** | | boolean optional | True if the RAID Group is recomputing parity. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **parity** | | | |
| **is-rg-reconstructing** | | boolean optional | True if the RAID Group is reconstructing. Attributes: non-creatable, non-modifiable |
| **is-scrub-active** | | boolean optional | This field indicates if scrub is currently active. Attributes: non-creatable, non-modifiable |
| **raidgroup** | | string optional | Name of the Raid Group. Attributes: key, non-creatable, non-modifiable |
| **rg-cksumstyle** | | checksum-style optional | Checksum Style of RAID Group. Attributes: non-creatable, non-modifiable |
| **rg-raidtype** | | raid-type optional | RAID Type of RAID Group. Attributes: non-creatable, non-modifiable |
| **rg-recons-percent** | **[0..100]** | integer optional | This field indicates the percentage of reconstruction that has completed. Attributes: non-creatable, non-modifiable |
| **rg-reparity-percent** | **[0..100]** | integer optional | This field indicates the percentage of parity recomputation that has completed. Attributes: non-creatable, non-modifiable |
| **rg-status** | | string optional | Status of the RAID Group. Attributes: non-creatable, non-modifiable |
| **scrub-percent-complete** | **[0..100]** | integer optional | This field indicates the percentage of scrubbing that has completed. Attributes: non-creatable, non-modifiable |

# Element definition: **checksum-style**

[top]

Checksum style of the aggregate.

The following are the possible values for checksum type and their meanings.

- 'none' - The data written to the aggregate is not protected by checksum.
- 'block' - Every block of data block has checksum written in the same block.
- 'azcs' - Disk is divided into zones of N blocks and the checksum is written in the middle of zone.
- 'wafl' - The checksum information is maintained in the filesystem layer.
- 'mixed' - This means we have both 'block' and 'zone' checksum styles.
- 'unknown' - The checksum style is unknown.

[none]

# Element definition: **disk-info**

[top]

Information for each disk in the plex.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of a member disk. |
| **vbn-end** | **[0..2^64-1].** | integer optional | VBN end value of a disk. |
| **vbn-start** | **[0..2^64-1].** | integer optional | VBN start value of a disk. |

# Element definition: **disk-name**

[top]

Disk path name

[none]

# Element definition: **disk-position-type**

[top]

Disk position type of the aggregate.

The following are the possible values for disk position type of the aggregate and their meanings.

- 'copy' - The disk serves as the destination for sick disk copy.
- 'data' - The disk serves as a data disk in the aggregate.
- 'dparity' - The disk serves as a double parity disk.
- 'tparity' - The disk serves as a triple parity disk.
- 'orphan' - The disk is in the process of being removed from the aggregate.
- 'parity' - The disk serves as a single parity disk.
- 'pending' - The disk is in the process of being added to a RAID group or is in the process of being reconstructed or sick disk copy.
- 'present' - The disk is part of a RAID group in an aggregate.
- 'shared' - The disk is being used as a shared disk.

[none]

# Element definition: **raid-type**

[top]

Raid type of the aggregate.

The following are the possible values for RAID type and their meanings.

- 'raid_tec' - The aggregate is composed of RAID groups that can handle triple disk failures (Triple Erasure Code).
- 'raid_dp' - The aggregate is composed of RAID groups that can handle double disk failures (double parity).
- 'raid4' - The aggregate is composed of RAID groups that can can handle a single non-SSD-ZNS disk failure (single parity).
- 'raid_ep' - The aggregate is composed of RAID groups that can can handle a single SSD-ZNS disk failure (single parity) and one or more block failures inside each SSD-ZNS disk.
- 'raid0' - The aggregate does not have parity protection.
- 'mixed_raid_type' - Cache tier in the aggregate has a different RAID type from the capacity tier.

[none]

# Element definition: **raidgroup-attributes**

[top]

Information about a raidgroup.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | Checksum style for the RAID group. The possible values are:<br>• "none" |

| | | | |
|---|---|---|---|
| **checksum-style** | | string optional | • "block"<br>• "wafl"<br>• "unknown"<br>• "advanced_zoned" |
| **is-cache-tier** | | boolean optional | "true" if the RAID group is composed of SSDs and the owning aggregate is hybrid (group is not part of usable space). |
| **is-recomputing-parity** | | boolean optional | "True" if the RAID group is currently recomputing parity. |
| **is-reconstructing** | | boolean optional | "true" if the RAID group is currently reconstructing. |
| **raidgroup-name** | | string optional | Name of the RAID group. |
| **recomputing-parity-percentage** | | integer optional | The percentage of parity recomputation completed, if is-recomputing-parity is true. Range : [0-100] |
| **reconstruction-percentage** | **[0..100]** | integer optional | If reconstruction is going on, then the completion percentage. |

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **standarddisktype**

[top]

SATA | FC | NL-SAS | LUN | SAS | SCSI | SSD | VM-DISK | NVMe-SSD | SSD-CAP | SSD-ZNS | VM-LUN | VM-LUN-SSDS Possible values:

- "sata" - SATA, Serial Advanced Technology Attachment,
- "fc" - FC, Fibre Channel,
- "nl_sas" - NL-SAS, Near Line SAS,
- "lun" - LUN, SCSI Logical Unit Number (e.g. Array),
- "sas" - SAS, Serial Attached SCSI,
- "scsi" - SCSI, Small Computer System Interface,
- "ssd" - SSD, Solid-State Disk,
- "vm_disk" - VM Disk, Hypervisor Virtual Disk,
- "unknown" - Unknown Disk Type,
- "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk,
- "ssd_dc" - DC SSD, Data Center Non-Volatile Memory Express Solid-State Disk,
- "ssd_cap" - CAP SSD, High Capacity Solid-State Disk,
- "vm_lun" - VM LUN, Hypervisor Virtual LUN,
- "vm_lun_ssd" - VM SSD LUN, Hypervisor Virtual SSD LUN,
- "ssd_zns" - SDF SSD, Non-Volatile Memory Express Solid-State Disk

[none]

# APIs in Category: **audit**


audit-log-config-get
audit-log-config-modify
audit-log-get
audit-log-get-iter


APIs for managing administrative audit settings for the cluster. Audit logging can be enabled/disabled separately for 'get' (read-only) requests, for each of the following access modes: CLI (Command-Line Interface), SNMP, HTTP, and the Data ONTAP API (ONTAPI, ZAPI). The state of these flags is represented via the audit-info typedef.

## audit-log-config-get

[top]

Get the cluster administrative audit settings

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | audit-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | audit-info | The attributes of the audit. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## audit-log-config-modify

[top]

Modify the cluster administrative audit settings

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cli-get** | | boolean optional | Enable Auditing of CLI Get Operations |
| **http-get** | | boolean optional | Enable Auditing of HTTP Get Operations |
| **ontapi-get** | | boolean optional | Enable Auditing of Data ONTAP API Get Operations |
| **snmp-get** | | boolean optional | Enable Auditing of SNMP Get Operations |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# audit-log-get

[top]

Get the cluster administrative audit settings

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | audit-log-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node that logged the entry. |
| **seq** | **[0..2^64-1]** | integer optional | Used as a tie-breaker for line entries with the same timestamp. |
| **timestamp** | **[0..2^31-1]** | integer | Timestamp of the log entry. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | audit-log-info | The attributes of the audit. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# audit-log-get-iter

[top]

Iterate of audit log entries

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | audit-log-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | audit-log-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the audit object. All audit objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | audit-log-info[] | The list of attributes of audit objects. |

| | | | |
|---|---|---|---|
| | | optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more audit objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# Element definition: **audit-info**

[top]

Audit logging can be enabled/disabled separately for 'get' (read-only) requests, for each of the following access modes: CLI (Command-Line Interface), SNMP, HTTP, and the Data ONTAP API (ONTAPI, ZAPI). The state of these flags is represented via the audit-info typedef. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cli-get** | | boolean optional | Enable Auditing of CLI Get Operations Attributes: non-creatable, modifiable |
| **http-get** | | boolean optional | Enable Auditing of HTTP Get Operations Attributes: non-creatable, modifiable |
| **ontapi-get** | | boolean optional | Enable Auditing of Data ONTAP API Get Operations Attributes: non-creatable, modifiable |
| **snmp-get** | | boolean optional | Enable Auditing of SNMP Get Operations Attributes: non-creatable, modifiable |

# Element definition: **audit-log-info**

[top]

View the audit log When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **entry** | | string optional | The actual log message from the audit log file. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node that logged the entry. Attributes: key, non-creatable, non-modifiable |
| **seq** | **[0..2^64-1]** | integer optional | Used as a tie-breaker for line entries with the same timestamp. Attributes: key, non-creatable, non-modifiable |
| **timestamp** | **[0..2^31-1]** | integer optional | Timestamp of the log entry. Attributes: key, non-creatable, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# APIs in Category: **autosupport**


autosupport-budget-get
autosupport-budget-get-iter
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autosupport-check-iter
autosupport-compliant-get
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autosupport-invoke-iter
autosupport-invoke-performance-archive
autosupport-invoke-performance-archive-iter


This set of ZAPIs provides visibility into the AutoSupport infrastructure of the system. The AutoSupport tool collects valuable information on the state of each node in the cluster, which aids in the diagnosis of hardware and software failures.The APIs are divided into the following major features:

- Configuration: manage AutoSupport general settings
- Destinations: view the current AutoSupport delivery destinations
- Triggers: manage what is collected for each AutoSupport trigger
- Manifest: view detailed collection information for a particular AutoSupport
- History: view a log of previously generated AutoSupports
- Budgets: manage AutoSupport collection size and time limits

autosupport-invoke-splog
autosupport-manifest-get-iter
autosupport-manifest-get-total-records
autosupport-trigger-get
autosupport-trigger-get-iter
autosupport-trigger-get-total-records
autosupport-trigger-modify

# autosupport-budget-get

[top]

Get AutoSupport time and size limits for the given node and subsystem.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-budget-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | string | The name of a filer on which the AutoSupport tool is running. |
| | | | The name of a subsystem from which AutoSupport collects data. Possible values:<br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node, |

| | | | |
|---|---|---|---|
| **subsystem** | | asup-subsystems | • "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | autosupport-budget-info | The attributes of the autosupport-budget. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

# autosupport-budget-get-iter

[top]

Get AutoSupport time and size limits per subsystem for all nodes.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| desired-attributes | | autosupport-budget-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | autosupport-budget-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-budget object. All autosupport-budget objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| attributes-list | | autosupport-budget-info[] optional | The list of attributes of autosupport-budget objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more autosupport-budget objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

# autosupport-budget-get-total-records

[top]

Return the total number of records.

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| count | [0..2^64-1] | integer | The total number of autosupport-budget objects. |

# autosupport-budget-modify

[top]

Modify AutoSupport time and size limits per subsystem.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **diagnostic-size-limit** | **[0..2^63-1]** | integer optional | The maximum allowable diagnostic content collection size (in bytes) for the subsystem. |
| **diagnostic-time-limit** | | string optional | The maximum allowable diagnostic content collection time (in seconds) for the subsystem. |
| **node-name** | | string | The name of a filer on which the AutoSupport tool is running. |
| **size-limit** | **[0..2^63-1]** | integer optional | The maximum allowable basic and troubleshooting content collection size (in bytes) for the subsystem. |
| **subsystem** | | asup-subsystems | The name of a subsystem from which AutoSupport collects data. Possible values:<br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node, |

| | | | |
|---|---|---|---|
| | | | "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |
| **time-limit** | | string<br>optional | The maximum allowable basic and troubleshooting content collection time (in seconds ) for the subsystem. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# autosupport-check-iter

[top]

Get Current Status of AutoSupport Subsystem for all nodes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-check-info<br>optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer<br>optional | The maximum number of records to return in this call. Default: 20 |
| | | autosupport- | A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-check |

| | | | |
|---|---|---|---|
| **query** | | check-info optional | object. All autosupport-check objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | autosupport-check-info[] optional | The list of attributes of autosupport-check objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more autosupport-check objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# autosupport-compliant-get

[top]

Get AutoSupport compliance hash mapping

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-compliant-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |
| **plaintext** | | string | Plaintext |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | autosupport-compliant-info | The attributes of the autosupport-compliant. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# autosupport-compliant-get-iter

[top]

Get AutoSupport compliance hash mapping

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-compliant-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is |

| | | | |
|---|---|---|---|
| | | optional | available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | autosupport-compliant-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-compliant object. All autosupport-compliant objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | autosupport-compliant-info[] optional | The list of attributes of autosupport-compliant objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more autosupport-compliant objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# autosupport-compliant-get-total-records

[top]

Return the total number of records.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^64-1]** | integer | The total number of autosupport-compliant objects. |

# autosupport-config-get

[top]

Get AutoSupport configuration settings for the given node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | string | The name of the filer that owns the AutoSupport configuration. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | autosupport-config-info | The attributes of the autosupport-config. |

| | |
|---|---|
| | |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# autosupport-config-get-iter

[top]

Get AutoSupport configuration settings for all nodes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | autosupport-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | autosupport-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-config object. All autosupport-config objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | autosupport-config-info[] optional | The list of attributes of autosupport-config objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more autosupport-config objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# autosupport-config-get-total-records

[top]

Return the total number of records.

| Output Name | Range | Type | Description |
|---|---|---|---|
| count | [0..2^64-1] | integer | The total number of autosupport-config objects. |

# autosupport-config-modify

[top]

Modify AutoSupport configuration settings for the given node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **from** | | mail-address optional | The e-mail address of the local administrator, used as the sender of the AutoSupport message. To generate node-specific 'from' addresses, use the 'node-specific-from' (privilege: advanced) parameter. |
| **is-enabled** | | boolean optional | Specifies whether the AutoSupport daemon is enabled. When this setting is disabled, delivery of all AutoSupport messages is turned off. |
| **is-local-collection-enabled** | | boolean optional | Used to enable / disable collection of AutoSupport data when the AutoSupport daemon is disabled. When this setting is true, collection of AutoSupport data will still be done if is-enabled is false. |
| **is-nht-data-enabled** | | boolean optional | Used to enable / disable collection of disk health data. |
| **is-node-in-subject** | | boolean optional | Specifies whether the filer's hostname should be part of an AutoSupport message's subject field. |
| **is-ondemand-download-enabled** | | boolean optional | Specifies whether the AutoSupport OnDemand Download feature is enabled. Default is true. |
| **is-ondemand-enabled** | | boolean optional | Specifies whether AutoSupport OnDemand is enabled. Default is true. |
| **is-ondemand-remote-diag-enabled** | | boolean optional | Specifies whether the AutoSupport OnDemand Remote Diagnostics feature is enabled. Default is true. |
| **is-perf-data-enabled** | | boolean optional | Used to enable / disable collection of Performance AutoSupport data. |
| **is-private-data-removed** | | boolean optional | Used to enable / disable removal of customer-supplied data. |
| **is-reminder-enabled** | | boolean optional | Specifies whether to enable / disable AutoSupport reminders. |
| **is-support-enabled** | | boolean optional | Specifies whether AutoSupport notification to technical support is enabled. |
| **is-throttle-enabled** | | boolean optional | Specifies whether to enable / disable throttling to prevent a potential avalanche of AutoSupport messages. |
| **mail-hosts** | | string[] optional | The name of the mail server(s) used to deliver AutoSupport messages via SMTP. Both host names and IP addresses may be used as valid input. One can optionally specify a username/password for authentication with the mailserver(rfc4954). |
| **max-download-rate** | **[0..2^63-1]** | integer optional | Maximum download rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or in the range 20480 (20KBps)- 10737418240 (10GBps). |
| **max-http-size** | **[0..2^63-1]** | integer optional | Delivery size limit for the HTTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB). |
| **max-smtp-** | **[0..2^63-** | integer | Delivery size limit for the SMTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for |

| | | | |
|---|---|---|---|
| **size** | **1]** | optional | unlimited) or greater than or equal to 2097152 (2MB). |
| **max-upload-rate** | **[0..2^63-1]** | integer optional | Maximum upload rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 20480 (20KBps). |
| **minimum-private-data-length** | **[2..1024]** | integer optional | Minimum Length for Sensitive Data |
| **node-name** | | string | The name of the filer that owns the AutoSupport configuration. |
| **node-specific-from** | | boolean optional | Specifies whether to generate a node-specific 'from' address by prepending the node name to the 'from' email address. Default is false. |
| **noteto** | | mail-address[] optional | (DEPRECATED) Specifies up to five recipients of short AutoSupport e-mail messages. |
| **ondemand-polling-interval** | **[0..2^32-1]** | integer optional | The AutoSupport OnDemand Client polling rate in minutes. As of Data ONTAP 8.3.1, this value should be in the range 5-2880. |
| **ondemand-server-url** | | string optional | The AutoSupport OnDemand Server URL. |
| **partner-address** | | mail-address[] optional | Specifies up to five partner vendor recipients of full AutoSupport e-mail messages. |
| **payload-format** | | compression-format optional | The format used to compress the AutoSupport message payload. Possible values:<br>• "7z" - 7-Zip Archive,<br>• "tgz" - Zipped Tarball |
| **periodic-tx-window** | | string optional | The transmission window (seconds). |
| **post-url** | | string optional | The URL used to deliver AutoSupport messages via HTTP POST. |
| **proxy-url** | | string optional | Optional proxy host for AutoSupport message delivery via HTTP. |
| **put-url** | | string optional | The URL used to deliver AutoSupport messages via HTTP PUT. |
| **retry-count** | **[0..2^32-1]** | integer optional | The maximum number of delivery attempts for an AutoSupport message. As of Data ONTAP 8.3.1, this value should be in the range 5-30. |
| **retry-interval** | | string optional | The number of seconds to wait, after a failed delivery attempt, prior to re-transmitting an AutoSupport message. |
| **support-address** | | mail-address[] optional | The e-mail address of Support. |
| **to** | | mail-address[] optional | Specifies up to five recipients of full AutoSupport e-mail messages. |
| **transport** | | asup-transport optional | The name of the transport protocol used to deliver AutoSupport messages. Possible values:<br>• "smtp" ,<br>• "http" ,<br>• "https" |
| **validate-digital-** | | boolean | Validate Digital Certificate Received |

| | | | |
|---|---|---|---|
| **certificate** | | optional | |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# autosupport-destinations-get

[top]

Get the list of AutoSupport destinations for the given node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-destinations-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | string | The name of the filer that owns this destination configuration. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | autosupport-destinations-info | The attributes of the autosupport-destinations. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# autosupport-destinations-get-iter

[top]

Get the list of AutoSupport destinations for all nodes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-destinations-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | autosupport-destinations-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-destinations object. All autosupport-destinations objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | autosupport- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | destinations-info[] optional | The list of attributes of autosupport-destinations objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more autosupport-destinations objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# autosupport-destinations-get-total-records

[top]

Return the total number of records. This sould be equal to the number of nodes in the cluster.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^64-1]** | integer | The total number of autosupport-destinations objects. |

# autosupport-download-get

[top]

Get a download record for the given AutoSupport.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-download-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **id** | **[0..2^64-1]** | integer | The download ID. |
| **node-name** | | string | The name of the filer that performed the download. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | autosupport-download-info | The attributes of the autosupport-download. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# autosupport-download-get-iter

[top]

Get the download records.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-download-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | autosupport-download-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-download object. All autosupport-download objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | autosupport-download-info[] optional | The list of attributes of autosupport-download objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more autosupport-download objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# autosupport-history-cancel

[top]

Cancel an AutoSupport Transmission.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination** | | asup-destination optional | Destination for This AutoSupport Possible values:<br>• "smtp" - Transmitted via SMTP,<br>• "http" - Transmitted via HTTP or HTTPS,<br>• "noteto" - (DEPRECATED) noteto destination,<br>• "retransmit" - Transmitted to a specified URI destination |
| **node-name** | | string | Node |
| **seq-num** | **[0..2^64-1]** | integer | AutoSupport Sequence Number |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# autosupport-history-get

[top]

Get a history record for the given AutoSupport.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination** | | asup-destination | The transport protocol for this AutoSupport message's destination. Possible values:<br>• "smtp" - Transmitted via SMTP,<br>• "http" - Transmitted via HTTP or HTTPS,<br>• "noteto" - (DEPRECATED) noteto destination,<br>• "retransmit" - Transmitted to a specified URI destination |
| **node-name** | | string | The name of the filer where the AutoSupport message was previously generated. |
| **seq-num** | **[0..2^64-1]** | integer | The AutoSupport message sequence number. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | autosupport-history-info | The attributes of the autosupport-history. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# autosupport-history-get-iter

[top]

Get the history records for the last 50 AutoSupport messages.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | autosupport-history-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-history object. All autosupport-history objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | autosupport- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | history-info[] optional | The list of attributes of autosupport-history objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more autosupport-history objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# autosupport-history-get-total-records

[top]

Return the total number of records.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^64-1]** | integer | The total number of autosupport-history objects. |

# autosupport-history-retransmit

[top]

Selectively retransmit a previously collected AutoSupport message.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string | The name of the filer on which the AutoSupport message will be retransmitted. |
| **seq-num** | **[0..2^64-1]** | integer | The AutoSupport message sequence number. |
| **size-limit** | **[0..2^63-1]** | integer optional | The maximum allowed size for the retransmitted AutoSupport. |
| **uri** | | string | The destination for the retransmitted AutoSupport. |

| Errno | Description |
|---|---|
| **E_ASUP_CHECK_INVALID_GENERIC_URI_SCHEME** | |

# autosupport-invoke

[top]

Generate a new AutoSupport message

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force generation, even if AutoSupport is disabled in the system. The default value is false. |
| **message** | | string optional | Text to include as part of the subject of the AutoSupport message. |
| | | | |

| | | | |
|---|---|---|---|
| **node-name** | | string | The name of the filer on which the AutoSupport message will be generated. |
| **type** | | asup-invoke-style | The type of AutoSupport to generate. Possible values:<br>• "test" - Test AutoSupport send and receive only,<br>• "performance" - Generate a Performance AutoSupport as requested by technical support,<br>• "all" - Send all AutoSupport data without time or size limit, as requested by technical support |
| **uri** | | string optional | Alternate destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **seq-num** | **[0..2^64-1]** | integer optional | The AutoSupport message sequence number. |

| Errno | Description |
|---|---|
| **E_ASUP_COLLECTION_DISABLED** | |
| **E_ASUP_TRIGGER_DISABLED** | |
| **E_ASUP_TRIGGER_THROTTLED** | |

# autosupport-invoke-core-upload

[top]

Generate and send an AutoSupport message with an existing core file.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **case-number** | | string optional | Support case number to associate with this core file. |
| **core-filename** | | string | Existing core file to be included in this AutoSupport. |
| **force** | | boolean optional | Force generation, even if AutoSupport is disabled in the system. The default value is false. |
| **message** | | string optional | Text to include as part of the subject of the AutoSupport message. |
| **node-name** | | string | The name of the filer on which the AutoSupport message will be generated. |
| **uri** | | string optional | Alternate destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations. Supported schemes are file, http & https. As of Data ONTAP 9.3, the file scheme is not supported. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **seq-num** | **[0..2^64-1]** | integer optional | The AutoSupport message sequence number. |

| Errno | Description |
|---|---|
| **E_ASUP_COLLECTION_DISABLED** | |
| **E_ASUP_TRIGGER_DISABLED** | |
| **E_ASUP_TRIGGER_THROTTLED** | |

| E_ASUP_CHECK_INVALID_GENERIC_URI_SCHEME | |
|---|---|

# autosupport-invoke-diagnostic

[top]

Generate and send an AutoSupport message with diagnostic content from specified subsystems.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean<br>optional | Force collection and delivery, even if Diagnostic AutoSupport is disabled in the system. The default value is false. |
| **message-subject** | | string<br>optional | Text to include as part of the subject of the AutoSupport message. |
| **node-name** | | string | The name of the filer on which the AutoSupport message will be generated. |
| | | | List of subsystems whose diagnostic content is to be included in this AutoSupport. Specify up to 4 subsystems. Possible values:<br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware , |

| | | | |
|---|---|---|---|
| **subsystems** | | asup-subsystems[] | "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |
| **uri** | | string optional | The destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **seq-num** | **[0..2^64-1]** | integer optional | The AutoSupport message sequence number. |

| Errno | Description |
|---|---|
| E_ASUP_COLLECTION_DISABLED | |
| E_ASUP_TRIGGER_DISABLED | |
| E_ASUP_TRIGGER_THROTTLED | |

# autosupport-invoke-diagnostic-iter

[top]

Generate and send an AutoSupport message with diagnostic content from specified subsystems.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple autosupport objects match a given query. If set to true, the API will continue with the next matching autosupport even when the operation fails for the autosupport. If set to false, the API will return on the first failure. Default: false |
| **force** | | boolean optional | Force collection and delivery, even if Diagnostic AutoSupport is disabled in the system. The default value is false. |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching autosupport even when the operation on a previous matching autosupport fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of autosupport objects to be operated in this call. Default: 20 |
| **message-subject** | | string optional | Text to include as part of the subject of the AutoSupport message. |
| **query** | | autosupport-config-info | If operating on a specific autosupport, this input element must specify all keys. If operating on autosupport objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of autosupport objects (just keys) that were not operated on due to some error. If set to false, the list of autosupport objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of autosupport objects (just keys) that were successfully operated on. If set to false, the list of autosupport objects operated on will not be returned. Default: true |
| | | | List of subsystems whose diagnostic content is to be included in this AutoSupport. Specify up to 4 subsystems. Possible values:<br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly), |

| | | | |
|---|---|---|---|
| **subsystems** | | asup-subsystems[] | "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload, |

| | | | |
|---|---|---|---|
| | | | "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |
| **tag** | | string<br>optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |
| **uri** | | string<br>optional | The destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | autosupport-invoke-diagnostic-iter-info[]<br>optional | Information about autosupport objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string<br>optional | Tag for the next call. Not present when there are no more matching autosupport objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer<br>optional | The number of autosupport objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer<br>optional | The number of autosupport objects that matched the query and were successfully processed. |
| **success-list** | | autosupport-invoke-diagnostic-iter-info[]<br>optional | The autosupport objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **E_ASUP_COLLECTION_DISABLED** | |
| **E_ASUP_TRIGGER_DISABLED** | |
| **E_ASUP_TRIGGER_THROTTLED** | |

# autosupport-invoke-iter

[top]

Generate a new AutoSupport message

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple autosupport objects match a given query. If set to true, the API will continue with the next matching autosupport even when the operation fails for the autosupport. If set to false, the API will return on the first failure. Default: false |
| **force** | | boolean optional | Force generation, even if AutoSupport is disabled in the system. The default value is false. |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching autosupport even when the operation on a previous matching autosupport fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of autosupport objects to be operated in this call. Default: 20 |
| **message** | | string optional | Text to include as part of the subject of the AutoSupport message. |
| **query** | | autosupport-config-info | If operating on a specific autosupport, this input element must specify all keys. If operating on autosupport objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of autosupport objects (just keys) that were not operated on due to some error. If set to false, the list of autosupport objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of autosupport objects (just keys) that were successfully operated on. If set to false, the list of autosupport objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |
| **type** | | asup-invoke-style | The type of AutoSupport to generate. Possible values:<br>• "test" - Test AutoSupport send and receive only,<br>• "performance" - Generate a Performance AutoSupport as requested by technical support,<br>• "all" - Send all AutoSupport data without time or size limit, as requested by technical support |
| **uri** | | string optional | Alternate destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | autosupport-invoke-iter-info[] optional | Information about autosupport objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string | Tag for the next call. Not present when there are no more |

| | | | |
|---|---|---|---|
| | | optional | matching autosupport objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of autosupport objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of autosupport objects that matched the query and were successfully processed. |
| **success-list** | | autosupport-invoke-iter-info[] optional | The autosupport objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **E_ASUP_COLLECTION_DISABLED** | |
| **E_ASUP_TRIGGER_DISABLED** | |
| **E_ASUP_TRIGGER_THROTTLED** | |

# autosupport-invoke-performance-archive

[top]

Generate and send an AutoSupport message with performance archives.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **case-number** | | string optional | Support case number to associate with this performance archive file. |
| **duration** | | string optional | Duration of the performance archives to collect in the AutoSupport. This is expressed as a quantity followed by a character indicating units of time. Allowed units are h\|m\|s for hours, minutes and seconds. Example '12h' for 12 hours |
| **end-date** | **[0..2^31-1]** | integer optional | End date of files to collect from the performance archive dataset. |
| **force** | | boolean optional | Force generation, even if AutoSupport is disabled in the system. The default value is false. |
| **message** | | string optional | Text to include as part of the subject of the AutoSupport message. |
| **node-name** | | string | The name of the filer on which the AutoSupport message will be generated. |
| **start-date** | **[0..2^31-1]** | integer | Start date of files to collect from the performance archive dataset. |
| **uri** | | string optional | Alternate destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **seq-num** | **[0..2^64-1]** | integer optional | The AutoSupport message sequence number. |

| Errno | Description |
|---|---|
| **E_ASUP_COLLECTION_DISABLED** | |
| **E_ASUP_TRIGGER_DISABLED** | |
| **E_ASUP_TRIGGER_THROTTLED** | |

# autosupport-invoke-performance-archive-iter

[top]

Generate and send an AutoSupport message with performance archives.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **case-number** | | string optional | Support case number to associate with this performance archive file. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple autosupport objects match a given query. If set to true, the API will continue with the next matching autosupport even when the operation fails for the autosupport. If set to false, the API will return on the first failure. Default: false |
| **duration** | | string optional | Duration of the performance archives to collect in the AutoSupport. This is expressed as a quantity followed by a character indicating units of time. Allowed units are h\|m\|s for hours, minutes and seconds. Example '12h' for 12 hours |
| **end-date** | **[0..2^31-1]** | integer optional | End date of files to collect from the performance archive dataset. |
| **force** | | boolean optional | Force generation, even if AutoSupport is disabled in the system. The default value is false. |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching autosupport even when the operation on a previous matching autosupport fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of autosupport objects to be operated in this call. Default: 20 |
| **message** | | string optional | Text to include as part of the subject of the AutoSupport message. |
| **query** | | autosupport-config-info | If operating on a specific autosupport, this input element must specify all keys. If operating on autosupport objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of autosupport objects (just keys) that were not operated on due to some error. If set to false, the list of autosupport objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of autosupport objects (just keys) that were successfully operated on. If set to false, the list of autosupport objects operated on will not be returned. Default: true |
| **start-date** | **[0..2^31-1]** | integer | Start date of files to collect from the performance archive dataset. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |
| **uri** | | string optional | Alternate destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| failure-list | | autosupport-invoke-performance-archive-iter-info[] optional | Information about autosupport objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more matching autosupport objects to be operated on. |
| num-failed | [0..2^32-1] | integer optional | The number of autosupport objects that matched the query, but were not operated on due some error. |
| num-succeeded | [0..2^32-1] | integer optional | The number of autosupport objects that matched the query and were successfully processed. |
| success-list | | autosupport-invoke-performance-archive-iter-info[] optional | The autosupport objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| E_ASUP_COLLECTION_DISABLED | |
| E_ASUP_TRIGGER_DISABLED | |
| E_ASUP_TRIGGER_THROTTLED | |

# autosupport-invoke-splog

[top]

Generate a Remote Service Processor Log AutoSupport message

| Input Name | Range | Type | Description |
|---|---|---|---|
| force | | boolean optional | Force generation, even if AutoSupport is disabled in the system. The default value is false. |
| log-sequence | | integer optional | The sequence number of the logs to be uploaded |
| remote-node | | node-name | The host node name where the Service Processor is present |
| uri | | string optional | Alternate destination for the AutoSupport. If this field is omitted, the AutoSupport will be delivered to the currently configured destinations. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# autosupport-manifest-get-iter

[top]

Get a detailed manifest for the contents of an AutoSupport.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **desired-attributes** | | autosupport-manifest-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | autosupport-manifest-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-manifest object. All autosupport-manifest objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | autosupport-manifest-info[] optional | The list of attributes of autosupport-manifest objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more autosupport-manifest objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# autosupport-manifest-get-total-records

[top]

Return the total number of records.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^64-1]** | integer | The total number of autosupport-manifest objects. |

# autosupport-trigger-get

[top]

Get the AutoSupport trigger data for the given node and EMS message.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-trigger-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | string | Node |
| **trigger** | | string | EMS Message |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **attributes** | | autosupport-trigger-info | The attributes of the autosupport-trigger. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# autosupport-trigger-get-iter

[top]

Get a list of the AutoSupport trigger data for all nodes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | autosupport-trigger-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | autosupport-trigger-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the autosupport-trigger object. All autosupport-trigger objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | autosupport-trigger-info[] optional | The list of attributes of autosupport-trigger objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more autosupport-trigger objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# autosupport-trigger-get-total-records

[top]

Return the total number of records.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^64-1]** | integer | The total number of autosupport-trigger objects. |

# autosupport-trigger-modify

[top]

Modify the AutoSupport trigger data for the given node and EMS message.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **basic-additional** | | asup-subsystems[] optional | Additional Subsystems Reporting Basic Info Possible values:<br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node, |

| | | | |
|---|---|---|---|
| | | | • "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |
| **node-name** | | string | Node |
| **noteto-enabled** | | string<br>optional | (DEPRECATED) Deliver to AutoSupport -noteto Addresses. Possible values are: enabled or disabled. |
| **size-limit** | | size<br>optional | The data collection size budget for this trigger. Content not collected will be marked as collection-truncated-size-limit in the manifest. |
| **time-limit** | | string<br>optional | The data collection time budget for this trigger (in seconds). Content not collected will be marked as collection-truncated-time-limit in the manifest. |
| **to-enabled** | | string<br>optional | Deliver to AutoSupport -to Addresses. Possible values are: enabled or disabled. |
| **trigger** | | string | EMS Message |
| | | | Additional Subsystems Reporting Troubleshooting Info Possible values:<br><br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node |

| | | | |
|---|---|---|---|
| **troubleshooting-additional** | | asup-subsystems[] optional | (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM, |

| | | | |
|---|---|---|---|
| | | | "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **asup-destination**

[top]

smtp|http|noteto|retransmit Possible values:

- "smtp" - Transmitted via SMTP,
- "http" - Transmitted via HTTP or HTTPS,
- "noteto" - (DEPRECATED) noteto destination,
- "retransmit" - Transmitted to a specified URI destination

[none]

# Element definition: **asup-invoke-style**

[top]

test|performance|all Possible values:

- "test" - Test AutoSupport send and receive only,
- "performance" - Generate a Performance AutoSupport as requested by technical support,
- "all" - Send all AutoSupport data without time or size limit, as requested by technical support

[none]

# Element definition: **asup-subsystems**

[top]

subsys1,subsys2,... Possible values:

- "platform" - Hardware information about the node,
- "mhost" - User Space application information for a node,
- "log_files" - Log files for a node,
- "performance" - Performance statistics for a node (event and weekly),
- "performance_asup" - Performance statistics for a node (hourly),
- "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,
- "san" - SAN specific information for a node,
- "snapvault" - SnapVault specific information for a node,
- "snapmirror" - Snapmirror specific information for a node,
- "dedupe" - Dedupe specific information for a node,
- "nfs" - NFS specific information for a node,
- "wafl" - WAFL specific information for a node,
- "mot" - MOT specific information for a node,
- "ha" - HA specific information for a node,
- "networking" - Networking specific information for a node,
- "cifs" - CIFS specific information for a node,
- "fpolicy" - Fpolicy specific information for a node,
- "multistore" - Multistore specific information for a node,
- "raid" - RAID specific information for a node,
- "storage" - Storage specific information for a node,
- "asup_ems" - ASUP EMS specific information for a node,
- "tape" - Tape specific information for a node,
- "kernel" - kernel specific information for a node,
- "secd" - Security Daemon specific information for a node,
- "metrocluster" - Metrocluster specific information for a node,
- "mandatory" - Mandatory Basic information for a node,
- "repository" - Repository specific information for a node,
- "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,
- "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,
- "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,
- "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,
- "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,
- "splog_rnode" - On demand collected remote SP logs,
- "hm" - Health Monitor Alerts specific information,
- "kcs" - Kernel Cluster Services information for a node,
- "av" - Antivirus specific information for a node,
- "vserver_dr" - Vserver disaster recovery,
- "nwd" - Node Watchdog specific information for a node,
- "vscan" - Vscan specific information for a node,
- "san_ffdc" - SAN specific trace dumps for a node,
- "cluster_peer" - Cluster peering specific dumps for a node,
- "crs" - Config Replication Service information,
- "cps" - Cluster Persistency Storage information,
- "memevt" - MemEVT gathered data from a node,
- "san_fcp" - FCP target driver related information for a node,
- "ndmp" - NDMP information,
- "ndu" - NDU specific information,
- "name_services" - Name Services specific information,
- "san_vdom" - SAN VDOM specific information for a node,
- "snaplock" - SnapLock specific information for a node,
- "key_manager" - Key Manager specific information,
- "appdm" - Application DM,
- "corefile" - Corefile to upload,

- "flexcache" - FlexCache,
- "nvmf" - NVMF specific information,
- "snapshot" - Snapshots specific information,
- "rdma" - RDMA driver and OFED layer specific information,
- "ndo" - NDO specific information,
- "metroclustertcp" - MetroCluster TCP specific information for a node,
- "metroclusterstats" - MetroCluster statistics for data analytics,
- "object_store_server" - Object store server specific information for a node,
- "storage_stats" - Storage statistics for data analytics,
- "ipsec" - IPsec specific information,
- "hm_switch" - Ethernet switch health monitoring information,
- "arw" - Anti-ransomware specific information,
- "svm_migrate" - Vserver migrate information,
- "nic" - NIC driver specific information,
- "splog_full" - Full SPLOG Collection from Service-Processor

[none]

# Element definition: **asup-transport**

[top]

smtp|http|https Possible values:

- "smtp" ,
- "http" ,
- "https"

[none]

# Element definition: **autosupport-budget-info**

[top]

AutoSupport budget data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **def-diagnostic-size-limit** | **[0..2^63-1]** | integer optional | The default setting for diagnostic content collection size (in bytes) for the subsystem. Attributes: non-creatable, non-modifiable |
| **def-diagnostic-time-limit** | | string optional | The default setting for diagnostic content collection time (in seconds) for the subsystem. Attributes: non-creatable, non-modifiable |
| **def-size-limit** | **[0..2^63-1]** | integer optional | The default setting for basic and troubleshooting content collection size (in bytes) for the subsystem. Attributes: non- |

| | | | |
|---|---|---|---|
| | | | creatable, non-modifiable |
| **def-time-limit** | | string optional | The default setting for basic and troubleshooting content collection time (in seconds ) for the subsystem. Attributes: non-creatable, non-modifiable |
| **diagnostic-size-limit** | **[0..2^63-1]** | integer optional | The maximum allowable diagnostic content collection size (in bytes) for the subsystem. Attributes: non-creatable, modifiable |
| **diagnostic-time-limit** | | string optional | The maximum allowable diagnostic content collection time (in seconds) for the subsystem. Attributes: non-creatable, modifiable |
| **node-name** | | string optional | The name of a filer on which the AutoSupport tool is running. Attributes: key, non-creatable, non-modifiable |
| **size-limit** | **[0..2^63-1]** | integer optional | The maximum allowable basic and troubleshooting content collection size (in bytes) for the subsystem. Attributes: non-creatable, modifiable |
| **subsystem** | | asup-subsystems optional | The name of a subsystem from which AutoSupport collects data. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information, |

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|---|---|---|---|
| | | | • "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |
| **time-limit** | | string<br>optional | The maximum allowable basic and troubleshooting content collection time (in seconds ) for the subsystem. Attributes: non-creatable, modifiable |

# Element definition: **autosupport-check-info**

[top]

Status of AutoSupport Subsystem When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| | | | |
|---|---|---|---|

| Name | Range | Type | Description |
|---|---|---|---|
| **check-category** | | string optional | Category of AutoSupport Check Attributes: key, non-creatable, non-modifiable Possible values:<br>• "http_https" - AutoSupport HTTP/HTTPS Destination,<br>• "smtp" - AutoSupport SMTP Destination,<br>• "on_demand" - AutoSupport OnDemand Destination,<br>• "configuration" - AutoSupport Configuration |
| **check-type** | | string optional | Type of AutoSupport Check Attributes: key, non-creatable, non-modifiable Possible values:<br>• "rollup_status" - Overall Status for a category,<br>• "http_put_destination" - HTTP/HTTPS PUT Destination,<br>• "http_post_destination" - HTTP/HTTPS POST Destination,<br>• "mail_server" - AutoSupport MailServer,<br>• "ondemand_server" - AutoSupport OnDemand Server,<br>• "configuration" - AutoSupport Configuration |
| **corrective-action** | | string optional | Action to correct the error seen as the result of this check. Attributes: non-creatable, non-modifiable |
| **error-detail** | | string optional | Detailed Error String for this AutoSupport Check. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | The name of the filer on which the check is being performed. Attributes: key, non-creatable, non-modifiable |
| **status** | | asup-check-status optional | Status of this AutoSupport Check. Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" - The Status of the AutoSupport check is ok.,<br>• "warning" - Please verify the intended behavior.,<br>• "failed" - AutoSupport check failed.,<br>• "not_run" - AutoSupport check could not be run. |

# Element definition: **autosupport-compliant-info**

[top]

Compliant AutoSupport has data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **hash** | | string optional | hash Attributes: non-creatable, non-modifiable |
| **last-used-sequence** | | seqnum optional | Last AutoSupport that used this hash Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **plaintext** | | string optional | Plaintext Attributes: key, non-creatable, non-modifiable |

# Element definition: **autosupport-config-info**

[top]

AutoSupport configuration data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **from** | | mail-address optional | The e-mail address of the local administrator, used as the sender of the AutoSupport message. To generate node-specific 'from' addresses, use the 'node-specific-from' (privilege: advanced) parameter. Attributes: non-creatable, modifiable |
| **is-enabled** | | boolean optional | Specifies whether the AutoSupport daemon is enabled. When this setting is disabled, delivery of all AutoSupport messages is turned off. Attributes: non-creatable, modifiable |
| **is-local-collection-enabled** | | boolean optional | Used to enable / disable collection of AutoSupport data when the AutoSupport daemon is disabled. When this setting is true, collection of AutoSupport data will still be done if is-enabled is false. Attributes: non-creatable, modifiable |
| **is-nht-data-enabled** | | boolean optional | Used to enable / disable collection of disk health data. Attributes: non-creatable, modifiable |
| **is-node-in-subject** | | boolean optional | Specifies whether the filer's hostname should be part of an AutoSupport message's subject field. Attributes: non-creatable, modifiable |
| **is-ondemand-download-enabled** | | boolean optional | Specifies whether the AutoSupport OnDemand Download feature is enabled. Default is true. Attributes: non-creatable, modifiable |
| **is-ondemand-enabled** | | boolean optional | Specifies whether AutoSupport OnDemand is enabled. Default is true. Attributes: non-creatable, modifiable |
| **is-ondemand-remote-diag-enabled** | | boolean optional | Specifies whether the AutoSupport OnDemand Remote Diagnostics feature is enabled. Default is true. Attributes: non-creatable, modifiable |
| **is-perf-data-enabled** | | boolean optional | Used to enable / disable collection of Performance AutoSupport data. Attributes: non-creatable, modifiable |
| **is-private-data-removed** | | boolean optional | Used to enable / disable removal of customer-supplied data. Attributes: non-creatable, modifiable |
| **is-reminder-** | | boolean | Specifies whether to enable / disable AutoSupport reminders. |

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|---|---|---|---|
| **enabled** | | optional | Attributes: non-creatable, modifiable |
| **is-support-enabled** | | boolean optional | Specifies whether AutoSupport notification to technical support is enabled. Attributes: non-creatable, modifiable |
| **is-throttle-enabled** | | boolean optional | Specifies whether to enable / disable throttling to prevent a potential avalanche of AutoSupport messages. Attributes: non-creatable, modifiable |
| **last-subject** | | string optional | The subject field of the last generated AutoSupport message. Attributes: non-creatable, non-modifiable |
| **last-timestamp** | **[0..2^31-1]** | integer optional | The timestamp of the last generated AutoSupport message. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable |
| **mail-hosts** | | string[] optional | The name of the mail server(s) used to deliver AutoSupport messages via SMTP. Both host names and IP addresses may be used as valid input. One can optionally specify a username/password for authentication with the mailserver(rfc4954). Attributes: non-creatable, modifiable |
| **max-download-rate** | **[0..2^63-1]** | integer optional | Maximum download rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or in the range 20480 (20KBps)- 10737418240 (10GBps). Attributes: non-creatable, modifiable |
| **max-http-size** | **[0..2^63-1]** | integer optional | Delivery size limit for the HTTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB). Attributes: non-creatable, modifiable |
| **max-smtp-size** | **[0..2^63-1]** | integer optional | Delivery size limit for the SMTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB). Attributes: non-creatable, modifiable |
| **max-upload-rate** | **[0..2^63-1]** | integer optional | Maximum upload rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 20480 (20KBps). Attributes: non-creatable, modifiable |
| **minimum-private-data-length** | **[2..1024]** | integer optional | Minimum Length for Sensitive Data Attributes: non-creatable, modifiable |
| **node-name** | | string optional | The name of the filer that owns the AutoSupport configuration. Attributes: key, non-creatable, non-modifiable |
| **node-specific-from** | | boolean optional | Specifies whether to generate a node-specific 'from' address by prepending the node name to the 'from' email address. Default is false. Attributes: non-creatable, modifiable |
| **noteto** | | mail-address[] optional | (DEPRECATED) Specifies up to five recipients of short AutoSupport e-mail messages. Attributes: non-creatable, modifiable |
| **ondemand-polling-interval** | **[0..2^32-1]** | integer optional | The AutoSupport OnDemand Client polling rate in minutes. As of Data ONTAP 8.3.1, this value should be in the range 5-2880. Attributes: non-creatable, modifiable |
| **ondemand-server-url** | | string optional | The AutoSupport OnDemand Server URL. Attributes: non-creatable, modifiable |
| **partner-address** | | mail-address[] optional | Specifies up to five partner vendor recipients of full AutoSupport e-mail messages. Attributes: non-creatable, modifiable |
| **payload-format** | | compression-format | The format used to compress the AutoSupport message payload. Attributes: non-creatable, modifiable Possible values:<br>• "7z" - 7-Zip Archive, |

| | | | |
|---|---|---|---|
| | | optional | • "tgz" - Zipped Tarball |
| **periodic-tx-window** | | string optional | The transmission window (seconds). Attributes: non-creatable, modifiable |
| **post-url** | | string optional | The URL used to deliver AutoSupport messages via HTTP POST. Attributes: non-creatable, modifiable |
| **proxy-url** | | string optional | Optional proxy host for AutoSupport message delivery via HTTP. Attributes: non-creatable, modifiable |
| **put-url** | | string optional | The URL used to deliver AutoSupport messages via HTTP PUT. Attributes: non-creatable, modifiable |
| **retry-count** | **[0..2^32-1]** | integer optional | The maximum number of delivery attempts for an AutoSupport message. As of Data ONTAP 8.3.1, this value should be in the range 5-30. Attributes: non-creatable, modifiable |
| **retry-interval** | | string optional | The number of seconds to wait, after a failed delivery attempt, prior to re-transmitting an AutoSupport message. Attributes: non-creatable, modifiable |
| **support-address** | | mail-address[] optional | The e-mail address of Support. Attributes: non-creatable, modifiable |
| **to** | | mail-address[] optional | Specifies up to five recipients of full AutoSupport e-mail messages. Attributes: non-creatable, modifiable |
| **transport** | | asup-transport optional | The name of the transport protocol used to deliver AutoSupport messages. Attributes: non-creatable, modifiable Possible values: • "smtp" , • "http" , • "https" |
| **validate-digital-certificate** | | boolean optional | Validate Digital Certificate Received Attributes: non-creatable, modifiable |

# Element definition: **autosupport-destinations-info**

[top]

AutoSupport destination summary When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **destinations** | | string[] optional | A comma separated list of destinations used to deliver AutoSupport messages. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | The name of the filer that owns this destination configuration. Attributes: key, non-creatable, non-modifiable |

# Element definition: **autosupport-download-info**

[top]

AutoSupport OnDemand download data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **download-type** | | aod-download optional | The type of the download. Attributes: non-creatable, non-modifiable Possible values:<br>• "licensing" - Download licenses for a node or cluster |
| **error** | | string optional | The error string recorded for this download. This string may be empty. Attributes: non-creatable, non-modifiable |
| **id** | **[0..2^64-1]** | integer optional | The download ID. Attributes: key, non-creatable, non-modifiable |
| **last-modification-timestamp** | **[0..2^31-1]** | integer optional | The timestamp of the last update to this download record. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | The name of the filer that performed the download. Attributes: key, non-creatable, non-modifiable |
| **result** | | string optional | The path to the downloaded results on the filer. Attributes: non-creatable, non-modifiable |
| **status** | | aod-download-status optional | The status for this download. Attributes: non-creatable, non-modifiable Possible values:<br>• "initialized" - Download request is ready to be transmitted to the AutoSupport OnDemand server,<br>• "request_failed" - Download request could not be transmitted,<br>• "not_supported" - Download request type is not known by the AutoSupport OnDemand server,<br>• "transferring" - Requested data is being downloaded,<br>• "completed" - Download has completed successfully,<br>• "cancelled" - Download was cancelled,<br>• "failed" - Download failed to complete |

# Element definition: **autosupport-history-info**

[top]

AutoSupport history data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **attempt-count** | **[0..2^32-1]** | integer optional | The number of attempted deliveries for this AutoSupport message. Attributes: non-creatable, non-modifiable |
| **decompressed-size** | | size optional | The decompressed size in bytes of the Autosupport message. Attributes: non-creatable, non-modifiable |
| **destination** | | asup-destination optional | The transport protocol for this AutoSupport message's destination. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "smtp" - Transmitted via SMTP,<br>• "http" - Transmitted via HTTP or HTTPS,<br>• "noteto" - (DEPRECATED) noteto destination,<br>• "retransmit" - Transmitted to a specified URI destination |
| **generation-timestamp** | **[0..2^31-1]** | integer optional | The timestamp of the original generation (collection) of this AutoSupport message. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable |
| **last-modification-timestamp** | **[0..2^31-1]** | integer optional | The timestamp of the last update to this history record. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | The name of the filer where the AutoSupport message was previously generated. Attributes: key, non-creatable, non-modifiable |
| **percent-complete** | **[0..100]** | integer optional | The perentage of the AutoSupport message transmitted successfully. Attributes: non-creatable, non-modifiable |
| **seq-num** | **[0..2^64-1]** | integer optional | The AutoSupport message sequence number. Attributes: key, non-creatable, non-modifiable |
| **size** | | size optional | The compressed size in bytes of the AutoSupport message. Attributes: non-creatable, non-modifiable |
| **status** | | asup-status optional | The delivery status for this AutoSupport message. Attributes: non-creatable, non-modifiable Possible values:<br>• "initializing" - ASUP request is being processed,<br>• "collection_failed" - The AutoSupport Collection failed. See 'Last Error' for more information,<br>• "collection_in_progress" - The AutoSupport Collection is in progress,<br>• "queued" - ASUP is queued for delivery,<br>• "transmitting" - ASUP transmission is in progress,<br>• "sent_successful" - ASUP was successfully sent,<br>• "ignore" - ASUP was processed successfully but has no destinations configured,<br>• "re_queued" - ASUP transmission failed and has been re-queued,<br>• "transmission_failed" - ASUP transmission has failed and the retry limit has been exceeded,<br>• "ondemand_ignore" - ASUP was processed successfully but ASUP OnDemand has declined delivery,<br>• "cancelled" - ASUP transmission cancelled |
| **subject** | | string optional | The subject field of this AutoSupport message. Attributes: non-creatable, non-modifiable |

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|---|---|---|---|
| **time-remaining** | | time-interval optional | The estimate of the amount of time for the AutoSupport Message to be fully transmitted. Attributes: non-creatable, non-modifiable |
| **total-time** | **[0..2^64-1]** | integer optional | The total collection time in msec of the Autosupport message. Attributes: non-creatable, non-modifiable |
| **trigger** | | string optional | The name of the EMS event that triggered this AutoSupport message. Attributes: non-creatable, non-modifiable |
| **upload-rate** | | byte-rate optional | The approximate rate in bytes per second of the AutoSupport Message upload. Attributes: non-creatable, non-modifiable |
| **uri** | | string optional | The URI used to deliver this AutoSupport message. Attributes: non-creatable, non-modifiable |

# Element definition: **autosupport-invoke-diagnostic-iter-info**

[top]

Information about the operation that was attempted/performed against autosupport object.

| Name | Range | Type | Description |
|---|---|---|---|
| **autosupport-key** | | autosupport-config-info | The keys for the autosupport object to which the operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **seq-num** | **[0..2^64-1]** | integer optional | The AutoSupport message sequence number. |

# Element definition: **autosupport-invoke-iter-info**

[top]

Information about the operation that was attempted/performed against autosupport object.

| Name | Range | Type | Description |
|---|---|---|---|
| **autosupport-key** | | autosupport-config-info | The keys for the autosupport object to which the operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **seq-num** | **[0..2^64-1]** | integer optional | The AutoSupport message sequence number. |

# Element definition: **autosupport-invoke-performance-archive-iter-info**

[top]

Information about the operation that was attempted/performed against autosupport object.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **autosupport-key** | | autosupport-config-info | The keys for the autosupport object to which the operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **seq-num** | **[0..2^64-1]** | integer optional | The AutoSupport message sequence number. |

# Element definition: **autosupport-manifest-info**

[top]

AutoSupport manifest data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **body-file** | | string optional | The AutoSupport Content Filename for this Data Attributes: non-creatable, non-modifiable |
| **cmd** | | string optional | Actual Data Being Collected Attributes: non-creatable, non-modifiable |
| **cmd-tgt** | | autosupport-cmd-tgt optional | Execution Domain for Command Attributes: non-creatable, non-modifiable Possible values:<br>• "bsd" - Command executed by BSD,<br>• "smf_table" - Command selects SMF table,<br>• "file" - Command indicates file to collect,<br>• "dblade" - Collect from dbladecli,<br>• "dblade_file" - Collect a file from dblade. Could be partner file,<br>• "zapi_xml" - Response in XML format,<br>• "custom_fx" - Collect custom function output file |
| **content-type** | | asup-content-type optional | AutoSupport Content Type for this Data Attributes: non-creatable, non-modifiable Possible values:<br>• "basic" - ASUP will contain minimal set of data for this subsystem,<br>• "troubleshooting" - ASUP will contain detailed collection of data for this subsystem,<br>• "diagnostic" - ASUP will contain diagnostic data for this subsystem |
| **error** | | string optional | Textual Description of Error Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Node Attributes: key, non-creatable, non-modifiable |
| **orig-size-collected** | **[0..2^63-1]** | integer optional | Initial Number of Bytes Collected Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **prio-num** | **[0..2^32-1]** | integer optional | Priority Order of Collection Attributes: key, non-creatable, non-modifiable |
| **query** | | string optional | Table Query for XML Collection Attributes: non-creatable, non-modifiable |
| **seq-num** | **[0..2^64-1]** | integer optional | AutoSupport Sequence Number Attributes: key, non-creatable, non-modifiable |
| **size-collected** | **[0..2^63-1]** | integer optional | Number of Bytes Collected Attributes: non-creatable, non-modifiable |
| **size-compressed** | **[0..2^63-1]** | integer optional | Compressed Size Attributes: non-creatable, non-modifiable |
| **status** | | asup-manifest-status optional | Status of this Data Item Attributes: non-creatable, non-modifiable Possible values:<br>• "requested" - ASUP request has been added to the queue and is waiting processing by the collector,<br>• "working" - ASUP Collector is actively gathering the needed data,<br>• "file_not_found" - ASUP collection failed, a needed file is missing,<br>• "no_such_table" - ASUP collection was unable to find the requested SMF table,<br>• "collection_truncated_size_limit" - ASUP collection truncated due to size limits and partial data is available,<br>• "collection_skipped_size_limit" - ASUP collection skipped due to size limits and no data is available,<br>• "collection_truncated_time_limit" - ASUP collection truncated due to time limits and partial data is available,<br>• "collection_skipped_time_limit" - ASUP collection skipped due to time limits and no data is available,<br>• "delivery_skipped_size_limit" - ASUP data was skipped at delivery time due to size limits,<br>• "general_error" - ASUP collection failed, additional information if any will be in the Error String field,<br>• "completed" - ASUP collection is complete, ready for delivery,<br>• "content_not_collected_mode" - ASUP content was not collected, incompatible operational mode,<br>• "content_not_collected_precheck" - ASUP content was not collected, pre-check function violation,<br>• "content_not_collected_privacy" - ASUP content was not collected, the operation is disabled in privacy mode,<br>• "content_empty" - ASUP content was collected successfully, but output was empty,<br>• "collection_aborted" - ASUP collection aborted, additional information if any, will be in available in the Error field,<br>• "collection_truncated_file_size_limit" - ASUP file truncated due to size limits and partial data is available,<br>• "collection_skipped_trigger_time_limit" - ASUP collection was skipped due to trigger time limit,<br>• "collection_incomplete" - ASUP content collection incomplete,<br>• "collection_skipped_trigger_size_limit" - ASUP collection was skipped due to trigger size limit,<br>• "collection_truncated_age" - ASUP file truncated due to age and partial data is available |
| | | | Subsystem Attributes: non-creatable, non-modifiable Possible values: |

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| **subsystem** | | asup-subsystems optional | "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node, |

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| | | | "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |
| **time-collected** | **[0..2^64-1]** | integer optional | Collection Time for this Data Item (ms) Attributes: non-creatable, non-modifiable |

# Element definition: **autosupport-trigger-info**

[top]

AutoSupport trigger data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-content** | | asup-content-type[] optional | Additional Content Flag Attributes: non-creatable, non-modifiable Possible values:<br>• "basic" - ASUP will contain minimal set of data for this subsystem,<br>• "troubleshooting" - ASUP will contain detailed collection of data for this subsystem,<br>• "diagnostic" - ASUP will contain diagnostic data for this subsystem |
| | | | Additional Subsystems Reporting Basic Info Attributes: non-creatable, modifiable Possible values:<br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node, |

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| **basic-additional** | | asup-subsystems[] optional | "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node, |

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| | | | "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |
| | | | Default Subsystems Reporting Basic Info Attributes: non-creatable, non-modifiable Possible values:<br><br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a |

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|---|---|---|---|
| **basic-default** | | asup-subsystems[] optional | node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |
| **node-name** | | string optional | Node Attributes: key, non-creatable, non-modifiable |

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| **noteto-enabled** | | string optional | (DEPRECATED) Deliver to AutoSupport -noteto Addresses. Possible values are: enabled or disabled. Attributes: non-creatable, modifiable |
| **size-limit** | | size optional | The data collection size budget for this trigger. Content not collected will be marked as collection-truncated-size-limit in the manifest. Attributes: non-creatable, modifiable |
| **time-limit** | | string optional | The data collection time budget for this trigger (in seconds). Content not collected will be marked as collection-truncated-time-limit in the manifest. Attributes: non-creatable, modifiable |
| **to-enabled** | | string optional | Deliver to AutoSupport -to Addresses. Possible values are: enabled or disabled. Attributes: non-creatable, modifiable |
| **trigger** | | string optional | EMS Message Attributes: key, non-creatable, non-modifiable |
| | | asup- | Additional Subsystems Reporting Troubleshooting Info Attributes: non-creatable, modifiable Possible values:<br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node,<br>• "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down, |

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|---|---|---|---|
| **troubleshooting-additional** | | subsystems[] optional | "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information,<br>• "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |
| | | | Default Subsystems Reporting Troubleshooting Info Attributes: non-creatable, non-modifiable Possible values:<br><br>• "platform" - Hardware information about the node,<br>• "mhost" - User Space application information for a node,<br>• "log_files" - Log files for a node,<br>• "performance" - Performance statistics for a node (event and weekly),<br>• "performance_asup" - Performance statistics for a node (hourly),<br>• "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,<br>• "san" - SAN specific information for a node, |

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|---|---|---|---|
| **troubleshooting-default** | | asup-subsystems[] optional | "snapvault" - SnapVault specific information for a node,<br>• "snapmirror" - Snapmirror specific information for a node,<br>• "dedupe" - Dedupe specific information for a node,<br>• "nfs" - NFS specific information for a node,<br>• "wafl" - WAFL specific information for a node,<br>• "mot" - MOT specific information for a node,<br>• "ha" - HA specific information for a node,<br>• "networking" - Networking specific information for a node,<br>• "cifs" - CIFS specific information for a node,<br>• "fpolicy" - Fpolicy specific information for a node,<br>• "multistore" - Multistore specific information for a node,<br>• "raid" - RAID specific information for a node,<br>• "storage" - Storage specific information for a node,<br>• "asup_ems" - ASUP EMS specific information for a node,<br>• "tape" - Tape specific information for a node,<br>• "kernel" - kernel specific information for a node,<br>• "secd" - Security Daemon specific information for a node,<br>• "metrocluster" - Metrocluster specific information for a node,<br>• "mandatory" - Mandatory Basic information for a node,<br>• "repository" - Repository specific information for a node,<br>• "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,<br>• "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,<br>• "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,<br>• "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,<br>• "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,<br>• "splog_rnode" - On demand collected remote SP logs,<br>• "hm" - Health Monitor Alerts specific information,<br>• "kcs" - Kernel Cluster Services information for a node,<br>• "av" - Antivirus specific information for a node,<br>• "vserver_dr" - Vserver disaster recovery,<br>• "nwd" - Node Watchdog specific information for a node,<br>• "vscan" - Vscan specific information for a node,<br>• "san_ffdc" - SAN specific trace dumps for a node,<br>• "cluster_peer" - Cluster peering specific dumps for a node,<br>• "crs" - Config Replication Service information,<br>• "cps" - Cluster Persistency Storage information,<br>• "memevt" - MemEVT gathered data from a node,<br>• "san_fcp" - FCP target driver related information for a node,<br>• "ndmp" - NDMP information,<br>• "ndu" - NDU specific information,<br>• "name_services" - Name Services specific information,<br>• "san_vdom" - SAN VDOM specific information for a node,<br>• "snaplock" - SnapLock specific information for a node,<br>• "key_manager" - Key Manager specific information,<br>• "appdm" - Application DM,<br>• "corefile" - Corefile to upload,<br>• "flexcache" - FlexCache,<br>• "nvmf" - NVMF specific information,<br>• "snapshot" - Snapshots specific information, |

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| | | | "rdma" - RDMA driver and OFED layer specific information,<br>• "ndo" - NDO specific information,<br>• "metroclustertcp" - MetroCluster TCP specific information for a node,<br>• "metroclusterstats" - MetroCluster statistics for data analytics,<br>• "object_store_server" - Object store server specific information for a node,<br>• "storage_stats" - Storage statistics for data analytics,<br>• "ipsec" - IPsec specific information,<br>• "hm_switch" - Ethernet switch health monitoring information,<br>• "arw" - Anti-ransomware specific information,<br>• "svm_migrate" - Vserver migrate information,<br>• "nic" - NIC driver specific information,<br>• "splog_full" - Full SPLOG Collection from Service-Processor |

## Element definition: **compression-format**

[top]

7z|tgz Possible values:

- "7z" - 7-Zip Archive,
- "tgz" - Zipped Tarball

[none]

## Element definition: **mail-address**

[top]

E-mail Address

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **aod-download**

[top]

aod_download Possible values:

- "licensing" - Download licenses for a node or cluster

[none]

## Element definition: **aod-download-status**

[top]

aod_download_status Possible values:

- "initialized" - Download request is ready to be transmitted to the AutoSupport OnDemand server,
- "request_failed" - Download request could not be transmitted,
- "not_supported" - Download request type is not known by the AutoSupport OnDemand server,
- "transferring" - Requested data is being downloaded,
- "completed" - Download has completed successfully,
- "cancelled" - Download was cancelled,
- "failed" - Download failed to complete

[none]

## Element definition: **asup-check-status**

[top]

ok|warning|failed|not-run Possible values:

- "ok" - The Status of the AutoSupport check is ok.,
- "warning" - Please verify the intended behavior.,
- "failed" - AutoSupport check failed.,
- "not_run" - AutoSupport check could not be run.

[none]

## Element definition: **asup-content-type**

[top]

Type of AutoSupport content Possible values:

- "basic" - ASUP will contain minimal set of data for this subsystem,
- "troubleshooting" - ASUP will contain detailed collection of data for this subsystem,
- "diagnostic" - ASUP will contain diagnostic data for this subsystem

[none]

## Element definition: **asup-destination**

[top]

smtp|http|noteto|retransmit Possible values:

- "smtp" - Transmitted via SMTP,
- "http" - Transmitted via HTTP or HTTPS,
- "noteto" - (DEPRECATED) noteto destination,
- "retransmit" - Transmitted to a specified URI destination

[none]

## Element definition: **asup-manifest-status**

[top]

AutoSupport manifest collection status Possible values:

- "requested" - ASUP request has been added to the queue and is waiting processing by the collector,
- "working" - ASUP Collector is actively gathering the needed data,
- "file_not_found" - ASUP collection failed, a needed file is missing,
- "no_such_table" - ASUP collection was unable to find the requested SMF table,
- "collection_truncated_size_limit" - ASUP collection truncated due to size limits and partial data is available,
- "collection_skipped_size_limit" - ASUP collection skipped due to size limits and no data is available,
- "collection_truncated_time_limit" - ASUP collection truncated due to time limits and partial data is available,
- "collection_skipped_time_limit" - ASUP collection skipped due to time limits and no data is available,
- "delivery_skipped_size_limit" - ASUP data was skipped at delivery time due to size limits,
- "general_error" - ASUP collection failed, additional information if any will be in the Error String field,
- "completed" - ASUP collection is complete, ready for delivery,
- "content_not_collected_mode" - ASUP content was not collected, incompatible operational mode,
- "content_not_collected_precheck" - ASUP content was not collected, pre-check function violation,
- "content_not_collected_privacy" - ASUP content was not collected, the operation is disabled in privacy mode,
- "content_empty" - ASUP content was collected successfully, but output was empty,
- "collection_aborted" - ASUP collection aborted, additional information if any, will be in available in the Error field,
- "collection_truncated_file_size_limit" - ASUP file truncated due to size limits and partial data is available,
- "collection_skipped_trigger_time_limit" - ASUP collection was skipped due to trigger time limit,
- "collection_incomplete" - ASUP content collection incomplete,
- "collection_skipped_trigger_size_limit" - ASUP collection was skipped due to trigger size limit,
- "collection_truncated_age" - ASUP file truncated due to age and partial data is available

[none]

# Element definition: **asup-status**

[top]

AutoSupport general status Possible values:

- "initializing" - ASUP request is being processed,
- "collection_failed" - The AutoSupport Collection failed. See 'Last Error' for more information,
- "collection_in_progress" - The AutoSupport Collection is in progress,
- "queued" - ASUP is queued for delivery,
- "transmitting" - ASUP transmission is in progress,
- "sent_successful" - ASUP was successfully sent,
- "ignore" - ASUP was processed successfully but has no destinations configured,
- "re_queued" - ASUP transmission failed and has been re-queued,
- "transmission_failed" - ASUP transmission has failed and the retry limit has been exceeded,
- "ondemand_ignore" - ASUP was processed successfully but ASUP OnDemand has declined delivery,
- "cancelled" - ASUP transmission cancelled

[none]

# Element definition: **asup-subsystems**

[top]

subsys1,subsys2,... Possible values:

- "platform" - Hardware information about the node,
- "mhost" - User Space application information for a node,
- "log_files" - Log files for a node,
- "performance" - Performance statistics for a node (event and weekly),
- "performance_asup" - Performance statistics for a node (hourly),
- "nht" - This subsystem gathers the /mroot/etc/log/nht_info content,
- "san" - SAN specific information for a node,
- "snapvault" - SnapVault specific information for a node,
- "snapmirror" - Snapmirror specific information for a node,
- "dedupe" - Dedupe specific information for a node,
- "nfs" - NFS specific information for a node,
- "wafl" - WAFL specific information for a node,
- "mot" - MOT specific information for a node,
- "ha" - HA specific information for a node,
- "networking" - Networking specific information for a node,
- "cifs" - CIFS specific information for a node,
- "fpolicy" - Fpolicy specific information for a node,
- "multistore" - Multistore specific information for a node,
- "raid" - RAID specific information for a node,
- "storage" - Storage specific information for a node,
- "asup_ems" - ASUP EMS specific information for a node,
- "tape" - Tape specific information for a node,
- "kernel" - kernel specific information for a node,
- "secd" - Security Daemon specific information for a node,
- "metrocluster" - Metrocluster specific information for a node,
- "mandatory" - Mandatory Basic information for a node,
- "repository" - Repository specific information for a node,
- "splog_downcontroller" - Service Processor log saved when ONTAP is down abnormally,
- "splog_latest" - Up-to-date Service Processor log from Service Processor firmware ,
- "splog_before_spreboot" - Up-to-date Service Processor log from Service Processor firmware before SP reboot,

- "splog_rnode_down" - Remote SPLOG saved when ONTAP is abnormal down,
- "splog_rnode_latest" - Up-to-date SPLOG from Remote Service Processor FW,
- "splog_rnode" - On demand collected remote SP logs,
- "hm" - Health Monitor Alerts specific information,
- "kcs" - Kernel Cluster Services information for a node,
- "av" - Antivirus specific information for a node,
- "vserver_dr" - Vserver disaster recovery,
- "nwd" - Node Watchdog specific information for a node,
- "vscan" - Vscan specific information for a node,
- "san_ffdc" - SAN specific trace dumps for a node,
- "cluster_peer" - Cluster peering specific dumps for a node,
- "crs" - Config Replication Service information,
- "cps" - Cluster Persistency Storage information,
- "memevt" - MemEVT gathered data from a node,
- "san_fcp" - FCP target driver related information for a node,
- "ndmp" - NDMP information,
- "ndu" - NDU specific information,
- "name_services" - Name Services specific information,
- "san_vdom" - SAN VDOM specific information for a node,
- "snaplock" - SnapLock specific information for a node,
- "key_manager" - Key Manager specific information,
- "appdm" - Application DM,
- "corefile" - Corefile to upload,
- "flexcache" - FlexCache,
- "nvmf" - NVMF specific information,
- "snapshot" - Snapshots specific information,
- "rdma" - RDMA driver and OFED layer specific information,
- "ndo" - NDO specific information,
- "metroclustertcp" - MetroCluster TCP specific information for a node,
- "metroclusterstats" - MetroCluster statistics for data analytics,
- "object_store_server" - Object store server specific information for a node,
- "storage_stats" - Storage statistics for data analytics,
- "ipsec" - IPsec specific information,
- "hm_switch" - Ethernet switch health monitoring information,
- "arw" - Anti-ransomware specific information,
- "svm_migrate" - Vserver migrate information,
- "nic" - NIC driver specific information,
- "splog_full" - Full SPLOG Collection from Service-Processor

[none]

# Element definition: **asup-transport**

[top]

smtp|http|https Possible values:

- "smtp" ,
- "http" ,
- "https"

[none]

# Element definition: **autosupport-cmd-tgt**

[top]

Execution domain of AutoSupport content Possible values:

- "bsd" - Command executed by BSD,
- "smf_table" - Command selects SMF table,
- "file" - Command indicates file to collect,
- "dblade" - Collect from dbladecli,
- "dblade_file" - Collect a file from dblade. Could be partner file,
- "zapi_xml" - Response in XML format,
- "custom_fx" - Collect custom function output file

[none]

# Element definition: **autosupport-config-info**

[top]

AutoSupport configuration data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **from** | | mail-address optional | The e-mail address of the local administrator, used as the sender of the AutoSupport message. To generate node-specific 'from' addresses, use the 'node-specific-from' (privilege: advanced) parameter. Attributes: non-creatable, modifiable |
| **is-enabled** | | boolean optional | Specifies whether the AutoSupport daemon is enabled. When this setting is disabled, delivery of all AutoSupport messages is turned off. Attributes: non-creatable, modifiable |
| **is-local-collection-enabled** | | boolean optional | Used to enable / disable collection of AutoSupport data when the AutoSupport daemon is disabled. When this setting is true, collection of AutoSupport data will still be done if is-enabled is false. Attributes: non-creatable, modifiable |
| **is-nht-data-enabled** | | boolean optional | Used to enable / disable collection of disk health data. Attributes: non-creatable, modifiable |
| **is-node-in-subject** | | boolean optional | Specifies whether the filer's hostname should be part of an AutoSupport message's subject field. Attributes: non-creatable, modifiable |
| **is-ondemand-download-enabled** | | boolean optional | Specifies whether the AutoSupport OnDemand Download feature is enabled. Default is true. Attributes: non-creatable, modifiable |
| **is-ondemand-enabled** | | boolean optional | Specifies whether AutoSupport OnDemand is enabled. Default is true. Attributes: non-creatable, modifiable |
| **is-ondemand-** | | boolean | Specifies whether the AutoSupport OnDemand Remote |

| | | | |
|---|---|---|---|
| **remote-diag-enabled** | | optional | Diagnostics feature is enabled. Default is true. Attributes: non-creatable, modifiable |
| **is-perf-data-enabled** | | boolean optional | Used to enable / disable collection of Performance AutoSupport data. Attributes: non-creatable, modifiable |
| **is-private-data-removed** | | boolean optional | Used to enable / disable removal of customer-supplied data. Attributes: non-creatable, modifiable |
| **is-reminder-enabled** | | boolean optional | Specifies whether to enable / disable AutoSupport reminders. Attributes: non-creatable, modifiable |
| **is-support-enabled** | | boolean optional | Specifies whether AutoSupport notification to technical support is enabled. Attributes: non-creatable, modifiable |
| **is-throttle-enabled** | | boolean optional | Specifies whether to enable / disable throttling to prevent a potential avalanche of AutoSupport messages. Attributes: non-creatable, modifiable |
| **last-subject** | | string optional | The subject field of the last generated AutoSupport message. Attributes: non-creatable, non-modifiable |
| **last-timestamp** | **[0..2^31-1]** | integer optional | The timestamp of the last generated AutoSupport message. The time value is in seconds since January 1, 1970 UTC. Attributes: non-creatable, non-modifiable |
| **mail-hosts** | | string[] optional | The name of the mail server(s) used to deliver AutoSupport messages via SMTP. Both host names and IP addresses may be used as valid input. One can optionally specify a username/password for authentication with the mailserver(rfc4954). Attributes: non-creatable, modifiable |
| **max-download-rate** | **[0..2^63-1]** | integer optional | Maximum download rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or in the range 20480 (20KBps)- 10737418240 (10GBps). Attributes: non-creatable, modifiable |
| **max-http-size** | **[0..2^63-1]** | integer optional | Delivery size limit for the HTTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB). Attributes: non-creatable, modifiable |
| **max-smtp-size** | **[0..2^63-1]** | integer optional | Delivery size limit for the SMTP transport protocol (in bytes). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 2097152 (2MB). Attributes: non-creatable, modifiable |
| **max-upload-rate** | **[0..2^63-1]** | integer optional | Maximum upload rate (in bytes per second). As of Data ONTAP 8.3.1, this value should be either 0 (for unlimited) or greater than or equal to 20480 (20KBps). Attributes: non-creatable, modifiable |
| **minimum-private-data-length** | **[2..1024]** | integer optional | Minimum Length for Sensitive Data Attributes: non-creatable, modifiable |
| **node-name** | | string optional | The name of the filer that owns the AutoSupport configuration. Attributes: key, non-creatable, non-modifiable |
| **node-specific-from** | | boolean optional | Specifies whether to generate a node-specific 'from' address by prepending the node name to the 'from' email address. Default is false. Attributes: non-creatable, modifiable |
| **noteto** | | mail-address[] optional | (DEPRECATED) Specifies up to five recipients of short AutoSupport e-mail messages. Attributes: non-creatable, modifiable |
| **ondemand-** | **[0..2^32-** | integer | The AutoSupport OnDemand Client polling rate in minutes. As of |

| | | | |
|---|---|---|---|
| **polling-interval** | **1]** | optional | Data ONTAP 8.3.1, this value should be in the range 5-2880. Attributes: non-creatable, modifiable |
| **ondemand-server-url** | | string optional | The AutoSupport OnDemand Server URL. Attributes: non-creatable, modifiable |
| **partner-address** | | mail-address[] optional | Specifies up to five partner vendor recipients of full AutoSupport e-mail messages. Attributes: non-creatable, modifiable |
| **payload-format** | | compression-format optional | The format used to compress the AutoSupport message payload. Attributes: non-creatable, modifiable Possible values:<br>• "7z" - 7-Zip Archive,<br>• "tgz" - Zipped Tarball |
| **periodic-tx-window** | | string optional | The transmission window (seconds). Attributes: non-creatable, modifiable |
| **post-url** | | string optional | The URL used to deliver AutoSupport messages via HTTP POST. Attributes: non-creatable, modifiable |
| **proxy-url** | | string optional | Optional proxy host for AutoSupport message delivery via HTTP. Attributes: non-creatable, modifiable |
| **put-url** | | string optional | The URL used to deliver AutoSupport messages via HTTP PUT. Attributes: non-creatable, modifiable |
| **retry-count** | **[0..2^32-1]** | integer optional | The maximum number of delivery attempts for an AutoSupport message. As of Data ONTAP 8.3.1, this value should be in the range 5-30. Attributes: non-creatable, modifiable |
| **retry-interval** | | string optional | The number of seconds to wait, after a failed delivery attempt, prior to re-transmitting an AutoSupport message. Attributes: non-creatable, modifiable |
| **support-address** | | mail-address[] optional | The e-mail address of Support. Attributes: non-creatable, modifiable |
| **to** | | mail-address[] optional | Specifies up to five recipients of full AutoSupport e-mail messages. Attributes: non-creatable, modifiable |
| **transport** | | asup-transport optional | The name of the transport protocol used to deliver AutoSupport messages. Attributes: non-creatable, modifiable Possible values:<br>• "smtp" ,<br>• "http" ,<br>• "https" |
| **validate-digital-certificate** | | boolean optional | Validate Digital Certificate Received Attributes: non-creatable, modifiable |

# Element definition: **byte-rate**

[top]

Bytes per second Range : [0..2^63-1].

[none]

# Element definition: **compression-format**

[top]

7z|tgz Possible values:

- "7z" - 7-Zip Archive,
- "tgz" - Zipped Tarball

[none]

## Element definition: **mail-address**

[top]

E-mail Address

[none]

## Element definition: **seqnum**

[top]

Reverse-ordered Integer Range : [0..2^64-1].

[none]

## Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

## Element definition: **asup-transport**

[top]

smtp|http|https Possible values:

- "smtp" ,
- "http" ,
- "https"

[none]

# APIs in Category: **cf**


cf-aggregate-giveback-status
cf-force-takeover
cf-get-iter
cf-get-partner
cf-giveback
cf-hwassist-stats
cf-hwassist-stats-clear
cf-hwassist-status
cf-hwassist-test
cf-mode-set
cf-modify-iter
cf-negotiated-failover-disable
cf-negotiated-failover-enable
cf-negotiated-failover-status
cf-service-disable
cf-service-enable
cf-status
cf-takeover
cf-takeover-status


## cf-aggregate-giveback-status

[top]

Returns giveback status of all the aggregates in the cluster which are taken over or were given back.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cf-aggregate-giveback-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..100]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cf-aggregate-giveback-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cf object. All cf objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cf-aggregate-giveback-info[] | The list of attributes of cf objects. |

| | | | |
|---|---|---|---|
| | | optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cf objects to return. |
| **num-records** | **[0..100]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cf-force-takeover

[top]

Forces one filer to take over its partner even though the filer detects an error that would otherwise prevent a takeover. For example, normally, if a detached or faulty interconnect cable between the filers causes the filers' NVRAM contents to be unsynchronized, takeover is disabled. However, this will allow the filer to take over its partner despite the unsynchronized NVRAM contents. cf-force-takeover is dangerous and can lead to data corruption; in almost all cases, use cf-takeover instead.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disaster** | | boolean optional | When set to true, forces a filer to take over its partner in all cases where a force-takeover would. In addition it will force a takeover even if some partner mailbox disks are inaccessible. It can only be used when remotesyncmirror is licensed. This option is very dangerous. Not only can it cause data corruption, if not used carefully, it can also lead to a situation where both the filer and it's partner are operational (split brain). As such, it should only be used as a means of last resort when the takeover and force-takeover operations are unsuccessful in achieving a takeover. The operator must ensure that the partner filer does not become operational at any time while a filer is in a takeover mode initiated by the use of this operation. In conjunction with RAID mirroring, it can allow recovery from a disaster when the two filers are setup in a MetroCluster configuration. |
| **node** | | string | This parameter is the name of the node which is doing a takeover of its partner. |

| Errno | Description |
|---|---|
| **ETAKEOVERINPROGRESS** | |
| **ESENDHOMEINPROGRESS** | |
| **EVERSIONMISMATCH** | |
| **EMBOXDEGRADED** | |
| **EBADOPTIONS** | |
| **EWAITINGFORPARTNER** | |
| **ENOTHALTED** | |
| **ENODENOTFOUND** | |
| **EINTERNALERROR** | |

# cf-get-iter

[top]

Iterate over a list of cf objects.

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-failover-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-failover-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cf object. All cf objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-failover-info[] optional | The list of attributes of cf objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cf objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cf-get-partner

[top]

Get the host name of the partner. If the name is unknown, It will return partner-unknown.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | The node name is passed as an argument |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **partner** | | string | Host name of the partner or partner-unknown, if the host name is not known. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# cf-giveback

[top]

Initiates a giveback of partner resources. Once the giveback is complete, the automatic takeover capability is disabled until the partner is rebooted. A giveback fails if outstanding CIFS sessions, active system dump processes, or other filer operations makes a giveback dangerous or disruptive.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | When set to true, this allows a giveback to proceed even if there are outstanding CIFS sessions, active system dump processes, or other filer operations which makes a giveback dangerous or disruptive as long as it would not result in data corruption or filer error. When set to false, this does not allow a giveback to proceed if there are outstanding CIFS sessions, active system dump processes, or other filer operations which makes a giveback dangerous or disruptive. The default value is false. |
| **node** | | string | This parameter is the name of the node which performs giveback to its partner. |
| **only-cfo-aggregates** | | boolean optional | When set to true, only the CFO HA-style aggregates (which includes the root aggregate) will be given back. This may be needed in the case when the partner node's VLDB and other such management applications are not properly working (they are required to be online for the SFO HA-style aggregates to start serving data), so it might not be possible to giveback SFO HA-style aggregates. When set to false, all the aggregates (CFO HA-style aggregates + SFO HA-style aggregates) will be given back. The default value is false. |
| **override-vetoes** | | boolean optional | Some conditions cause attempts to giveback aggregates to be vetoed. When set to true, this allows the process of giveback of the aggregates to be initiated even in the face of such vetoes. When set to false, this does not allow the process of giveback of the aggregates to proceed if there are any vetoes. The default value is false. |
| **require-partner-waiting** | | boolean optional | When set to true, this ensures that the process of giveback of the aggregates is not initiated if the partner is not up and waiting to receive them. When set to false, this allows the process of giveback of the aggregates to proceed even if the partner is not up and waiting to receive them. The default value is true. |

| Errno | Description |
|---|---|
| **EPARTNERNOTWAITING** | |
| **ENOAGGRS** | |
| **ESENDHOMEINPROGRESS** | |
| **ETAKEOVERINPROGRESS** | |
| **EHALTING** | |
| **ENOPARTNERINVENTORY** | |
| **EPARTNERMISSINGDISKS** | |
| **ENODENOTFOUND** | |
| **EINTERNALERROR** | |
| **EPARTNERTRYINGTAKEOVER** | |
| **E_ARL_IN_PROGRESS** | |

# cf-hwassist-stats

[top]

Get useful information about statistics of hardware assisted takeover functionality.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Node name of the filer for which the API is requested. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **hwassist-stats-abnormal-reboot** | | string optional | Number of abnormal_reboot alerts received |
| **hwassist-stats-bad-nvram-id** | | string optional | Number of bad NVRAM id alerts received |
| **hwassist-stats-dimm-uecc-error** | | string optional | Number of dimm_uecc_error alerts received |
| **hwassist-stats-keep-alive** | | string optional | Number of keep_alive alerts received |
| **hwassist-stats-loss-of-heartbeat** | | string optional | Number of loss_of_heartbeat alerts received |
| **hwassist-stats-post-error** | | string optional | Number of post_error alerts received |
| **hwassist-stats-power-cycle-via-rlm** | | string optional | Number of power_cycle_via_rlm alerts received |
| **hwassist-stats-power-cycle-via-sp** | | string optional | Number of power_cycle_via_sp alerts received |
| **hwassist-stats-power-loss** | | string optional | Number of power_loss alerts received |
| **hwassist-stats-power-off-via-rlm** | | string optional | Number of power_off_via_rlm alerts received |
| **hwassist-stats-power-off-via-sp** | | string optional | Number of power off alerts received from service processor (power_off_via_sp alert). |
| **hwassist-stats-reset-via-rlm** | | string optional | Number of reset_via_rlm alerts received |
| **hwassist-stats-reset-via-sp** | | string optional | Number of reset_via_sp alerts received |
| **hwassist-stats-ss-mismatch** | | string optional | Number of shared secret key mismatch alerts received |
| **hwassist-stats-test** | | string optional | Number of test alerts received |
| **hwassist-stats-times-throttled** | | string optional | Number of times hardware assist alerts were throttled. Alerts are throttled when too many are received in a short interval. |
| **hwassist-stats-unknown-alerts** | | string optional | Number of unknown alerts received |
| **hwassist-stats-watchdog-reset** | | string optional | Number of l2_watchdog_reset alerts received |
| **no-stats** | | string optional | If no hardware assist statistics are available, this is set to "Cannot determine hwassist stats". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cf-hwassist-stats-clear

[top]

Get useful information about stats of hw_assist functionality.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **node** | | string | Node name of the filer for which the API is requested. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cf-hwassist-status

[top]

Get useful information about the status of hw_assist functionality.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Node name of the filer for which the API is requested. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **keep-alive-status** | | string optional | Possible values are:<br>• healthy<br>• missed_keep_alive_alerts |
| **local-hwassist-inactive-corrective-action** | | string optional | Indicates the corrective action if status is inactive. |
| **local-hwassist-inactive-reason** | | string optional | Indicates the reason if status is inactive. |
| **local-hwassist-ipaddr** | | string optional | If set, Ip address; 0.0.0.0 otherwise |
| **local-hwassist-port** | | integer optional | If set, port; 0 otherwise |
| **local-hwassist-status** | | string optional | Local node hw_assist status<br>Possible values are:<br>• active: If functionality is active.<br>• inactive: If functionality is inactive |
| **no-status** | | string optional | Set if no hw_assist status is avaliable. Either this or the remaining fields will be set,hence they are optional. |
| **partner-hwassist-inactive-corrective-action** | | string optional | Indicates the corrective action if status is inactive. |
| **partner-hwassist-inactive-reason** | | string optional | Indicates the reason if status is inactive. |
| **partner-hwassist-ipaddr** | | string optional | If set, Ip address, 0.0.0.0 otherwise |
| **partner-hwassist-port** | | integer optional | If set, current port, 0 otherwise |
| **partner-hwassist-status** | | string optional | partner node hw_assist status<br>Possible values are:<br>• active: If functionality is active.<br>• inactive: If functionality is inactive |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cf-hwassist-test

[top]

Validates the hardware-assisted takeover configuration. functionality.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Node name of the filer for which the API is requested. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **hwassist-test-result** | | string | This string corresponds to the result of the test. The possible outcomes are: Hwassist is not initialized No hw_assist hardware found. Partner is throttling alerts. Resource busy. Try again after some time. Hwassist hardware returned error. No response from partner. Timed out. Unexpected abort. Partner has taken over. Interconnect is down between nodes. Make sure partner is booted up.Run 'storage failover hwassist show' for details. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cf-mode-set

[top]

Enable or disable the high-availability (HA) for this node. A reboot of the node is required for the HA mode to become effective.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **mode** | | string | HA mode.<br><br>Possible values:<br><br>• 'ha' - Enable high-availability(HA). After HA is enabled, giveback and and takeover are available.<br>• 'non_ha' - Disable high-availability(HA). After HA is disabled, the giveback and takeover are not available. Note that changing the mode to non_ha requires disabling the takeover facility by calling cf-service-disable. |
| **node** | | node-name | Node name |

| Errno | Description |
|---|---|
| **ESERVICEENABLED** | |
| **EINTAKEOVER** | |
| **EINTERNALERROR** | |

# cf-modify-iter

[top]

Modify the attributes of cf or a group of cf objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | options-related-info-modify | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple cf objects match a given query. If set to true, the API will continue modifying the next matching cf even when modification of a previous cf fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching cf even when the modification of a previous matching cf fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | options-related-info-modify | If modifying a specific cf, this input element must specify all keys. If modifying cf objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of cf objects (just keys) that were not modified due to some error. If set to false, the list of cf objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of cf objects (just keys) that were successfully updated. If set to false, the list of cf objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | cf-modify-iter-info[] optional | Information about cf objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching cf objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of cf objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of cf objects that matched the query and were successfully updated. |
| **success-list** | | cf-modify-iter-info[] optional | The cf objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

# cf-negotiated-failover-disable

[top]

Disables negotiated failover. disk_shelf is the negotiated failover module currently supported.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| module | | string | Module currently supported is 'disk_shelf'. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

# cf-negotiated-failover-enable

[top]

Enables negotiated failover. disk_shelf is the negotiated failover module currently supported.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| module | | string | Module currently supported is 'disk_shelf'. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

# cf-negotiated-failover-status

[top]

Returns the status of the negotiated failover module. Negotiated failover is a general facility which supports negotiated failover on the basis of decisions made by various modules.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| module | | string | Module currently supported is 'disk_shelf' |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| is-enabled | | boolean | True, if storage failover for this module is enabled, false otherwise. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

# cf-service-disable

[top]

Disables the takeover capability of this filer in the cluster.

| | | | |
| --- | --- | --- | --- |

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | This parameter is the name of the node on which service is to be disabled |

| Errno | Description |
|---|---|
| **ESERVICENOTINITIALIZED** | |
| **ESERVICENOTLICENSED** | |
| **ESERVICENOTENABLED** | |
| **EREVERTINPROGRESS** | |
| **EINTERNALERROR** | |

# cf-service-enable

[top]

Enables the takeover capability of this filer in the cluster. This spawns a process to enable the service

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | This parameter is the name of the node on which service is to be enabled |

| Errno | Description |
|---|---|
| **ESERVICENOTINITIALIZED** | |
| **ESERVICEENABLED** | |
| **EREVERTINPROGRESS** | |
| **EMBOXUNKNOWN** | |
| **EINTERNALERROR** | |

# cf-status

[top]

Get useful information about the status of the high availability service. If the monitor is not initialized, this returns an error.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | This parameter is the name of the node for which High Availability service status is being requested |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **backup-io-times** | | mailbox-io-times-info optional | Backup mailbox IO times. Not returned if state is "waiting_for_root_aggr". |
| **backup-mailbox-status** | | mailbox-status-info[] optional | Backup mailbox status information, represented as a list of strings. Not returned if state is "waiting_for_root_aggr". |
| **booting-received** | | integer | time booting notification received, in milliseconds. |
| **control-partner-** | | boolean | True, if we control one or more partner aggregates. |

| | | | |
|---|---|---|---|
| **aggregates** | | | |
| **current-giveback-module** | | string optional | The current module giveback process is in |
| **current-mode** | | string optional | Current HA mode |
| **current-resource-table-entry** | | string optional | If we're doing takeover processing, the name of the current entry in the resource table. |
| **current-resource-table-entry-index** | | integer optional | If we're doing takeover processing, the index of the current entry in the resource table. |
| **current-takeover-module** | | string optional | The current module takeover process is in. e.g. WAFL |
| **current-time** | | integer | Current time on the filer |
| **fanta-reloc-aggr-count** | | integer optional | Number of partner homed aggregates owned by local node. |
| **firmware-received** | | integer | time firmware notification received, in milliseconds. |
| **giveback-failure-reason** | | string optional | If a giveback failed this is the reason for the giveback failure. Possible values are:<br>• aggr_relocation_in_progress - aggregate relocation is in progress<br>• shutdown_in_progress - shutdown is in progress<br>• testpoint - a giveback failure was simulated with a testpoint<br>• cannot_giveback_partner_subsystem - node failed to giveback one of partner's subsystems<br>• bck_mbx_update_error - node could not update its backup mailbox<br>• disaster_recovery_in_progress - disaster recovery operation is in progress<br>• partner_disaster_recovery_in_progress - disaster recovery operation is in progress on the partner node |
| | | | Giveback state of the node. Possible values are:<br>• nothing_to_gb - No partner aggregates owned by local node<br>• not_attempted_yet - Local node owns partner aggregates and a giveback has not been attempted yet<br>• giveback_in_progress - Giveback is in progress. Refer to current-giveback-module field to get the current module, the giveback process is in.<br>• giveback_failed_autogiveback_disabled - Previous giveback failed and auto giveback is disabled. Refer to current-giveback-module to get the module in which giveback process failed.<br>• giveback_failed_autogiveback_scheduled - Previous giveback failed and an auto giveback is scheduled. Refer to current-giveback-module to get the module in which giveback process failed. Refer time-until-autogiveback field to check time remaining before an auto giveback is initiated.<br>• previous_giveback_failed - Previous giveback failed. Refer to current-giveback-module to get the module in which giveback process failed.<br>• giveback_vetoed_no_di - Normal giveback not possible as |

| | | | |
|---|---|---|---|
| **giveback-state** | | string optional | disk inventory from partner has not yet been received<br>• giveback_vetoed_missing_disks - Normal giveback not possible as the partner is missing some of its files system disks<br>• autogiveback_scheduled - An auto giveback is scheduled Refer time-until-autogiveback field to check time remaining before an auto giveback is initiated.<br>• autogiveback_deferred - Auto giveback is deferred because the partner node was not ready to receive aggregates when the auto giveback timer expired. An auto giveback will be initiated as soon as the partner node is up and ready to receive aggregates.<br>• node_upgrade_in_progress - Local node owns partner's aggregates as part of node upgrade process<br>• sfo_aggr_giveback_failed - Giveback of SFO aggregates failed. Call cf-aggregate-giveback-status API for more information regarding giveback failure.<br>• sfo_aggr_giveback_in_progress - Giveback of SFO aggregates is in progress. Call cf-aggregate-giveback-status API for more information regarding giveback status.<br>• partial_giveback - Local node owns partner SFO aggregates<br>• partner_spare_disks_giveback_pending - Local node owns partner's spare disks |
| **ha-type** | | string optional | HA type Possible values are:<br>• none - None<br>• shared_storage - Shared storage HA configuration<br>• non_shared_storage - Non-shared storage HA configuration<br>***** typedefs ***** |
| **interconnect-links** | | string optional | States of the individual interconnect links e.g. VIA Interconnect is down (link 0 down, link 1 down) VIA Interconnect is up (link 0 down, link 1 up) VIA Interconnect is up (link 0 up, link 1 down) |
| **interconnect-type** | | string optional | Type and Vendor of the interconnect e.g. Infiniband (Mellanox Sinai) FCVI (Qlogic 2462) |
| **is-enabled** | | boolean | True, if the storage failover facility is enabled, false otherwise. Note that the facility can be enabled but takeover may not be possible due to various reason. |
| **is-interconnect-up** | | boolean | True, if high availability interconnect is up |
| **kill-packets** | | boolean | True, if we issue ic kill messages during takeover. |
| **local-firmware-progress** | | integer optional | A counter to indicate that the local node is progressing in the current firmware state The range of possible values is [0..2^31-1] |
| | | | Local firmware state that will be communicated through interconnect to the partner<br>• SF_OPERATOR_EXIT - operator completed<br>• SF_DEBUG_EXIT - debugger completed<br>• SF_PROGRESS - progress counter<br>• SF_IOERROR - I/O error<br>• SF_BADCKSUM - bad checksum<br>• SF_RESERVED - reserved<br>• SF_UNKNOWN - unknown<br>• SF_OPEN - initializing<br>• SF_POST - in power-on self test<br>• SF_BOOTING - booting |

| | | | |
|---|---|---|---|
| **local-firmware-state** | | string optional | • SF_FAIL - boot failed<br>• SF_WAITING - waiting<br>• SF_OS_BOOTED - kernel loaded<br>• SF_UP - up<br>• SF_DEBUG - in debugger<br>• SF_OPERATOR - waiting for operator input<br>• SF_DUMPCORE - dumping core<br>• SF_HALT - halted<br>• SF_REBOOT - rebooting<br>• SF_GIVEWAIT - waiting for giveback<br>• SF_MBWAIT - waiting for HA mailbox release<br>• SF_SPARECORE - dumping sparecore and ready to be taken-over<br>• SF_MDP - multi-disk panic<br>• SF_TO - in takeover<br>• SF_NOTO - takeover disabled<br>• SF_CLUSTERWAIT - waiting for cluster apps |
| **local-in-headswap** | | boolean optional | True, if the local node is being replaced by a new node. |
| **local-mailbox-disks** | | sf-disk-info[] optional | List of local mailbox disks. Not returned if state is "waiting_for_root_aggr". |
| **local-missing-disks** | | sf-disk-info[] optional | List of disks that the local node is missing but the partner node is able to view. |
| **logs-unsynced-count** | | integer | Number of times the log was unsynchronized. |
| **max-resource-table-index** | | integer optional | The maximum resource table index. |
| **mode** | | string optional | High-availability (HA) mode for this node Possible values:<br>• 'ha' - High-availability is enabled.<br>• 'non_ha' - High-availability is disabled. |
| **name** | | string | Hostname of the dblade. |
| **new-partner-sysid** | **[0..2^32-1]** | integer optional | The new partner system ID recieved via HA interconnect. The value is zero if partner is not in headswap. |
| | | | State of the storage failover of the node. Possible values are:<br>• connected - Partner is available for takeover<br>• takeover_scheduled - Partner is down and takeover is scheduled<br>• takeover_started - Takeover process has begun<br>• takeover - Currently controlling partner's resources.<br>• takeover_failed - Failed to takeover the partner<br>• giveback_partial_waiting - This node controls partner aggregates even though the node is not in takeover. And we're waiting for a connection to the partner.<br>• giveback_partial_connected - This node controls partner aggregates even though the node is not in takeover. The partner is available to receive the aggregates.<br>• waiting_for_root_aggr - Partner is controlling dblade's root aggregate If we're in this state, many other optional fields are not returned.<br>• waiting - Waiting for a connection to partner. Generally happens while partner is rebooting. |

| | | | |
|---|---|---|---|
| **node-state** | | string<br>optional | • in_maintenance_mode - node is in maintenance mode. In the mode it is not possible to determine more detailed information (e.g. takeover or not).<br>• pending_shutdown - starting a takeover/giveback is inhibited due to a pending system shutdown.<br>• relocating_aggrs_before_takeover - node is relocating its SFO aggregates to its partner prior to a negotiated takeover.<br>• sfo_takeover_phase_done - Node is done with the SFO phase of takeover.<br>• sfo_takenover_phase_done - This node has relocated its SFO aggregates to its partner during an optimized negotiated takeover by its partner.<br>• sfo_takeover_phase_aborted - The SFO phase of takeover has been aborted. Refer to takeover-failure-reason field to check the reason.<br>• sfo_takenover_phase_aborted - This node has aborted the relocation of its SFO aggregates to its partner, during an optimized negotiated takeover by its partner.<br>• in_non_HA_mode - Node is not in HA mode<br>• cfo_takeover_failed - CFO phase of takeover failed<br>• sfo_takeover_phase - SFO phase of takeover of partner is in progress<br>• relocated_aggrs_before_takeover - node has relocated its SFO aggregates to its partner prior to a negotiated takeover.<br>• giving_back - Giveback is in progress. Refer to current-giveback-module field to get the current module, the giveback process is in.<br>• giveback_failed_autogiveback_disabled - Previous giveback failed and auto giveback is disabled. Refer to current-giveback-module to get the module in which giveback process failed.<br>• giveback_failed_autogiveback_scheduled - Previous giveback failed and an auto giveback is scheduled. Refer to current-giveback-module to get the module in which giveback process failed.<br>Refer to time-until-autogiveback field to check time remaining before an auto giveback is initiated.<br>• previous_giveback_failed - Previous giveback failed. Refer to current-giveback-module to get the module in which giveback process failed.<br>• takeover_disk_inventory_not_received - Local node is in takeover. A normal giveback is not possible as disk inventory from partner has not yet been received.<br>• takeover_partner_missing_disks - Local node is in takeover. A normal giveback is not possible as the patner is missing some of its file system disks.<br>• takeover_autogiveback_scheduled - Local node in takeover. An auto giveback is scheduled. Refer time-until-autogiveback field to check time remaining before an auto giveback is initiated.<br>• takeover_network_failure - Local node in takeover. The partner was taken over due to network failure.<br>• takeover_autogiveback_deferred - Local node in takeover. Auto giveback is deferred because the partner node was not ready to receive aggregates when the auto giveback timer expired. An auto giveback will be initiated as soon as the partner node is up and ready to receive aggregates.<br>• automatic_takeover_disabled_connected - Automatic takeover is disabled. Local node is connected to partner via HA interconnect. This happens only in debug builds when |

| | | | |
|---|---|---|---|
| | | | raid.panic.missing.disks is turned on from node CLI.<br>• automatic_takeover_disabled_waiting - Automatic takeover is disabled. Local node is waiting for partner node on HA interconnect. This happens only in debug builds when raid.panic.missing.disks is turned on from node CLI.<br>• ndo_upgrade_in_progress - Local node owns partner's aggregates as part of node upgrade process.<br>• own_aggr_non_local_connected - Local node owns aggregates of some other node in the cluster. Local node is connected to partner via HA interconnect. This is possible only during NDO double hop controller upgrade.<br>• own_aggr_non_local_waiting - Local node owns aggregates of some other node in the cluster. Local node is waiting for partner on HA interconnect. This is possible only during NDO double hop controller upgrade.<br>• clusterwait_connected - Connected to partner via HA interconnect. Local node waiting for cluster applications to come online.<br>• clusterwait_waiting - Waiting for partner on HA interconnect. Local node waiting for cluster applications to come online.<br>• dr_op_in_progress - MetroCluster disaster recovery operation is in progress.<br>• error - There is an error with the system<br><br>User have to compare the return values case-insensitively. |
| **nvram-id** | **[0..2^32-1]** | integer | NVRAM identifier |
| **partner** | | string | Hostname of the partner. If the partner is unknown, returns an empty string. |
| **partner-firmware-progress** | | integer optional | A counter to indicate that the partner node is progressing in the current firmware state The range of possible values is [0..2^31-1] |
| **partner-firmware-state** | | string optional | Partner firmware state as communicated by the partner through interconnect<br><br>• SF_OPERATOR_EXIT - operator completed<br>• SF_DEBUG_EXIT - debugger completed<br>• SF_PROGRESS - progress counter<br>• SF_IOERROR - I/O error<br>• SF_BADCKSUM - bad checksum<br>• SF_RESERVED - reserved<br>• SF_UNKNOWN - unknown<br>• SF_OPEN - initializing<br>• SF_POST - in power-on self test<br>• SF_BOOTING - booting<br>• SF_FAIL - boot failed<br>• SF_WAITING - waiting<br>• SF_OS_BOOTED - kernel loaded<br>• SF_UP - up<br>• SF_DEBUG - in debugger<br>• SF_OPERATOR - waiting for operator input<br>• SF_DUMPCORE - dumping core<br>• SF_HALT - halted<br>• SF_REBOOT - rebooting<br>• SF_GIVEWAIT - waiting for giveback<br>• SF_MBWAIT - waiting for HA mailbox release<br>• SF_SPARECORE - dumping sparecore and ready to be taken-over<br>• SF_MDP - multi-disk panic<br>• SF_TO - in takeover |

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|---|---|---|---|
| | | | • SF_NOTO - takeover disabled<br>• SF_CLUSTERWAIT - waiting for cluster apps |
| **partner-in-headswap** | | boolean optional | True, if partner node is being replaced by a new node. |
| **partner-mailbox-disks** | | sf-disk-info[] optional | List of partner mailbox disks as this dblade sees them. Not returned if state is "waiting_for_root_aggr". |
| **partner-missing-disks** | | sf-disk-info[] optional | List of disks that the partner node is missing but the local node is able to view. |
| **partner-name** | | string optional | Hostname of the partner. Not returned if unknown. |
| **partner-nvram-id** | **[0..2^32-1]** | integer optional | Partner NVRAM identifier. Not returned if unknown. |
| **primary-io-times** | | mailbox-io-times-info optional | Primary mailbox IO times. Not returned if state is "waiting_for_root_aggr". |
| **primary-mailbox-status** | | mailbox-status-info[] optional | Primary mailbox statusPrimary mailbox status information, represented as a list of strings. Not returned if state is "waiting_for_root_aggr". |
| **resource-table** | | resource-table-info[] optional | The failover monitor resource table.Pre-rsrctbl information will be prep-ended to this output. |
| **sf-options** | | sf-options-info optional | Options for debugging purpose. The actual interface is via the options mechanism. Not returned if state is "waiting_for_root_aggr". |
| **state** | | string optional | connected - Partner is available for takeover takeover_scheduled - Partner is down and takeover is scheduled takeover_started - Takeover process has begun takeover - Currently controlling partner's resources. taken over - Partner is controlling filer's resources takeover_failed - Failed to takeover the partner sfo_takeover_phase - This node has asked its partner to relocate its SFO aggregates in preparation for takeover. This occurs when a user has initiated an optimized negotiated takeover. relocating_aggrs_before_takeover - This node is relocating its SFO aggregates to its partner during an optimized negotiated takeover by its partner. sfo_takeover_phase_done - This node is done with the SFO phase of an optimized negotiated takeover. sfo_takenover_phase_done - This node has relocated its SFO aggregates to its partner during an optimized negotiated takeover by its partner. sfo_takeover_phase_aborted - The SFO phase of takeover is aborted on this node during an optimized negotiated takeover of its partner. sfo_takenover_phase_aborted - This node has aborted the relocation of its SFO aggregates to its partner, during an optimized negotiated takeover by its partner. giving_back - Sendhome process in progress giveback_partial_waiting - This node controls partner aggregates even though the node is not in takeover. And we're waiting for a connection to the partner. giveback_partial_connected - This node controls partner aggregates even though the node is not in takeover. The partner is available to receive the aggregates. waiting_for_root_aggr - Partner is controlling dblade's root aggregate If we're in this state, many other optional fields are not |

| | | | |
|---|---|---|---|
| | | | returned. waiting - Waiting for a connection to partner. Generally happens while partner is rebooting. in_maintenance_mode - node is in maintenance mode. In the mode it is not possible to determine more detailed information (e.g. takeover or not). pending_shutdown - starting a takeover/sendhome is inhibited due to a pending system shutdown. error - There is an error with the system User have to compare the return values case-insensitively. |
| **takeover-by-partner-not-possible-reason** | | takeover-info[] optional | If takeover by the partner is not possible, list of one or more reasons why. Note that in for non-verbose command output the first reason returned is the one that should be displayed. |
| **takeover-by-partner-possible** | | boolean optional | True, if storage failover takeover is currently possible by the partner, false otherwise. Note that this is the local node's view of partner. |
| **takeover-failure-reason** | | string optional | If state equals "takeover_failed", this is the reason for the takeover failure. Possible values are:<br>• shutdown_in_progress - shutdown is in progress<br>• aggr_relocation_in_progress - aggregate relocation is in progress<br>• giveback_in_progress - giveback is in progress<br>• takeover_in_progress - takeover is in progress<br>• unknown_partner_id - node could not detect its partner's system ID<br>• conflicting_sysid - node has the same system ID as its partner<br>• pri_mbx_update_error - node could not update its primary mailbox<br>• takeover_disabled_by_partner - partner has disabled takeover<br>• cannot_takeover_partner_subsystem - node failed to takeover one of partner's subsystems<br>• non_etc_or_rc_boot - it is not possible to takeover in a non-etc/rc boot<br>• bck_mbx_update_error - node could not update its backup mailbox<br>• partner_taking_over - partner is taking over local node<br>• revert_in_progress - revert is in progress<br>• disaster_recovery_in_progress - disaster recovery operation is in progress<br>• headswap_in_progress - headswap is in progress<br>• destination_check_failed - destination check failed<br>• communication_failed - communication with destination failed<br>• operation_aborted - operation was aborted<br>• aggr_not_online - destination node did not online the aggregate being relocated in time<br>• sfo_disabled - storage failover service is not enabled<br>• partner_taking_over - partner is taking over local node<br>• bdfu_not_disabled_source - failed to disable background disk firmware update (BDFU) on local node<br>• bdfu_not_disabled_dest - failed to disable background disk firmware update (BDFU) on partner node<br>• partner_shutting_down - shutdown is in progress on the partner node<br>• partner_aggr_relocation_in_progress - aggregate relocation is in progress on the partner node<br>• partner_giveback_in_progress - giveback is in progress on the partner node<br>• partner_revert_in_progress - revert is in progress on the |

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|---|---|---|---|
| | | | partner node<br>• partner_disaster_recovery_in_progress - disaster recovery operation is in progress on the partner node<br>• partner_in_headswap - headswap is in progress on the partner node |
| **takeover-of-partner-not-possible-reason** | | takeover-info[] optional | If is-enabled is false, list of one or more reasons why. Note that in for non-verbose command output the first reason returned is the one that should be displayed. |
| **takeover-possible** | | boolean | True, if storage failover takeover is currently possible, false otherwise. |
| **takeover-reason** | | string optional | Reason for triggering a takeover of partner. |
| **takeover-state** | | string optional | Takeover state of the node. Possible values are:<br>• takeover_failed - Takeover Failed<br>• sfo_takeover_in_progress - SFO phase of takeover of partner is in progress<br>• relocating_aggrs_before_takeover - Relocating aggregates to partner as a takeover was initiated by partner<br>• cfo_takeover_scheduled - CFO phase of takeover is scheduled<br>• relocated_aggrs_before_takeover - Relocated aggregates to partner after a takeover was initiated by partner<br>• takeover_by_partner_failed - A takeover attempt by partner failed. Refer to takeover-failure-reason field to check the reason for takeover failure.<br>• in_takeover - Node is in takeover<br>• takeover_started - A takeover is in progress<br>• takeover_scheduled - A takeover of partner is scheduled. Refer to time-until-takeover field to check time remaining till takeover.<br>• not_in_takeover - Local node is not in takeover |
| **time-since-takeover** | | integer optional | Time in milliseconds since the local node has taken over partner. |
| **time-until-auto-giveback** | | integer optional | If state == takeover this is the countdown time in seconds until auto-giveback is started. The range of possible values is [0..2^31-1]. This attribute will be absent on output when the value is 0. |
| **time-until-takeover** | | integer optional | if state == takeover_scheduled, this is the countdown time in seconds until state == takeover_started. |
| **timeouts** | | timeout-info | Various failover monitor timeouts. |
| **transit-event-time** | | integer | Time at which last takeover/giveback event occurred, in milliseconds. |

| Errno | Description |
|---|---|
| **ENODENOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# cf-takeover

[top]

Initiates a takeover of the storage partner. Takeover is done asynchronously; status may be monitored by calling the cf-status API and examining the state field. If automatic giveback is enabled then control will be returned to storage partner once it boots up.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allow-disk-inventory-mismatch** | | boolean optional | This allows takeover if disk inventory information is mismatched for non root volume disks. If mismatched, local node performance could degrade as what appears to be missing disks are rebuilt. NOTE:: When using this option and if some of partner's file system disks are not visible to local node, then after giveback those missing disks can create new failed aggregate with same name. So, if any aggregate is offline after giveback with same name then using "zapi_aggr_destroy", you have to destroy that offline aggregate. |
| **bypass-optimization** | | boolean optional | The bypass-optimization option determines whether or not an optimized negotiated takeover is run. Optimized negotiated takeover refers to the serial relocation of SFO aggregates to the taking over node, prior to a negotiated takeover. This is an optimization because it reduces per-aggregate client outage times. If the bypass-optimization option is set to true, then the takeover optimization is bypassed, and the normal takeover code path is executed. The default value for this option is false. |
| **force** | | boolean optional | It forces a node to take over its storage partner even though the node detects an error that would otherwise prevent a takeover. For example, normally, if a detached or faulty interconnect cable between the nodes(ha pair) causes the nodes NVRAM contents to be unsynchronized, takeover is disabled. However, this will allow the node to take over its storage partner despite the unsynchronized NVRAM contents. cf-force-takeover is dangerous and can lead to data corruption; in almost all cases, use cf-takeover instead. |
| **halt** | | boolean optional | This parameter specifies whether the node being taken over should be halted. If the value is true, then the node being taken over is halted. If the value is false, then the node being taken over is shutdown and might be rebooted if AUTOBOOT is set to true. This parameter defaults to false. |
| **ignore-quorum-warnings** | | boolean optional | This option ignores errors that would be returned due to a takeover of the epsilon node or causing an out of quorum. The default value is `false` and thuse the default behavior is to fail on quorum-warnings. |
| **immediate** | | boolean optional | This causes takeover to be initiated immediately. The taken over node, if up, does not get to shut things down in an orderly manner so the takeover of the resources takes longer. |
| **node** | | string | This parameter is the name of the node which is doing a takeover of its partner. |
| **override-vetoes** | | boolean optional | The override-vetoes option ignores any vetoes occuring as part of a negotiated takeover and allows the takeover operation to continue. The default value is `false` which means the operation fails by default if a veto is encountered. |
| **skip-lif-migration** | | boolean optional | This option results in migration of LIFs to be skipped prior to a takeover. However if LIFs on this node are configured for failover, those LIFs may still failover after the reboot has occurred. The default value is `false` and hence the default behavior is to synchronously migrate data and cluster management LIFs away from the node prior to its takeover. |
| **version-mismatch-ok** | | boolean optional | This allows takeover if the partner was running an incompatible operating system version and was cleanly halted. This option is used for non-disruptive upgrade(NDU). |

| Errno | Description |
|---|---|
| **ETAKEOVERINPROGRESS** | |
| **ESENDHOMEINPROGRESS** | |

| | |
|---|---|
| **EVERSIONMISMATCH** | |
| **EMBOXDEGRADED** | |
| **EBADOPTIONS** | |
| **EWAITINGFORPARTNER** | |
| **ENOTHALTED** | |
| **ENODENOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVENTORYMISMATCH** | |
| **ENOPARTNERINVENTORY** | |
| **EPARTNERTRYINGTAKEOVER** | |
| **E_NODE_NOT_SF_UP** | |
| **EARL_ABORT_FAILED** | |
| **ECIFSACTIVEONPARTNER** | |
| **E_RESET_DEFAULT_IMAGE_TO_TAKEOVER** | |

# cf-takeover-status

[top]

Get the takeover status of a node and the takeover status of all its partner aggregates, for all nodes in a cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | takeover-status optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..100]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | takeover-status optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the aggr object. All aggr objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | takeover-status[] optional | The list of attributes of aggr objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more aggr objects to return. |
| **num-records** | **[0..100]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **ESERVICENOTINITIALIZED** | |
| **EAGGR_MIGRATE_CORE** | |
| **ENOT_SFO_HA_POLICY** | |
| **EAGGR_FAILED_LIMBO** | |
| **EAGGR_MIGRATE_OFFLINE_FAILED** | |
| **EAGGR_MIGRATE_VETO** | |

| | |
|---|---|
| **EAGGR_MIGRATE_HA_MSG_ERR** | |
| **EAGGR_MIGRATE_ONLINE_TIMEOUT** | |
| **EAGGR_MIGRATE_ONLINE_FAILED** | |
| **E_NETRA_CHK_FAILED** | |
| **E_AGGR_MIGRATE_ABORTED** | |
| **E_TKOVR_ABORT_CHK_FAILED** | |
| **EAGGR_MIGRATE_PRECOMMIT_FAILED** | |
| **EAGGR_MIGRATE_RESTRICTED** | |
| **EAGGR_MIGRATE_OFFLINE** | |
| **EAGGR_MIGRATE_FOREIGN** | |
| **ENOT_BOTH_PLEX_ONLINE** | |
| **E_BDFU_FAILED_AGGR_MIGRATION_SOURCE** | |
| **E_BDFU_FAILED_AGGR_MIGRATION_DEST** | |
| **ENODISKSFOUND** | |

# Element definition: **cf-aggregate-giveback-info**

[top]

Giveback status of an aggregate When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-giveback-error** | | string optional | Failure reason, incase giveback of this aggregate failed. Possible values include:<br>• "sfo_am_shutdown" - Node is being shutdown<br>• "sfo_am_not_homed_partner" - Aggregate not owned by partner<br>• "sfo_am_not_sfo" - Aggregate does not have SFO policy<br>• "sfo_am_failed_limbo" - Aggregate in failed or limbo state<br>• "sfo_am_offline_failed" - Aggregate could not be offlined during giveback<br>• "sfo_am_migrating" - Aggregate is being migrated<br>• "sfo_am_veto" - Giveback was vetoed.<br>• "sfo_am_communication_err" - Giveback failed because node cannot communicate with the partner<br>• "sfo_am_online_timeout" - Aggregate did not come online after giveback<br>• "sfo_am_online_failed" - Failed to online the aggregate after giveback<br>• "sfo_am_hdd_to_aff_dest" - Migration of a non-SSD aggregate to an All-Flash Optimized destination is not allowed<br><br>Attributes: non-creatable, non-modifiable |
| **aggr-giveback-module** | | string optional | If giveback is in progress, then this is set to the module which is currently running. If giveback was failed or vetoed by a certain module then this is set to the first module which failed the giveback. Example: WAFL. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **aggr-giveback-state** | | string optional | Giveback status of the aggregate Possible values include:<br>• "sfo_am_done" - Giveback done<br>• "sfo_am_failed" - Giveback failed<br>• "sfo_am_inprog" - Giveback in progress<br>• "sfo_am_not_started" - Giveback not started<br>• "sfo_am_nothing_to_gb" - No aggregates to giveback<br>• "sfo_disk_inventory_not_exchanged" - Auto giveback failed because disk inventory was not exchanged between HA partners<br>• "sfo_disk_inventory_mismatch" - Auto giveback failed because there was mismatch in disk inventory<br>• "sfo_am_failed_bdfu_source" - Giveback failed as failed to disable background disk firmware update on source node.<br>• "sfo_am_failed_bdfu_dest" - Giveback failed as failed to disable background disk firmware update on destination node.<br>• "sfo_am_delayed_bdfu_source" - Giveback delayed as disk firmware update is in progress on source node.<br>• "sfo_am_delayed_bdfu_dest" - Giveback delayed as disk firmware update is in progress on destination node.<br>• "sfo_am_running_checks" - Performing veto checks.<br>Attributes: non-creatable, non-modifiable |
| **aggregate** | | string optional | Aggregate name Attributes: non-creatable, non-modifiable |
| **destination-node** | | string optional | Node to which the aggregate is being given back Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node performing the giveback of aggregate Attributes: key, non-creatable, non-modifiable |

# Element definition: **cf-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against cf object.

| Name | Range | Type | Description |
|---|---|---|---|
| **cf-key** | | options-related-info-modify | The keys for the cf object to which the modify operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |

# Element definition: **mailbox-io-times-info**

[top]

Mailbox IO times

| Name | Range | Type | Description |
|---|---|---|---|
| **normal** | | integer | Maximum IO time in milliseconds, normal |
| **transition** | | integer | Maximum IO time in milliseconds, transition |

# Element definition: **mailbox-status-info**

[top]

Mailbox status info.

| Name | Range | Type | Description |
|---|---|---|---|
| **mailbox-status** | | string | representation of mailbox status bit. Possible values: mbx_status_nodisks mbx_status_uncertain mbx_status_stale mbx_status_conflicted mbx_status_old_version mbx_status_not_found mbx_status_wrong_state mbx_status_backup |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **options-related-info-modify**

[top]

Storage Failover Options to Modify

| Name | Range | Type | Description |
|---|---|---|---|
| **auto-giveback-enabled** | | boolean optional | True, if auto-giveback is enabled, false otherwise. Default: true. Attributes: non-creatable, modifiable |
| **failover-enabled** | | boolean optional | True, if the storage failover facility is enabled, false otherwise. Note that the facility can be enabled but takeover may not be possible due to various reasons. Attributes: non-creatable, modifiable |
| **ha-mode** | | hamode optional | Specifies whether the node is set up in high-availability mode or stand-alone mode. Attributes: non-creatable, modifiable Possible values:<br>• "ha" ,<br>• "non_ha" |
| **node** | | node-name optional | Node name Attributes: key, non-creatable, non-modifiable |
| **sfo-advanced-options-info-modify** | | advanced-options-modify optional | Advanced Options to Modify |
| **sfo-giveback-options-info-modify** | | giveback-options-modify optional | Giveback Options to Modify |
| **sfo-takeover-** | | takeover-options- | Takeover Options to Modify |

| | | | |
|---|---|---|---|
| **options-info-modify** | | modify optional | |

# Element definition: **resource-table-info**

[top]

A failover monitor resource table entry.

| Name | Range | Type | Description |
|---|---|---|---|
| **fail** | | string | Entry failure code, represented as a string: ok fail fail_always hang panic veto |
| **name** | | string | Name of the entry |
| **state** | | string | Entry state, represented as a string: up start_running start_done start_failed stop_running stop_failed takeover_barrier only_when_initd |
| **time-delta** | | integer optional | Amount of time spent in this element, in milliseconds. |

# Element definition: **sf-disk-info**

[top]

Disk information.

| Name | Range | Type | Description |
|---|---|---|---|
| **disk-cluster-name** | | string optional | A cluster unique name for a disk. Disks take the form 'stack-id'.'shelf'.'bay'. Disks on multi-disk carriers take the form 'stack-id'.'shelf'.'bay'.'lun'.<br><br>Virtual disks take the form 'prefix'.'number' where prefix is the storage array's prefix and number is a unique ascending number.<br><br>Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'. |
| **disk-uid** | | string | Disk unique identifier. Maximum length of 90 characters. XXX should use same typedef as storage ZAPI. Note sure where it is defined. |
| **name** | | string optional | Name of the disk, e.g. v1.1 |
| **physical-location** | | integer optional | Name of the location where the disk is physically present. This can be local, partner or mediator. |

# Element definition: **sf-options-info**

[top]

Options for debugging purpose.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-migration-timeout** | | integer optional | Number of seconds the source node has to wait for the destination node to complete the aggregate migration before declaring the migration as failed. The default setting is 40 seconds. |
| **bypass-takeover-** | | boolean | If true, then optimized negotiated takeover is bypassed. If false, negotiated takeover will be optimized. The default value for this |

| | | | |
|---|---|---|---|
| **optimization** | | optional | option is false. This option will be available starting with Data ONTAP 8.2. |
| **giveback-auto** | | boolean | Indicates if the automatic giveback is enabled. Same as send-home-auto. |
| **hwassist-enable** | | boolean | Indicate if hardware assist takeover is enabled. |
| **hwassist-health-check-interval** | | integer | Hardware assist h/w sends a heartbeat every '-health-check-interval' seconds. |
| **hwassist-partner-ip** | | string | Hardware assist Ip address of the partner. |
| **hwassist-partner-port** | | integer | Port number on which hwassist receives alerts. |
| **hwassist-retry-count** | | integer | Number of times we repeat sending an alert. |
| **mode** | | string optional | HA mode in registry |
| **node-status-in-mailbox-disks** | | boolean | Indicates if we propagate node status via mailbox disks. |
| **node-status-in-mailbox-disks-read-interval** | | integer | Rate in seconds at which we read node status from mailbox disks. |
| **node-status-in-mailbox-disks-write-interval** | | integer | Rate in seconds at which we write node status to mailbox disks. |
| **send-home-auto** | | boolean | Indicates if the automatic send-home facility enabled. |
| **send-home-auto-attempts** | | integer | The number of times we'll try to do an automatic giveback within send-home-auto-minutes |
| **send-home-auto-attempts-minutes** | | integer | The number of minutes in which we should not exeeced send-home-auto-attempts automatic send-home attempts. |
| **send-home-auto-delay-seconds** | | integer | The number of seconds of delay before initiating automatic send-home. This will be the minimum time a node will be in takeover state before performing auto sendhome. |
| **send-home-check-partner-waiting** | | boolean | Indicates if we require the partner to be waiting for a send-home in order to do a send-home. |
| **takeover-detection-time** | | integer | Takeover detection time in seconds. |
| **takeover-on-failure** | | boolean | Indicates if we will automatically takeover upon partner failure. |
| **takeover-on-panic** | | boolean | Indicates if we will automatically takeover upon partner panic. |
| **takeover-on-reboot** | | boolean | Indicates if we will automatically takeover upon partner reboot. |
| **takeover-on-short-uptime** | | boolean | Indicates if we will automatically takeover if the partner fails within 60 seconds of booting. |

# Element definition: **storage-failover-info**

[top]

Storage Failover Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **sfo-giveback-info** | | giveback-related-info optional | Giveback related Info |
| **sfo-interconnect-info** | | interconnect-related-info optional | Interconnect Info |
| **sfo-node-info** | | node-related-info optional | Node Info |
| **sfo-options-info** | | options-related-info optional | Options Info |
| **sfo-storage-info** | | storage-related-info optional | Storage Info |
| **sfo-takeover-info** | | takeover-related-info optional | Takeover related Info |

# Element definition: **takeover-info**

[top]

Takeover info.

| Name | Range | Type | Description |
|---|---|---|---|
| **reason** | | string | reason we can't takeover:<br>• not_initialized - Controller Failover not initialized<br>• non_ha_mode - Controller is in non-HA mode<br>• disabled - Controller Failover takeover disabled<br>• mailbox_invalid - Partner mailbox disks not accessible or invalid<br>• mailbox_uninit - Partner mailbox status uninitialized<br>• fm_version_mismatch - Failover monitor version mismatch<br>• partner_disabled - Takeover disabled by partner<br>• operator_deny - Takeover disabled by operator<br>• nvram_mismatch - NVRAM size mismatch<br>• version - Version mismatch<br>• ic_error - Interconnect error<br>• booting - Partner booting<br>• shelf_hot - Disk shelf is too hot<br>• partner_revert_in_progress - Partner is performing revert<br>• local_revert_in_progress - Revert is in progress<br>• partner_takeover - Partner is attempting takeover<br>• local_takeover - Already in takeover mode<br>• halt_no_takeover - Partner halted in notakeover mode<br>• log_unsync - NVRAM log unsynchronized<br>• unknown - No takeover due to unknown reason<br>• waiting_for_partner - Waiting for partner to recover<br>• low_memory - Low memory condition<br>• halting - Local halt in progress<br>• mailbox_uncertain - Status of partner mailbox is uncertain<br>• no_auto_takeover - Automatic takeover is disabled<br>• disk_inventory_not_exchanged - Disk inventory information not received |

| | | | |
|---|---|---|---|
| | | | from partner<br>• disk_inventory_mismatch_local - Local node missing some of partner node's file system disks<br>• pending_shutdown - Local node is shutting down<br>• dr_in_progress - metrocluster disaster recovery operation is in progress.<br>• mcc_node_object_limit - This node or partner node is in switchover state and MetroCluster config option node-object-limit is off in the DR group of this node. |

# Element definition: **takeover-status**

[top]

Takeover status of a node and all of its partner aggregates. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, assuming that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-takeover-status** | | string | Takeover status of the partner aggregate. This includes the reason for the failure of takeover of an aggregate. If takeover is in progress in a particular module, or if takeover was vetoed by a particular module, that is also indicated. Possible values include:<br>• Done<br>• Failed<br>• In progress, Module: wafl<br>• Not attempted yet<br>• Failed: Operation was vetoed, Module: example. The aggregate will be taken over during CFO phase of takeover.<br>• Failed: Aggregate does not have SFO HA policy. The aggregate will be taken over during CFO phase of takeover.<br>• Failed: Aggregate is in failed or limbo state. The aggregate will be taken over during CFO phase of takeover.<br>• Failed to offline the aggregate. The aggregate will be taken over during CFO phase of takeover.<br>• No aggregates to relocate<br>• Failed: Node cannot communicate with the destination node. To takeover the remaining aggregates, run the "storage failover takeover -ofnode -bypass-optimization true" command. To giveback the relocated aggregates, run the "storage failover giveback -ofnode " command.<br>• Failed: Destination node did not online the aggregate on time. To takeover the remaining aggregates, run the "storage failover takeover -ofnode -bypass-optimization true" command. To giveback the relocated aggregates, run the "storage failover giveback -ofnode " command.<br>• Failed: Destination node failed to online the aggregate. To takeover the remaining aggregates, run the "storage failover takeover -ofnode -bypass-optimization true" command. To giveback the relocated aggregates, run the "storage failover giveback -ofnode " command. |

| | | | |
|---|---|---|---|
| | | | Failed: Destination cannot receive the aggregate. To takeover the remaining aggregates, run the "storage failover takeover -ofnode -bypass-optimization true" command. To giveback the relocated aggregates, run the "storage failover giveback -ofnode " command.<br>• Failed: Aggregate is restricted. The aggregate will be taken over during CFO phase of takeover.<br>• Failed: Aggregate does not have disks. The aggregate will be taken over during CFO phase of takeover.<br>• Failed: Aggregate is foreign. The aggregate will be taken over during CFO phase of takeover.<br>• Failed: Aggregate is offline. The aggregate will be taken over during CFO phase of takeover.<br>• Failed: Mirrored aggregate does not have both plexes online. The aggregate will be taken over during CFO phase of takeover.<br>• Failed, could not disable firmware updates on .<br><br>Attributes: non-creatable, non-modifiable |
| **node** | | string | Name of the node. Attributes: key, non-creatable, non-modifiable |
| **node-takeover-status** | | string | Takeover status of the node. Attributes: non-creatable, non-modifiable |
| **taken-over-aggregate** | | string | Name of the taken over aggregate. Attributes: non-creatable, non-modifiable |

# Element definition: **timeout-info**

[top]

Failover monitor timeouts.

| Name | Range | Type | Description |
|---|---|---|---|
| **booting** | | integer | booting timeout, in milliseconds |
| **connect** | | integer | connect timeout, in milliseconds |
| **dumpcore** | | integer | dumpcore timeout, in milliseconds |
| **fast** | | integer | fast timeout, in milliseconds |
| **firmware** | | integer | firmware timeout, in milliseconds |
| **mailbox** | | integer | mailbox timeout, in milliseconds |
| **operator** | | integer | operator timeout, in milliseconds |
| **reboot** | | integer optional | reboot timeout, in milliseconds |
| **slow** | | integer | slow timeout, in milliseconds |
| **transit** | | integer | transit timeout, in milliseconds |
| **transit-timer-enabled** | | boolean | True, if the transit timer is enabled |

# Element definition: **advanced-options-modify**

[top]

Advanced Options to Modify

| Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **aggregate-migration-timeout** | **[30..300]** | integer optional | Specifies the amount of time, in seconds, the source node has to wait for the destination node to complete the aggregate migration before declaring the migration as failed. Default: 120 seconds. Attributes: non-creatable, modifiable |
| **cifs-ndo-duration** | | cifsndoduration optional | Specifies failover outage durations to allow CIFS NDO lite customers to tune the NVlog size. A value of 'default' uses the maximum NVRAM possible. Attributes: non-creatable, modifiable Possible values:<br>• "default" ,<br>• "medium" ,<br>• "low" |
| **propagate-mailbox-enabled** | | boolean optional | Specifies whether storage-failover status is communicated via mailbox disks. Default: true Attributes: non-creatable, modifiable |
| **read-interval** | **[1..120]** | integer optional | Specifies how frequently, in seconds, the node reads its partner's status from the mailbox disks. Default: 5 seconds Attributes: non-creatable, modifiable |
| **write-interval** | **[1..120]** | integer optional | Specifies how frequently, in seconds, the node writes its status to the mailbox disks. Default: 5 seconds Attributes: non-creatable, modifiable |

# Element definition: **giveback-options-modify**

[top]

Giveback Options to Modify

| Name | Range | Type | Description |
|---|---|---|---|
| **auto-giveback-after-panic-enabled** | | boolean optional | Specifies whether a node should attempt automatic giveback operations if takeover was because of a disruption in the partner's operation Attributes: non-creatable, modifiable |
| **auto-giveback-enabled** | | boolean optional | True, if auto-giveback is enabled, false otherwise. Default: true. Attributes: non-creatable, modifiable |
| **auto-giveback-override-vetoes-enabled** | | boolean optional | Specifies whether long-running operations (for instance, NDMP dump/restoration, volume verification, etc.) are terminated and partner veto votes are overriden when an automatic giveback operation is initiated. Attributes: non-creatable, modifiable |
| **autogiveback-delay** | **[0..600]** | integer optional | Specifies the minimum time, in seconds, that a node will stay in takeover state prior to performing an automatic giveback. Default: 600 seconds Attributes: non-creatable, modifiable |
| **check-partner-enabled** | | boolean optional | Specifies whether the node checks that its partner is waiting-for-giveback before initiating a giveback. If check-partner is false, aggregates will be given back even if the partner is not up and ready potentially leading to longer outage. Default: true Attributes: non-creatable, modifiable |
| **giveback-attempts-count** | **[2..10]** | integer optional | Specifies the number of times the node attempts an automatic giveback within the time period specified by giveback-attempts-interval. Default: 2 Attributes: non-creatable, modifiable |
| **giveback-attempts-interval** | **[1..90]** | integer optional | Specifies the time period, in minutes, used by the giveback-attempts-count parameter Default: 60 minutes Attributes: non-creatable, modifiable |

# Element definition: **giveback-related-info**

[top]

Giveback related Info

| Name | Range | Type | Description |
|---|---|---|---|
| **giveback-failure-reason** | | string optional | This is the reason for the giveback failure. Possible values are:<br>• aggr_relocation_in_progress - aggregate relocation is in progress<br>• shutdown_in_progress - shutdown is in progress<br>• testpoint - a giveback failure was simulated with a testpoint<br>• cannot_giveback_partner_subsystem - node failed to giveback one of partner's subsystems<br>• bck_mbx_update_error - node could not update its backup mailbox<br>• disaster_recovery_in_progress - disaster recovery operation is in progress<br>• partner_disaster_recovery_in_progress - disaster recovery operation is in progress on the partner node<br><br>Attributes: non-creatable, non-modifiable |
| **giveback-module** | | string optional | The current module giveback process is in. e.g. WAFL Attributes: non-creatable, non-modifiable |
| **giveback-state** | | string optional | Giveback state of the node. Possible values are:<br>• nothing_to_gb<br>• not_attempted_yet<br>• giveback_in_progress<br>• giveback_failed_autogiveback_disabled<br>• giveback_failed_autogiveback_scheduled<br>• previous_giveback_failed<br>• giveback_vetoed_no_di<br>• giveback_vetoed_missing_disks<br>• autogiveback_scheduled<br>• autogiveback_deferred<br>• node_upgrade_in_progress<br>• sfo_aggr_giveback_failed<br>• sfo_aggr_giveback_in_progress<br>• partial_giveback<br>• partner_spare_disks_giveback_pending<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **hamode**

[top]

High availability mode Possible values:

- "ha" ,
- "non_ha"

[none]

# Element definition: **interconnect-related-info**

[top]

Interconnect Info

| Name | Range | Type | Description |
|---|---|---|---|
| **interconnect-links** | | string optional | States of the individual interconnect links. Attributes: non-creatable, non-modifiable |
| **interconnect-type** | | string optional | Type and Vendor of the interconnect. Attributes: non-creatable, non-modifiable |
| **is-interconnect-up** | | boolean optional | True, if storage failover interconnect is up. Attributes: non-creatable, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **node-related-info**

[top]

Node Info

| Name | Range | Type | Description |
|---|---|---|---|
| **current-mode** | | hamode optional | Current HA Mode Attributes: non-creatable, modifiable Possible values:<br>• "ha" ,<br>• "non_ha" |
| **ha-type** | | hatype optional | Specifies the type of high-availability configuration. Possible values are:<br>• none - none<br>• shared_storage - shared storage high-availability configuration<br>• non_shared_storage - non-shared storage high-availability configuration<br>Attributes: non-creatable, non-modifiable Possible values:<br>• "none" - None,<br>• "shared_storage" - Shared storage HA configuration,<br>• "non_shared_storage" - Non-shared storage HA configuration |
| **local-firmware-progress** | **[0..2^32-1]** | integer optional | A counter to indicate that the local node is progressing in the current firmware state. If the counter is not progressing the node may be unresponsive or down. Attributes: non-creatable, non-modifiable |
| | | | Local firmware state that will be communicated through interconnect |

| | | | |
|---|---|---|---|
| **local-firmware-state** | | string optional | to the partner. Possible values are:<br><br>• SF_OPERATOR_EXIT - operator completed<br>• SF_DEBUG_EXIT - debugger completed<br>• SF_PROGRESS - progress counter<br>• SF_IOERROR - I/O error<br>• SF_BADCKSUM - bad checksum<br>• SF_RESERVED - reserved<br>• SF_UNKNOWN - unknown<br>• SF_OPEN - initializing<br>• SF_POST - in power-on self test<br>• SF_BOOTING - booting<br>• SF_FAIL - boot failed<br>• SF_WAITING - waiting<br>• SF_OS_BOOTED - kernel loaded<br>• SF_UP - up<br>• SF_DEBUG - in debugger<br>• SF_OPERATOR - waiting for operator input<br>• SF_DUMPCORE - dumping core<br>• SF_HALT - halted<br>• SF_REBOOT - rebooting<br>• SF_GIVEWAIT - waiting for giveback<br>• SF_MBWAIT - waiting for cluster mailbox release<br>• SF_SPARECORE - dumping sparecore and ready to be taken-over<br>• SF_MDP - multi-disk panic<br>• SF_TO - in takeover<br>• SF_NOTO - takeover disabled<br>• SF_CLUSTERWAIT - waiting for cluster apps<br><br>Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node name Attributes: key, non-creatable, non-modifiable |
| | | | Storage failover status of the node. Possible values are:<br><br>• connected - Partner is available for takeover.<br>• takeover_scheduled - Partner is down and takeover is scheduled.<br>• takeover_started - Takeover process has begun.<br>• takeover - Currently controlling partner's resources.<br>• takeover_failed - Failed to takeover the partner.<br>• giveback_partial_waiting - This node controls partner aggregates even though the node is not in takeover. And we're waiting for a connection to the partner.<br>• giveback_partial_connected - This node controls partner aggregates even though the node is not in takeover. The partner is available to receive the aggregates.<br>• waiting_for_root_aggr - Partner is controlling dblade's root aggregate If we're in this state, many other optional fields are not returned.<br>• waiting - Waiting for a connection to partner. Generally happens while partner is rebooting.<br>• in_maintenance_mode - Node is in maintenance mode. In the mode it is not possible to determine more detailed information (e.g. cluster or not; takeover or not, etc).<br>• pending_shutdown - Starting a takeover/giveback is inhibited due to a pending system shutdown.<br>• relocating_aggrs_before_takeover - Node is relocating its SFO aggregates to its partner prior to a negotiated takeover.<br>• sfo_takeover_phase_done - Node is done with the SFO phase of takeover. |

| | | | |
|---|---|---|---|
| **node-state** | | string<br>optional | sfo_takenover_phase_done - This node has relocated its SFO aggregates to its partner during an optimized negotiated takeover by its partner.<br>• sfo_takeover_phase_aborted - The SFO phase of takeover has been aborted. Refer to takeover-failure-reason field to check the reason.<br>• sfo_takenover_phase_aborted - This node has aborted the relocation of its SFO aggregates to its partner, during an optimized negotiated takeover by its partner.<br>• in_non_HA_mode - Node is not in HA mode<br>• cfo_takeover_failed - CFO phase of takeover failed<br>• sfo_takeover_phase - SFO phase of takeover of partner is in progress<br>• relocated_aggrs_before_takeover - Node has relocated its SFO aggregates to its partner prior to a negotiated takeover.<br>• giving_back - Giveback is in progress. Refer to current-giveback-module field to get the current module, the giveback process is in.<br>• giveback_failed_autogiveback_disabled - Previous giveback failed and auto giveback is disabled. Refer to current-giveback-module to get the module in which giveback process failed.<br>• giveback_failed_autogiveback_scheduled - Previous giveback failed and an auto giveback is scheduled. Refer to current-giveback-module to get the module in which giveback process failed.<br>Refer to time-until-autogiveback field to check time remaining before an auto giveback is initiated.<br>• previous_giveback_failed - Previous giveback failed. Refer to current-giveback-module to get the module in which giveback process failed.<br>• takeover_disk_inventory_not_received - Local node is in takeover. A normal giveback is not possible as disk inventory from partner has not yet been received.<br>• takeover_partner_missing_disks - Local node is in takeover. A normal giveback is not possible as the patner is missing some of its file system disks.<br>• takeover_autogiveback_scheduled - Local node in takeover. An auto giveback is scheduled. Refer time-until-autogiveback field to check time remaining before an auto giveback is initiated.<br>• takeover_network_failure - Local node in takeover. The partner was taken over due to network failure.<br>• takeover_autogiveback_deferred - Local node in takeover. Auto giveback is deferred because the partner node was not ready to receive aggregates when the auto giveback timer expired. An auto giveback will be initiated as soon as the partner node is up and ready to receive aggregates.<br>• automatic_takeover_disabled_connected - Automatic takeover is disabled. Local node is connected to partner via HA interconnect. This happens only in debug builds when raid.panic.missing.disks is turned on from node CLI.<br>• automatic_takeover_disabled_waiting - Automatic takeover is disabled. Local node is waiting for partner node on HA interconnect. This happens only in debug builds when raid.panic.missing.disks is turned on from node CLI.<br>• ndo_upgrade_in_progress - Local node owns partner's aggregates as part of node upgrade process.<br>• own_aggr_non_local_connected - Local node owns aggregates of some other node in the cluster. Local node is connected to partner via HA interconnect. This is possible only during NDO double hop controller upgrade. |

| | | | |
|---|---|---|---|
| | | | own_aggr_non_local_waiting - Local node owns aggregates of some other node in the cluster. Local node is waiting for partner on HA interconnect. This is possible only during NDO double hop controller upgrade.<br>• clusterwait_connected - Connected to partner via HA interconnect. Local node waiting for cluster applications to come online.<br>• clusterwait_waiting - Waiting for partner on HA interconnect. Local node waiting for cluster applications to come online.<br>• dr_op_in_progress - MetroCluster disaster recovery operation is in progress.<br>• SF_OPERATOR_EXIT - operator completed<br>• SF_DEBUG_EXIT - debugger completed<br>• SF_PROGRESS - progress counter<br>• SF_IOERROR - I/O error<br>• SF_BADCKSUM - bad checksum<br>• SF_RESERVED - reserved<br>• SF_UNKNOWN - unknown<br>• SF_OPEN - initializing<br>• SF_POST - in power-on self test<br>• SF_BOOTING - booting<br>• SF_FAIL - boot failed<br>• SF_WAITING - waiting<br>• SF_OS_BOOTED - kernel loaded<br>• SF_UP - up<br>• SF_DEBUG - in debugger<br>• SF_OPERATOR - waiting for operator input<br>• SF_DUMPCORE - dumping core<br>• SF_HALT - halted<br>• SF_REBOOT - rebooting<br>• SF_GIVEWAIT - waiting for giveback<br>• SF_MBWAIT - waiting for cluster mailbox release<br>• SF_SPARECORE - dumping sparecore and ready to be taken-over<br>• SF_MDP - multi-disk panic<br>• SF_TO - in takeover<br>• SF_NOTO - takeover disabled<br>• SF_CLUSTERWAIT - waiting for cluster apps<br><br>Attributes: non-creatable, non-modifiable |
| **nvram-id** | **[0..2^32-1]** | integer optional | NVRAM identifier Attributes: non-creatable, non-modifiable |
| **partner-firmware-progress** | **[0..2^32-1]** | integer optional | A counter to indicate that the partner node is progressing in the current firmware state. If the counter is not progressing the partner node may be unresponsive or down. Attributes: non-creatable, non-modifiable |
| **partner-** | | | Partner firmware state as communicated by the partner through interconnect. Possible values are:<br><br>• SF_OPERATOR_EXIT - operator completed<br>• SF_DEBUG_EXIT - debugger completed<br>• SF_PROGRESS - progress counter<br>• SF_IOERROR - I/O error<br>• SF_BADCKSUM - bad checksum<br>• SF_RESERVED - reserved<br>• SF_UNKNOWN - unknown<br>• SF_OPEN - initializing<br>• SF_POST - in power-on self test<br>• SF_BOOTING - booting<br>• SF_FAIL - boot failed<br>• SF_WAITING - waiting |

| | | | |
|---|---|---|---|
| **firmware-state** | | string optional | • SF_OS_BOOTED - kernel loaded<br>• SF_UP - up<br>• SF_DEBUG - in debugger<br>• SF_OPERATOR - waiting for operator input<br>• SF_DUMPCORE - dumping core<br>• SF_HALT - halted<br>• SF_REBOOT - rebooting<br>• SF_GIVEWAIT - waiting for giveback<br>• SF_MBWAIT - waiting for cluster mailbox release<br>• SF_SPARECORE - dumping sparecore and ready to be taken-over<br>• SF_MDP - multi-disk panic<br>• SF_TO - in takeover<br>• SF_NOTO - takeover disabled<br>• SF_CLUSTERWAIT - waiting for cluster apps<br><br>Attributes: non-creatable, non-modifiable |
| **partner-name** | | string optional | Storage failover partner node name Attributes: non-creatable, non-modifiable |
| **partner-nvram-id** | **[0..2^32-1]** | integer optional | Partner NVRAM identifier Attributes: non-creatable, non-modifiable |
| **state-description** | | string optional | A detailed description of the storage failover state of the node. Attributes: non-creatable, non-modifiable |

# Element definition: **options-related-info**

[top]

Options Info

| Name | Range | Type | Description |
|---|---|---|---|
| **auto-giveback-enabled** | | boolean optional | True, if auto-giveback is enabled, false otherwise. Default: true. Attributes: non-creatable, modifiable |
| **failover-enabled** | | boolean optional | True, if the storage failover facility is enabled, false otherwise. Note that the facility can be enabled but takeover may not be possible due to various reasons. Attributes: non-creatable, modifiable |
| **ha-mode** | | hamode optional | Specifies whether the node is set up in high-availability mode or stand-alone mode. Attributes: non-creatable, modifiable Possible values:<br>• "ha" ,<br>• "non_ha" |
| **sfo-advanced-options-info** | | advanced-options optional | Advanced Options |
| **sfo-giveback-options-info** | | giveback-options optional | Giveback Options |
| **sfo-takeover-options-info** | | takeover-options optional | Takeover Options |

# Element definition: **storage-related-info**

[top]

Storage Info

| Name | Range | Type | Description |
|---|---|---|---|
| **local-mailbox-state** | | mailbox-state[] optional | Primary mailbox status information, represented as a list of strings. Not returned if node-state is waiting_for_root_aggr. Attributes: non-creatable, non-modifiable |
| **local-missing-disks** | | disk-uid[] optional | List of disks that the local node is missing but the partner node is able to view. Attributes: non-creatable, non-modifiable |
| **mailbox-disks-local** | | disk-uid[] optional | List of local mailbox disks. Not returned if node-state is waiting_for_root_aggr. Attributes: non-creatable, non-modifiable |
| **mailbox-disks-partner** | | disk-uid[] optional | List of partner mailbox disks as this dblade sees them. Not returned if partner's node-state is waiting_for_root_aggr. Attributes: non-creatable, non-modifiable |
| **partner-mailbox-state** | | mailbox-state[] optional | Backup mailbox status information, represented as a list of strings. Not returned if partner's node-state is waiting_for_root_aggr. Attributes: non-creatable, non-modifiable |
| **partner-missing-disks** | | disk-uid[] optional | List of disks that the partner node is missing but the local node is able to view. Attributes: non-creatable, non-modifiable |

# Element definition: **takeover-options-modify**

[top]

Takeover Options to Modify

| Name | Range | Type | Description |
|---|---|---|---|
| **bypass-takeover-optimization-enabled** | | boolean optional | Specifies if manual takeover is optimized. If optimized SFO aggregates will be relocated serially to the node that is taking over prior to takeover. This reduces client outage. Default: false Attributes: non-creatable, modifiable |
| **short-uptime-duration** | **[0..86400]** | integer optional | Specifies the time period, in seconds, used by the takeover-onshort-uptime-enabled parameter. Default: 60 seconds. Attributes: non-creatable, modifiable |
| **takeover-detection-interval** | **[0..2^32-1]** | integer optional | Specifies the amount of time, in seconds, that a node remains unresponsive before its partner initiates a takeover operation. Default: 15 seconds. Attributes: non-creatable, modifiable |
| **takeover-onfailure-enabled** | | boolean optional | A master option that specifies whether the node takes over on any partner failure. When false, all takeovers are disabled; when true the other take over specific options are checked. Default: true Attributes: non-creatable, modifiable |
| **takeover-onpanic-enabled** | | boolean optional | Specifies whether the node automatically takes over if the partner node panics. Changing this parameter on one node automatically makes the same change on its partner node. Default: true Attributes: non-creatable, modifiable |
| **takeover-onreboot-enabled** | | boolean optional | Specifies whether the node automatically takes over if its partner reboots. Default: true Attributes: non-creatable, modifiable |

| | | | |
|---|---|---|---|
| **takeover-onshort-uptime-enabled** | | boolean optional | Specifies whether the node takes over if the partner node fails within short-uptime-duration seconds of starting up. Default: true Attributes: non-creatable, modifiable |

# Element definition: **takeover-related-info**

[top]

Takeover related Info

| Name | Range | Type | Description |
|---|---|---|---|
| **takeover-by-partner-not-possible-reason** | | reason-takeover-not-possible[] optional | It list of one or more reasons why takeover by partner is not possible. Attributes: non-creatable, non-modifiable |
| **takeover-by-partner-possible** | | boolean optional | True, if storage failover takeover is currently possible. by the partner, false otherwise. Note that this is the local node's view of partner. Attributes: non-creatable, non-modifiable |
| **takeover-enabled** | | boolean optional | True, if the storage failover facility is enabled, false otherwise. Note that the facility can be enabled but takeover may not be possible due to various reasons. Attributes: non-creatable, modifiable |
| **takeover-failure-reason** | | string optional | This is the reason for the takeover failure. Possible values are:<br>• shutdown_in_progress - shutdown is in progress<br>• aggr_relocation_in_progress - aggregate relocation is in progress<br>• giveback_in_progress - giveback is in progress<br>• takeover_in_progress - takeover is in progress<br>• unknown_partner_id - node could not detect its partner's system ID<br>• conflicting_sysid - node has the same system ID as its partner<br>• pri_mbx_update_error - node could not update its primary mailbox<br>• takeover_disabled_by_partner - partner has disabled takeover<br>• cannot_takeover_partner_subsystem - node failed to takeover one of partner's subsystems<br>• non_etc_or_rc_boot - it is not possible to takeover in a non-etc/rc boot<br>• bck_mbx_update_error - node could not update its backup mailbox<br>• partner_taking_over - partner is taking over local node<br>• revert_in_progress - revert is in progress<br>• disaster_recovery_in_progress - disaster recovery operation is in progress<br>• headswap_in_progress - headswap is in progress<br>• destination_check_failed - destination check failed<br>• communication_failed - communication with destination failed<br>• operation_aborted - operation was aborted<br>• aggr_not_online - destination node did not online the aggregate being relocated in time<br>• sfo_disabled - storage failover service is not enabled |

| | | | |
|---|---|---|---|
| | | | partner_taking_over - partner is taking over local node<br>• bdfu_not_disabled_source - failed to disable background disk firmware update (BDFU) on local node<br>• bdfu_not_disabled_dest - failed to disable background disk firmware update (BDFU) on partner node<br>• partner_shutting_down - shutdown is in progress on the partner node<br>• partner_aggr_relocation_in_progress - aggregate relocation is in progress on the partner node<br>• partner_giveback_in_progress - giveback is in progress on the partner node<br>• partner_revert_in_progress - revert is in progress on the partner node<br>• partner_disaster_recovery_in_progress - disaster recovery operation is in progress on the partner node<br>• partner_in_headswap - headswap is in progress on the partner node<br><br>Attributes: non-creatable, non-modifiable |
| **takeover-module** | | string optional | The current module takeover process is in. e.g. WAFL Attributes: non-creatable, non-modifiable |
| **takeover-of-partner-not-possible-reason** | | reason-takeover-not-possible[] optional | If takeover-possible field is false, it lists of one or more reasons why takeover of partner is not possible. Attributes: non-creatable, non-modifiable |
| **takeover-of-partner-possible** | | boolean optional | True, if storage failover takeover is currently possible, false otherwise. Attributes: non-creatable, non-modifiable |
| **takeover-reason** | | takeover-reason | List of reasons why a takeover can happen. Possible values are:<br><br>• none - Not in takeover<br>• takeover_normal - Operator initiated takeover<br>• takeover_immediate - Operator initiated forced takeover<br>• takeover_ndu - Takeover initiated as part of NDU<br>• takeover_forced - Operator initiated forced takeover, possible data loss<br>• takeover_early - Takeover occuring during bootup of a filer<br>• takeover_operator_exp - Takeover occuring after operator timeout expired<br>• takeover_post_failed - Takeover occuring on POST failure<br>• takeover_panic - Takeover on panic<br>• takeover_shortuptime - Takeover after quick toggling between up & down states<br>•<br>• takeover_sparecore_exp - Takeover on panic timeout expiry<br>• takeover_reboot_exp - Takeover on reboot timer expiry<br>• takeover_booting_exp - Takeover on booting timer expiry<br>• takeover_nfo_shutdown - Takeover on negotiated failover shutdown<br>• takeover_nfo_timer - Takeover on negotiated failover timer expiry<br>• takeover_mdp - Takeover on multi-disk panic<br>• takeover_reboot - Takeover on reboot<br>• takeover_halt - Takeover on halt<br>• takeover_clam - CLAM triggered takeover<br>• takeover_hwassist - H/w assisted takeover<br><br>Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| | | optional | • "takeover_none" - None,<br>• "takeover_immediate" - Immediate takeover,<br>• "takeover_ndu" - NDU Takeover,<br>• "takeover_forced" - Forced Takeover,<br>• "takeover_disaster" - Disaster Takeover,<br>• "takeover_early" - Early Takeover,<br>• "takeover_operator_exp" - Takeover Operator Timeout,<br>• "takeover_post_failed" - Takeover POST Failed,<br>• "takeover_panic" - Takeover On Panic,<br>• "takeover_shortuptime" - Takeover On Short Uptime,<br>• "takeover_sparecore_exp" - Takeover On Sparecore Timeout,<br>• "takeover_reboot_exp" - Takeover On Reboot Timeout,<br>• "takeover_booting_exp" - Takeover On Booting Timeout,<br>• "takeover_firmware_exp" - Takeover On Firmware Timeout,<br>• "takeover_nfo_shutdown" - Takeover On Negotiated Failover,<br>• "takeover_nfo_timer" - Takeover On Negotiated Failover Timeout,<br>• "takeover_mdp" - Takeover On MDP,<br>• "takeover_reboot" - Takeover On Reboot,<br>• "takeover_halt" - Takeover On Halt,<br>• "takeover_clam" - CLAM Initiated Takeover,<br>• "takeover_hwassist" - H/w assisted Takeover,<br>• "takeover_normal" - Operator initiated takeover,<br>• "takeover_comm_err" - Takeover On Communication Error |
| **takeover-state** | | string optional | Takeover state of the node. Possible values are:<br>• takeover_failed - Takeover Failed<br>• sfo_takeover_in_progress - SFO phase of takeover of partner is in progress<br>• relocating_aggrs_before_takeover - Relocating aggregates to partner as a takeover was initiated by partner<br>• cfo_takeover_scheduled - CFO phase of takeover is scheduled<br>• relocated_aggrs_before_takeover - Relocated aggregates to partner after a takeover was initiated by partner<br>• takeover_by_partner_failed - A takeover attempt by partner failed. Refer to takeover-failure-reason field to check the reason for takeover failure.<br>• in_takeover - Node is in takeover<br>• takeover_started - A takeover is in progress<br>• takeover_scheduled - A takeover of partner is scheduled Refer to time-until-takeover field to check time remaining till takeover.<br>• not_in_takeover - Local node is not in takeover<br>Attributes: non-creatable, non-modifiable |
| **time-since-takeover** | **[0..2^32-1]** | integer optional | Time in milliseconds since the local node has taken over partner.<br>Attributes: non-creatable, non-modifiable |
| **time-until-takeover** | **[0..2^32-1]** | integer optional | This is the countdown time in seconds until takeover is started.<br>Attributes: non-creatable, non-modifiable |

[top]

# Element definition: **advanced-options**

Advanced Options

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-migration-timeout** | **[30..300]** | integer optional | Specifies the amount of time, in seconds, the source node has to wait for the destination node to complete the aggregate migration before declaring the migration as failed. Default: 120 seconds. Attributes: non-creatable, modifiable |
| **cifs-ndo-duration** | | cifsndoduration optional | Specifies failover outage durations to allow CIFS NDO lite customers to tune the NVlog size. A value of 'default' uses the maximum NVRAM possible. Attributes: non-creatable, modifiable Possible values:<br>• "default" ,<br>• "medium" ,<br>• "low" |
| **propagate-mailbox-enabled** | | boolean optional | Specifies whether storage-failover status is communicated via mailbox disks. Default: true Attributes: non-creatable, modifiable |
| **read-interval** | **[1..120]** | integer optional | Specifies how frequently, in seconds, the node reads its partner's status from the mailbox disks. Default: 5 seconds Attributes: non-creatable, modifiable |
| **write-interval** | **[1..120]** | integer optional | Specifies how frequently, in seconds, the node writes its status to the mailbox disks. Default: 5 seconds Attributes: non-creatable, modifiable |

# Element definition: **cifsndoduration**

[top]

CIFS NDO outage duration Possible values:

- "default" ,
- "medium" ,
- "low"

[none]

# Element definition: **disk-uid**

[top]

Disk Unique Identifier

[none]

# Element definition: **giveback-options**

[top]

Giveback Options

| Name | Range | Type | Description |
|---|---|---|---|
| **auto-giveback-after-panic-enabled** | | boolean optional | Specifies whether a node should attempt automatic giveback operations if takeover was because of a disruption in the partner's operation Attributes: non-creatable, modifiable |
| **auto-giveback-enabled** | | boolean optional | True, if auto-giveback is enabled, false otherwise. Default: true. Attributes: non-creatable, modifiable |
| **auto-giveback-override-vetoes-enabled** | | boolean optional | Specifies whether long-running operations (for instance, NDMP dump/restoration, volume verification, etc.) are terminated and partner veto votes are overriden when an automatic giveback operation is initiated. Attributes: non-creatable, modifiable |
| **autogiveback-delay** | **[0..600]** | integer optional | Specifies the minimum time, in seconds, that a node will stay in takeover state prior to performing an automatic giveback. Default: 600 seconds Attributes: non-creatable, modifiable |
| **check-partner-enabled** | | boolean optional | Specifies whether the node checks that its partner is waiting-for-giveback before initiating a giveback. If check-partner is false, aggregates will be given back even if the partner is not up and ready potentially leading to longer outage. Default: true Attributes: non-creatable, modifiable |
| **giveback-attempts-count** | **[2..10]** | integer optional | Specifies the number of times the node attempts an automatic giveback within the time period specified by giveback-attempts-interval. Default: 2 Attributes: non-creatable, modifiable |
| **giveback-attempts-interval** | **[1..90]** | integer optional | Specifies the time period, in minutes, used by the giveback-attempts-count parameter Default: 60 minutes Attributes: non-creatable, modifiable |

# Element definition: **hamode**

[top]

High availability mode Possible values:

- "ha" ,
- "non_ha"

[none]

# Element definition: **hatype**

[top]

none|shared_storage|non_shared_storage Possible values:

- "none" - None,
- "shared_storage" - Shared storage HA configuration,
- "non_shared_storage" - Non-shared storage HA configuration

[none]

# Element definition: **mailbox-state**

[top]

State of mailbox disks owned by the node. Possible values are:

- mbx_status_nodisks
- mbx_status_uncertain
- mbx_status_stale
- mbx_status_conflicted
- mbx_status_old_version
- mbx_status_not_found
- mbx_status_wrong_state
- mbx_status_backup

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **reason-takeover-not-possible**

[top]

Reason why takeover is not possible.

- not_initialized - Controller Failover not initialized
- non_ha_mode - Controller is in non-HA mode
- disabled - Controller Failover takeover disabled
- mailbox_invalid - Partner mailbox disks not accessible or invalid
- mailbox_uninit - Partner mailbox status uninitialized
- fm_version_mismatch - Failover monitor version mismatch
- partner_disabled - Takeover disabled by partner
- operator_deny - Takeover disabled by operator
- nvram_mismatch - NVRAM size mismatch
- version - Version mismatch
- ic_error - Interconnect error
- booting - Partner booting
- shelf_hot - Disk shelf is too hot
- partner_revert_in_progress - Partner is performing revert
- local_revert_in_progress - Revert is in progress
- partner_takeover - Partner is attempting takeover
- local_takeover - Already in takeover mode
- halt_no_takeover - Partner halted in notakeover mode
- log_unsync - NVRAM log unsynchronized
- unknown - No takeover due to unknown reason
- waiting_for_partner - Waiting for partner to recover
- low_memory - Low memory condition
- halting - Local halt in progress
- mailbox_uncertain - Status of partner mailbox is uncertain

no_auto_takeover - Automatic takeover is disabled
- disk_inventory_not_exchanged - Disk inventory information not received - from partner
- disk_inventory_mismatch_local - Local node missing some of partner node's file system disks
- pending_shutdown - Local node is shutting down

[none]

# Element definition: **takeover-options**

[top]

Takeover Options

| Name | Range | Type | Description |
|---|---|---|---|
| **bypass-takeover-optimization-enabled** | | boolean optional | Specifies if manual takeover is optimized. If optimized SFO aggregates will be relocated serially to the node that is taking over prior to takeover. This reduces client outage. Default: false Attributes: non-creatable, modifiable |
| **short-uptime-duration** | **[0..86400]** | integer optional | Specifies the time period, in seconds, used by the takeover-onshort-uptime-enabled parameter. Default: 60 seconds. Attributes: non-creatable, modifiable |
| **takeover-detection-interval** | **[0..2^32-1]** | integer optional | Specifies the amount of time, in seconds, that a node remains unresponsive before its partner initiates a takeover operation. Default: 15 seconds. Attributes: non-creatable, modifiable |
| **takeover-onfailure-enabled** | | boolean optional | A master option that specifies whether the node takes over on any partner failure. When false, all takeovers are disabled; when true the other take over specific options are checked. Default: true Attributes: non-creatable, modifiable |
| **takeover-onpanic-enabled** | | boolean optional | Specifies whether the node automatically takes over if the partner node panics. Changing this parameter on one node automatically makes the same change on its partner node. Default: true Attributes: non-creatable, modifiable |
| **takeover-onreboot-enabled** | | boolean optional | Specifies whether the node automatically takes over if its partner reboots. Default: true Attributes: non-creatable, modifiable |
| **takeover-onshort-uptime-enabled** | | boolean optional | Specifies whether the node takes over if the partner node fails within short-uptime-duration seconds of starting up. Default: true Attributes: non-creatable, modifiable |

# Element definition: **takeover-reason**

[top]

FM Takeover Reason Possible values:

- "takeover_none" - None,
- "takeover_immediate" - Immediate takeover,
- "takeover_ndu" - NDU Takeover,
- "takeover_forced" - Forced Takeover,
- "takeover_disaster" - Disaster Takeover,
- "takeover_early" - Early Takeover,
- "takeover_operator_exp" - Takeover Operator Timeout,
- "takeover_post_failed" - Takeover POST Failed,

- "takeover_panic" - Takeover On Panic,
- "takeover_shortuptime" - Takeover On Short Uptime,
- "takeover_sparecore_exp" - Takeover On Sparecore Timeout,
- "takeover_reboot_exp" - Takeover On Reboot Timeout,
- "takeover_booting_exp" - Takeover On Booting Timeout,
- "takeover_firmware_exp" - Takeover On Firmware Timeout,
- "takeover_nfo_shutdown" - Takeover On Negotiated Failover,
- "takeover_nfo_timer" - Takeover On Negotiated Failover Timeout,
- "takeover_mdp" - Takeover On MDP,
- "takeover_reboot" - Takeover On Reboot,
- "takeover_halt" - Takeover On Halt,
- "takeover_clam" - CLAM Initiated Takeover,
- "takeover_hwassist" - H/w assisted Takeover,
- "takeover_normal" - Operator initiated takeover,
- "takeover_comm_err" - Takeover On Communication Error

[none]

# APIs in Category: **cg**


cg-commit
cg-delete
cg-start


## cg-commit

[top]

Commits the snapshots that were started during the preceeding cg-start call that returned the cg-id key, and unfences the volumes that were fenced. If cg-commit API times out, then it means that either too many volumes were specified to the cg-start api or the timeout value for the cg-start api was very small. In this situation, the caller should try to perform the cg-start operation by specifying lesser volumes or by specifying higher timeout value.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cg-id** | | integer | Key to identify the ongoing cg operation. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **EVOLUMENOTONLINE** | |
| **ECGOFF** | |
| **ECGSNAPERR** | |
| **ECGERROR** | |
| **EONTAPI_ETIMEDOUT** | |
| **EVOLUMEBUSY** | |
| **ELOCALREVERT** | |
| **EVOLUMEREADONLY** | |
| **EONTAPI_EVOLOPNOTSUPP** | |
| **ENOSPC** | |
| **EAGGRRELOCATING** | |
| **EAGGRINSWITCHBACK** | |
| **EOP_DISALLOWED_DURING_GIVEBACK** | |
| **EAGGRFAILINGOVER** | |
| **EHALTING** | |

| Vfiler-enabled |
|---|
| **Yes** |

## cg-delete

[top]

Deletes the snaps associated with a CG checkpoint in this filer. This API is deprecated as of Data ONTAP 8.2. Applications using this API should transition to snapshot-multidelete API as appropriate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | string | The name of the snapshot that is deleted in each volume. |
| **volume-uuids** | | UUID[] | The identities of the volumes in which to create the snapshot.<br><br>The volume identity string is its 128-bit universally-unique identifier (UUID) or its DSID.<br><br>UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.<br><br>Here is an example of an actual UUID:<br><br>49e370d6-5b5a-11d9-9eb5-000100000529 |
| **volumes** | | volume-name[] | A list of volumes in this filer that is part of this CG operation. |

| Errno | Description |
|---|---|
| **ECGOFF** | |
| **EONTAPI_EINVAL** | |
| **EVOLUMENOTONLINE** | |
| **ECGSNAPDELERR** | |
| **ECGERROR** | |

# cg-start

[top]

Starts the checkpoint cycle for externally synchronized checkpoints in the filer. This operation fences the specified volumes and returns "success" (if successful). If the API returns "success", the call starts a snapshot create operation in these volumes. If the API returns "success", this operation SHOULD be followed by a call to cg-commit (below).

This API is not supported on Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **incoming-cg-id** | | integer optional | This is the common cg-id which the M-host generates internally to keep track of all the D-blades on which this API is executed. When this field is not present, D-blade will generates its own cg-id. |
| **snapmirror-label** | | string optional | A human readable SnapMirror label to be attached with the consistency group snapshot copies. Size of the label can be at most 31 characters. This label will be applied as an attribute to the snapshots that are created and will be used by the vaulting system to identify a vaulting scheme. |
| **snapshot** | | string | The provided name of the snapshot that is created in each volume. This name is the unique identifier by which the calling agent identifies the snapshots that constitute a checkpoint. The maximum length is 255 characters. (= MAXNAMLEN) |
| **snapshot-tags** | | d-snapshot-tag-info[] optional | The new tags to be set on the given consistency group snapshot copies. |

| | | | |
|---|---|---|---|
| **timeout** | | string optional | Timeout selector. Possible vaules are "urgent", "medium" or "relaxed". If no value is specified, the default value is "medium". Following are the timeout values:<br><br>"urgent" : 5 seconds<br><br>"medium" : 7 seconds<br><br>"relaxed" : 20 seconds |
| **user-timeout** | | integer optional | User specified timeout value in seconds. This option can be set if the user wants to specify timeout value other than the default timeouts. The API will return failure if both 'timeout' and 'user-timeout' are specified. The minimum value for this field is equal to the "urgent" timeout. The maximum timeout which can be specified is 120 seconds. |
| **volume-uuids** | | UUID[] | The identities of the volumes in which to create the snapshot.<br><br>The volume identity string is its 128-bit universally-unique identifier (UUID) or its DSID.<br><br>UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.<br><br>Here is an example of an actual UUID:<br><br>49e370d6-5b5a-11d9-9eb5-000100000529 |
| **volumes** | | volume-name[] | A list of volumes in this filer that is part of this CG operation. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **cg-id** | | integer | Identifier of the started cg-start operation. This identifier is used in the succeeding cg-commit call to identify the operation to be commited. |
| **no-fence** | | boolean optional | This option disables volume fencing. The default value is "false" |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **EONTAPI_EAGAIN** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUMEBUSY** | |
| **ECGERROR** | |
| **EONTAPI_ETIMEDOUT** | |
| **EVOLUMEBUSY** | |
| **ELOCALREVERT** | |
| **EDUPLICATEDSID** | |
| **EVOLUMEREADONLY** | |
| **EVOLUMEBUSY** | |
| **EONTAPI_EVOLOPNOTSUPP** | |

| Vfiler-enabled |
| --- |
| Yes |

# Element definition: **UUID**

[top]

The 128-bit universally-unique identifier (UUID). UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# APIs in Category: **cifs**


cifs-branchcache-create
cifs-branchcache-flush
cifs-branchcache-get
cifs-branchcache-get-iter
cifs-branchcache-hash
cifs-branchcache-hash-stat
cifs-branchcache-modify
cifs-branchcache-remove
cifs-branchcache-set-key
cifs-cache-settings-get
cifs-cache-settings-modify
cifs-character-mapping-create
cifs-character-mapping-destroy
cifs-character-mapping-get-iter
cifs-character-mapping-modify
cifs-check-server-get-iter
cifs-connection-get-iter
cifs-domain-discovered-servers-get-iter
cifs-domain-discovered-servers-reset
cifs-domain-name-mapping-search-add
cifs-domain-name-mapping-search-get-iter
cifs-domain-name-mapping-search-modify
cifs-domain-name-mapping-search-remove
cifs-domain-password-schedule-get-iter
cifs-domain-password-schedule-modify
cifs-domain-preferred-dc-add
cifs-domain-preferred-dc-get-iter
cifs-domain-preferred-dc-remove
cifs-domain-server-discovery-mode-get
cifs-domain-server-discovery-mode-get-iter
cifs-domain-server-discovery-mode-modify


This set of APIs allows managing CIFS configuration.

cifs-domain-trusts-get-iter
cifs-domain-trusts-rediscover
cifs-home-directory-get-iter
cifs-home-directory-modify
cifs-home-directory-search-path-add
cifs-home-directory-search-path-delete
cifs-home-directory-search-path-get-iter
cifs-home-directory-search-path-remove
cifs-home-directory-search-path-reorder
cifs-homedir-path-get-for-user
cifs-homedir-paths-get
cifs-homedir-paths-set
cifs-list-config
cifs-local-group-create
cifs-local-group-delete
cifs-local-group-get-iter
cifs-local-group-members-add-members
cifs-local-group-members-get-iter
cifs-local-group-members-remove-members
cifs-local-group-modify
cifs-local-group-rename
cifs-local-user-create
cifs-local-user-delete
cifs-local-user-get-iter
cifs-local-user-membership-get-iter
cifs-local-user-modify
cifs-local-user-rename
cifs-local-user-set-password
cifs-nbalias-names-get
cifs-nbalias-names-set
cifs-nbtstat-get-iter
cifs-options-get-iter
cifs-options-modify
cifs-password-change
cifs-password-reset
cifs-preferred-dc-check-get-iter
cifs-privilege-add-privilege
cifs-privilege-get-iter

cifs-privilege-remove-privilege
cifs-privilege-reset-privilege
cifs-security-get-iter
cifs-security-modify
cifs-server-add-netbios-aliases
cifs-server-create
cifs-server-delete
cifs-server-get-iter
cifs-server-modify
cifs-server-remove-netbios-aliases
cifs-server-start
cifs-server-stop
cifs-session-close
cifs-session-file-close
cifs-session-file-get-iter
cifs-session-get-iter
cifs-session-list-iter-end
cifs-session-list-iter-next
cifs-session-list-iter-start
cifs-setup
cifs-setup-create-group-file
cifs-setup-create-passwd-file
cifs-setup-ou-list-iter-end
cifs-setup-ou-list-iter-next
cifs-setup-ou-list-iter-start
cifs-setup-site-list-iter-end
cifs-setup-site-list-iter-next
cifs-setup-site-list-iter-start
cifs-setup-verify-name
cifs-setup-verify-passwd-and-group
cifs-share-access-control-create
cifs-share-access-control-delete
cifs-share-access-control-get-iter
cifs-share-access-control-modify
cifs-share-ace-delete
cifs-share-ace-set
cifs-share-acl-list-iter-end
cifs-share-acl-list-iter-next
cifs-share-acl-list-iter-

start
cifs-share-add
cifs-share-change
cifs-share-create
cifs-share-delete
cifs-share-get-iter
cifs-share-list-iter-end
cifs-share-list-iter-next
cifs-share-list-iter-start
cifs-share-modify
cifs-start
cifs-status
cifs-stop
cifs-symlink-create
cifs-symlink-delete
cifs-symlink-get-iter
cifs-symlink-modify
cifs-top-iter-end
cifs-top-iter-next
cifs-top-iter-start
cifs-user-home-directory-path-get
cifs-user-home-directory-path-get-iter
cifs-users-and-group-local-group-members-get-iter
cifs-users-and-group-local-user-membership-get-iter
volume-charmap-get
volume-charmap-set

# cifs-branchcache-create

[top]

Create and setup the BranchCache service.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hash-store-max-size** | | size optional | Maximum size the hash store can grow to. |
| **hash-store-path** | | string | Path to the directory where hash files are stored. |
| **operating-mode** | | string optional | The mode in which the BranchCache service will operate. |
| **return-record** | | boolean optional | If set to true, returns the cifs-branchcache on successful creation. Default: false |
| **server-key** | | string optional | BranchCache server key. |
| **versions** | | cifs-bc-version-control[] optional | Versions of the BranchCache protocol that are supported. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| result | | cifs-branchcache optional | The cifs-branchcache created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# cifs-branchcache-flush

[top]

Flush (delete) all the BranchCache hashes that have been generated for a Vserver.

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# cifs-branchcache-get

[top]

Retrieve information about the BranchCache service.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | cifs-branchcache optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | cifs-branchcache | The attributes of the cifs-branchcache. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# cifs-branchcache-get-iter

[top]

Retrieve the per-Vserver BranchCache configurations for the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | cifs-branchcache optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-branchcache optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-branchcache object. All cifs-branchcache objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-branchcache[] optional | The list of attributes of cifs-branchcache objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-branchcache objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-branchcache-hash

[top]

Force the generation of BranchCache hashes for a file or path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of File or Directory to Hash |
| **recurse** | | boolean optional | If set to 'true', hashes will be recursively computed for all files in the directory |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-branchcache-hash-stat

[top]

Display the CIFS BranchCache statistics

| Input Name | Range | Type | Description |
|---|---|---|---|
| **include-filesize-stats** | | boolean optional | If true, it shows BranchCache hash stats of file sizes for which hashes were requested for. File sizes are <10K, 11K-100K, 101K-250K, 251K-1M, 1.1M-10M, 11M-100M, >100M. The default value of this is false. |
| **include-flush-stats** | | boolean optional | If true, returns BranchCache hash stats like how many hashes were flushed in multiples of BranchCache hash timeout duration. The default value of this field is false. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **filesize-more-than-100mb** | | integer optional | Number of files of size more than 100mb. |
| **filesize-range-0kb-to-10kb** | | integer optional | Number of files of size less than equal to 10k for which hashes were asked for. |
| **filesize-range-100kb-to-250kb** | | integer optional | Number of files of size more than 100kb and less than equal to 250kb for which hashes were asked for. |
| **filesize-range-10kb-to-100kb** | | integer optional | Number of files of size more than 10kb and less than equal to 100kb for which hashes were asked for. |
| **filesize-range-10mb-to-100mb** | | integer optional | Number of files of size more than 10mb and less than equal to 100mb for which hashes were asked for. |
| **filesize-range-1mb-to-10mb** | | integer optional | Number of files of size more than 1mb and less than equal to 10mb for which hashes were asked for. |
| **filesize-range-250kb-to-1mb** | | integer optional | Number of files of size more than 250kb and less than equal to 1mb for which hashes were asked for. |
| **hashes-flashed-post-fifth-timeout** | | integer optional | Number of hashes flushed after fifth timeout. |
| **hashes-flashed-post-first-timeout** | | integer optional | Number of hashes flushed in between first and second timeout. |
| **hashes-flashed-post-fourth-timeout** | | integer optional | Number of hashes flushed in between fourth and fifth timeout. |
| **hashes-flashed-post-second-timeout** | | integer optional | Number of hashes flushed in between second and third timeout. |
| **hashes-flashed-post-third-timeout** | | integer optional | Number of hashes flushed in between third and fourth timeout. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-branchcache-modify

[top]

Modify the CIFS BranchCache service settings

| Input Name | Range | Type | Description |
|---|---|---|---|
| **flush-hashes** | | boolean optional | Delete Existing Hashes |
| **hash-store-max-size** | | size optional | Maximum Size of the Hash Store |
| **hash-store-path** | | string optional | Path to Hash Store |
| **operating-mode** | | string optional | CIFS BranchCache Operating Modes |
| **server-key** | | string optional | Encryption Key Used to Secure the Hashes |
| **versions** | | cifs-bc-version-control[] optional | Supported BranchCache Versions |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-branchcache-remove

[top]

Remove the BranchCache service

| Input Name | Range | Type | Description |
|---|---|---|---|
| **flush-hashes** | | boolean | Delete Existing Hashes |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-branchcache-set-key

[top]

Sets the server secret for BranchCache.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **server-secret** | | string | A binary string that provides cryptographic data used by the BranchCache content server to generate hashes. Content servers that are serving the same data and are expected to provide the same hash values must use the same key. After changing this value, any existing cached content will be identified as stale and retrieved from the content server again. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EAPILICENSE** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| cifs |

# cifs-cache-settings-get

[top]

Get the CIFS name and SID cache configuration of the SVM

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **desired-attributes** | | cifs-cache-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **attributes** | | cifs-cache-settings-info | The attributes of the cifs-cache-settings. |

| Errno | Description |
| --- | --- |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-cache-settings-modify

[top]

Modify the CIFS name and SID cache configuration of the specified SVM. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **is-enabled** | | boolean optional | Is Cache Enabled? |
| **is-negative-cache-enabled** | | boolean optional | Is Negative Cache Enabled? |
| **is-propagation-enabled** | | boolean optional | Is Propagation Enabled? |
| **negative-ttl** | | time-interval optional | Negative Time to Live |
| **ttl** | | time-interval optional | Time to Live |

| Errno | Description |
| --- | --- |
| **EINVALIDINPUTERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |

| Errno | Description |
|---|---|
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-character-mapping-create

[top]

Create a character mapping. This API is not supported for FlexGroups or Vservers with Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **mapping** | | string[] | The mapping for invalid characters in the format XX:XXXX. |
| **return-record** | | boolean optional | If set to true, returns the cifs-character-mapping on successful creation. Default: false |
| **volume** | | string | The name of the volume for which character mapping needs to be applied. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | cifs-character-mapping optional | The cifs-character-mapping created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-character-mapping-destroy

[top]

Delete a character mapping. This API is not supported for FlexGroups or Vservers with Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | The name of the volume for which character mapping needs to be applied. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-character-mapping-get-iter

[top]

Display a character mapping

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-** | | cifs-character- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | mapping optional | present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-character-mapping optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-character-mapping object. All cifs-character-mapping objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-character-mapping[] optional | The list of attributes of cifs-character-mapping objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-character-mapping objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-character-mapping-modify

[top]

Modify a character mapping. This API is not supported for FlexGroups or Vservers with Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **mapping** | | string[] | The mapping for invalid characters in the format XX:XXXX. |
| **volume** | | string | The name of the volume for which character mapping needs to be applied. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-check-server-get-iter

[top]

Display the Status of Connectivity from Each Node to the CIFS Server for the Given Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-** | | cifs-check- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | info optional | present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-check-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the check-server object. All check-server objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |
| **vserver** | | string | Vserver For Checking the CIFS Server. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-check-info[] optional | The list of attributes of check-server objects. |
| **cifs-status** | | string | CIFS Server Status. |
| **netbios-name** | | string | The NetBIOS Name of the CIFS Server. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more check-server objects to return. |
| **node** | | string optional | The Node on Which the Command Will Be Run. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |
| **server** | | string | The FQDN of the DC, CIFS Server Belongs to. |
| **server-ip** | | string | The IP address of the DC, CIFS Server Belongs to. |
| **site** | | string | The Site CIFS Server Belongs to. |
| **status** | | string | Status of NETLOGON Connection from Node to the CIFS Server. |
| **status-details** | | string | Time for Establishing NETLOGON Connection from Node to the CIFS Server. |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_ERROR_VSERVER_OPSTATE_STOPPED** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |
| **EOBJECTNOTFOUND** | |

# cifs-connection-get-iter

[top]

Retrieve the list of the established CIFS connections.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-connection | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is |

| | | | |
|---|---|---|---|
| | | optional | available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-connection optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-connection object. All cifs-connection objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-connection[] optional | The list of attributes of cifs-connection objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-connection objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-domain-discovered-servers-get-iter

[top]

Retrieve the list of servers discovered by the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-domain-discovered-servers optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-domain-discovered-servers optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-domain-discovered-servers object. All cifs-domain-discovered-servers objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-domain-discovered-servers[] optional | The list of attributes of cifs-domain-discovered-servers objects. |
| | | string | Tag for the next call. Not present when there are no more cifs- |

| | | | |
|---|---|---|---|
| **next-tag** | | optional | domain-discovered-servers objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-domain-discovered-servers-reset

[top]

Command to trigger re-discovery of servers.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-domain-name-mapping-search-add

[top]

Add to the list of trusted domains for name-mapping search

| Input Name | Range | Type | Description |
|---|---|---|---|
| **trusted-domains** | | realm-name[] | Trusted Domains |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-domain-name-mapping-search-get-iter

[top]

Retrieve the list of trusted domains for name-mapping search.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-domain-name-mapping-search optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | cifs-domain- | A query that specifies which objects to return. A query could be |

| | | | |
|---|---|---|---|
| **query** | | name-mapping-search optional | specified on any number of attributes in the cifs-domain-name-mapping-search object. All cifs-domain-name-mapping-search objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-domain-name-mapping-search[] optional | The list of attributes of cifs-domain-name-mapping-search objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-domain-name-mapping-search objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |

# cifs-domain-name-mapping-search-modify

[top]

Modify the list of trusted domains for name-mapping search

| Input Name | Range | Type | Description |
|---|---|---|---|
| **trusted-domains** | | realm-name[] | Trusted Domains |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-domain-name-mapping-search-remove

[top]

Remove from the list of trusted domains for name-mapping search

| Input Name | Range | Type | Description |
|---|---|---|---|
| **trusted-domains** | | realm-name[] optional | Trusted Domains |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-domain-password-schedule-get-iter

[top]

Iterate over a list of cifs-domain-password-schedule objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-domain-password-schedule optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-domain-password-schedule optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-domain-password-schedule object. All cifs-domain-password-schedule objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-domain-password-schedule[] optional | The list of attributes of cifs-domain-password-schedule objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-domain-password-schedule objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# cifs-domain-password-schedule-modify

[top]

Modify the attributes of cifs-domain-password-schedule object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-schedule-enabled** | | boolean optional | Value of this field indicates whether domain account password change schedule is enabled or not. Value of true indicates schedule is enabled. |
| **schedule-day-of-week** | | cron-day-of-week optional | This field specifies the day of week when the scheduled domain account password change occurs |

| | | | |
|---|---|---|---|
| **schedule-randomized-minute** | **[1..180]** | integer optional | This field specifies the minutes within which the scheduled domain account password start time can be randomized beginning schedule-time-of-day |
| **schedule-time-of-day** | | time-of-day optional | This field specifies the time in HH:MM:SS at which the scheduled domain account password change starts |
| **schedule-weekly-interval** | **[1..52]** | integer optional | This field specifies the number of weeks after which the scheduled domain account password change must occur |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# cifs-domain-preferred-dc-add

[top]

Add to a list of preferred domain controllers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **domain** | | string | The fully qualified domain name of the Active Directory domain to which the domain controllers in the list belong. |
| **preferred-dc** | | string[] | Preferred Domain Controllers |
| **skip-config-validation** | | boolean | Skip Configuration Validation |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |

# cifs-domain-preferred-dc-get-iter

[top]

Retrieve the list of preferred domain controllers associated with Active Directory domains.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-domain-preferred-dc optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-domain-preferred-dc optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-domain-preferred-dc object. All cifs-domain-preferred-dc objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-domain-preferred-dc[] optional | The list of attributes of cifs-domain-preferred-dc objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-domain-preferred-dc objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |

# cifs-domain-preferred-dc-remove

[top]

Remove from a list of preferred domain controllers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **domain** | | string | The fully qualified domain name of the Active Directory domain to which the domain controllers in the list belong. |
| **preferred-dc** | | string[] optional | Preferred Domain Controllers |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |

# cifs-domain-server-discovery-mode-get

[top]

Get the CIFS server domain discovery mode of a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-domain-server-discovery-mode-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cifs-domain-server-discovery-mode-info | The attributes of the cifs-domain-server-discovery-mode. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# cifs-domain-server-discovery-mode-get-iter

[top]

Iterate through the CIFS server domain discovery mode of the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | cifs-domain-server-discovery-mode-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | cifs-domain-server-discovery-mode-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-domain-server-discovery-mode object. All cifs-domain-server-discovery-mode objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | cifs-domain-server-discovery-mode-info[] optional | The list of attributes of cifs-domain-server-discovery-mode objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more cifs-domain-server-discovery-mode objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# cifs-domain-server-discovery-mode-modify

[top]

Modify the CIFS server domain discovery mode of a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | cifs-domain-server- | Server discovery mode Possible values:<br>• "all" - Discover all the servers in the domain., |

| | | | |
|---|---|---|---|
| **mode** | | discovery-mode<br>optional | • "site" - Discover the servers local to the site.,<br>• "none" - Discover nothing. Expect admins to configure pref-dcs. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-domain-trusts-get-iter

[top]

Retrieve the list of discovered trusted domains.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-domain-trusts<br>optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer<br>optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-domain-trusts<br>optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-domain-trusts object. All cifs-domain-trusts objects matching this query up to 'max-records' will be returned. |
| **tag** | | string<br>optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-domain-trusts[]<br>optional | The list of attributes of cifs-domain-trusts objects. |
| **next-tag** | | string<br>optional | Tag for the next call. Not present when there are no more cifs-domain-trusts objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# cifs-domain-trusts-rediscover

[top]

Command to trigger re-discovery of trusted domains.

| Errno | Description |
|---|---|
| E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE | |
| E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE | |

# cifs-home-directory-get-iter

[top]

Displays CIFS home directory configurations

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | cifs-home-directory optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | cifs-home-directory optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-home-directory object. All cifs-home-directory objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | cifs-home-directory[] optional | The list of attributes of cifs-home-directory objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more cifs-home-directory objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# cifs-home-directory-modify

[top]

Modify CIFS home directory configurations

| Input Name | Range | Type | Description |
|---|---|---|---|
| is-home-dirs-access-for-admin-enabled | | boolean optional | Is home directory access is enabled to admin. Default value is true. |
| is-home-dirs-access-for-public-enabled | | boolean optional | Is home directory access is enabled to public. Default value is false. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |

| | |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-home-directory-search-path-add

[top]

Add a path to the list of paths that will be searched to find a CIFS user's home directory.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | The file system path that will be searched for finding a CIFS user's home directory. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-home-directory-search-path-delete

[top]

Delete a home directory search path. This API is deprecated in Data ONTAP 8.2 and later but retained for backwards compatibility. Use cifs-home-directory-search-path-remove instead of cifs-home-directory-search-path-delete.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | The file system path that will be searched for finding a CIFS user's home directory. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-home-directory-search-path-get-iter

[top]

Iterate over a list of cifs-home-directory-search-path objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-home-directory-search-path optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | cifs- | |

| | | | |
|---|---|---|---|
| **query** | | home-directory-search-path optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-home-directory-search-path object. All cifs-home-directory-search-path objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-home-directory-search-path[] optional | The list of attributes of cifs-home-directory-search-path objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-home-directory-search-path objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-home-directory-search-path-remove

[top]

Remove a home directory search path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | The file system path that will be searched for finding a CIFS user's home directory. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-home-directory-search-path-reorder

[top]

Change the position of this path in the list of paths that will be searched to find a CIFS user's home directory.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | The file system path that will be searched for finding a CIFS user's home directory. |
| **to-position** | **[0..2^32-1]** | integer | The target position this entry should be moved to, in the list of CIFS home directory search paths. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-homedir-path-get-for-user

[top]

Return path to the user's CIFS home directory if it exists.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **user-name** | | string | Name of the user. If the filer is using the "mapped" CIFS home directory naming style, then a mapped Unix name is provided. For the domain naming style, a domain/user is provided. Otherwise the filer will expect the NT name for the user. The filer's CIFS home directory naming style can be obtained with the "options-get" api, using input parameter "name cifs.home_dir_namestyle". |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **homedir-path-user** | | string optional | A Unix-style path to the user's CIFS homedir directory, if it exists, for example: /vol/volName/users/joe. |

| Errno | Description |
|---|---|
| **ESVCNOTAVAIL** | |
| **EONTAPI_ENOMEM** | |
| **EONTAPI_EINVAL** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-homedir-paths-get

[top]

Return the current list of paths to users' cifs home directories, if any.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **homedir-paths** | | homedir-path-info[] optional | An array, one entry per each cifs home directory path. |

| Errno | Description |
|---|---|
| **ESVCNOTAVAIL** | |
| **EONTAPI_ENOMEM** | |
| **EONTAPI_EINVAL** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| cifs |

# cifs-homedir-paths-set

[top]

Provides a list of CIFS home directory paths for the filer. Replaces the current list of paths in use by the filer. Note that supplying an empty path list causes the filer to delete any current entries.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **force** | | boolean optional | If true, the new set of homedir paths will be put into use even if some user homedir connections will be broken. This can cause users with open files in their home directories to lose access to the files. A user can lose data if there are updates not yet committed to disk. |
| **homedir-paths** | | homedir-path-info[] optional | An array, one entry per each cifs home directory path. note: homedir-path-info defined above |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **path-error** | | path-error-info[] optional | An array, one entry for each homedir path error detected. Note that normally the API will complete sucessfully and activate as many paths as possible even if some paths cannot be activated. |

| Errno | Description |
| --- | --- |
| ESVCNOTAVAIL | |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| cifs |

# cifs-list-config

[top]

This ZAPI is used to display the CIFS configuration.

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **AD-site** | | string optional | Active Directory site that the filer is in. |
| **DC-connection** | | connection-info[] | Information on the Domain Controller's connection. |

| | | | |
|---|---|---|---|
| | | optional | |
| **DNS-domainname** | | string optional | FQDN of DNS domain. |
| **LDAP-connection** | | connection-info[] optional | Information on the LDAP connection. |
| **NetBIOS-domainname** | | string optional | NetBIOS domain name. |
| **NetBIOS-servername** | | string | NetBIOS name of the server |
| **Windows-type** | | string optional | Windows type: "NT4" |
| **auth-type** | | string | String specifying the type of authentication, such as: "ad" Active Directory "nt4" Windows NT4 "workgroup" Workgroup "passwd" Password file, NIS or LDAP |
| **domain-controller-functionality** | | cifs-functional-level optional | Domain controller functionality indicates the functional level of the DC. |
| **domain-functionality** | | cifs-functional-level optional | Domain functionality enables features that will affect the entire domain and that domain only. It indicates the functional level of the domain. |
| **forest-functionality** | | cifs-functional-level optional | Forest functionality enables features across all the domains within your forest. It indicates the functional level of the forest. |
| **security-style** | | string | String specifying the security style, such as: "ntfs" NTFS "multiprotocol" Multiple Protocol |

| Errno | Description |
|---|---|
| **ECIFSNOTCONFIGURED** | |
| **EDNSNOTENABLED** | |
| **EHOSTNOTFOUND** | |
| **ELDAPSVRNOTFOUND** | |
| **EONTAPI_ENOMEM** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-local-group-create

[top]

Create a single local group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | The description of the local group |
| | | | |

| | | | |
|---|---|---|---|
| **group-name** | | cifs-name | The name of the local group |
| **return-record** | | boolean optional | If set to true, returns the cifs-local-group on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | cifs-local-group optional | The cifs-local-group created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **CIFS** |

# cifs-local-group-delete

[top]

Delete a single local group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | cifs-name | The name of the local group |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **CIFS** |

# cifs-local-group-get-iter

[top]

Retrieve the list of local groups

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-local-group optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-local- | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-local-group object. |

| | | | |
|---|---|---|---|
| | | group optional | All cifs-local-group objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-local-group[] optional | The list of attributes of cifs-local-group objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-local-group objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-local-group-members-add-members

[top]

Add local users or Active Directory users or groups to a local group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | cifs-name | Group Name |
| **member-names** | | cifs-name[] | Names of Users or Active Directory Groups to be Added |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-local-group-members-get-iter

[top]

Retrieve the list of local group members

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-local-group-members optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-local-group-members optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-local-group-members object. All cifs-local-group-members objects matching this query up to 'max-records' will be returned. |
| | | string | Specify the tag from the last call. It is usually not specified for |

| | | | |
|---|---|---|---|
| **tag** | | optional | the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-local-group-members[] optional | The list of attributes of cifs-local-group-members objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-local-group-members objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-local-group-members-remove-members

[top]

Remove local users or Active Directory users or groups from a local group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | cifs-name | Group Name |
| **member-names** | | cifs-name[] | Names of Users or Active Directory Groups to be Removed |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-local-group-modify

[top]

Modify a description of a single local group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | The description of the local group |
| **group-name** | | cifs-name | The name of the local group |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **CIFS** |

# cifs-local-group-rename

[top]

Rename a local group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | cifs-name | The name of the local group |
| **new-group-name** | | cifs-name | New Group Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-local-user-create

[top]

Configure and create a local user, associated with a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | The description of the local user |
| **full-name** | | string optional | The full name of the local user |
| **is-account-disabled** | | boolean optional | The local user account is disabled |
| **user-name** | | cifs-name | The name of the local user |
| **user-password** | | string | The password for the local user |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-local-user-delete

[top]

Delete a single local user

| Input Name | Range | Type | Description |
|---|---|---|---|
| **user-name** | | cifs-name | The name of the local user |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |

| EVSERVER_OPERATION_NOT_PERMITTED | |
|---|---|

| License |
|---|
| CIFS |

# cifs-local-user-get-iter

[top]

Retrieve the list of local users

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | cifs-local-user optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | cifs-local-user optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-local-user object. All cifs-local-user objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | cifs-local-user[] optional | The list of attributes of cifs-local-user objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more cifs-local-user objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# cifs-local-user-membership-get-iter

[top]

Retrieve local users' membership information

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | cifs-local-user-membership optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | cifs-local-user-membership optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-local-user-membership object. All cifs-local-user-membership objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-local-user-membership[] optional | The list of attributes of cifs-local-user-membership objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-local-user-membership objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-local-user-modify

[top]

Modify a single local user

| Input Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | The description of the local user |
| **full-name** | | string optional | Full name of the local user |
| **is-account-disabled** | | boolean optional | The user account is disabled |
| **user-name** | | cifs-name | The name of the local user |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **CIFS** |

# cifs-local-user-rename

[top]

Rename a local user

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-user-name** | | cifs-name | New User Name |
| **user-name** | | cifs-name | The name of the local user |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-local-user-set-password

[top]

Set password for a local user

| Input Name | Range | Type | Description |
|---|---|---|---|
| **user-name** | | cifs-name | The name of the local user |
| **user-password** | | string | The Password for a Local User |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-nbalias-names-get

[top]

Return the current list of NetBIOS alias names for the filer

| Output Name | Range | Type | Description |
|---|---|---|---|
| **nbalias-names** | | nbalias-name-info[] optional | An array, one entry for each NetBIOS alias name |

| Errno | Description |
|---|---|
| **ESVCNOTAVAIL** | |
| **EONTAPI_EINVAL** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-nbalias-names-set

[top]

Provides a list of NetBIOS alias names for the filer. The filer replaces the current list of aliases with with this list. Note that supplying an empty name list causes the filer to delete all current entries.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **nbalias-names** | | nbalias-name-info[] optional | An array, one entry for each NetBIOS alias name note: nbalias-name_info defined above |

| Errno | Description |
|---|---|
| **ESVCNOTAVAIL** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-nbtstat-get-iter

[top]

Retrieve the NetBIOS Name Service statistics for Vservers in cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-nbtstat optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-nbtstat optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NetBIOS statistics object. All NetBIOS statistics objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-nbtstat[] optional | The list of attributes of NetBIOS statistics objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more NetBIOS statistics objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-options-get-iter

[top]

Iterate over a list of cifs-options objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-options optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-options optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-options object. All cifs-options objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-options[] optional | The list of attributes of cifs-options objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-options objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |

# cifs-options-modify

[top]

Modify the attributes of cifs-options object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-session-timeout** | **[0..2^32-1]** | integer optional | This optional parameter specifies the amount of idle time (in seconds) before a CIFS session is disconnected |
| **default-unix-group** | | string optional | The default UNIX group used if the identity of a CIFS group cannot be mapped using normal group mapping rules. |
| **default-unix-user** | | string optional | The default UNIX user used if the identity of a CIFS user cannot be mapped using normal user mapping rules. |
| | | cifs- | This optional parameter specifies the size of file system sector in bytes reported to SMB Clients. Possible values: |

| | | | |
|---|---|---|---|
| **file-system-sector-size** | | filesystem-sector-size optional | • "512" - Reported file system sector size to SMB clients is 512 bytes,<br>• "4096" - Reported file system sector size to SMB clients is 4096 bytes |
| **grant-unix-group-perms-to-others** | | boolean optional | This optional parameter specifies whether UNIX group permissions should be granted to others when Windows clients access files on a UNIX security-style Volume/Qtree as well as mixed security style Volume/Qtree, as long as the effective security style on the file is UNIX. The default value for this parameter is false. |
| **guest-unix-user** | | string optional | This optional parameter specifies that a guest user coming from any untrusted domain can be mapped to specified UNIX user. |
| **is-admin-users-mapped-to-root-enabled** | | boolean optional | This optional parameter specifies that if name-mapping is not present for members of BUILTIN\Administrators group then whether they can be mapped to Unix User 'root'. The default value for this parameter is true. |
| **is-advanced-sparse-file-support-enabled** | | boolean optional | This optional parameter specifies whether advanced sparse file capabilities, such as Query Allocated Ranges and Set Zero Data, are enabled on the CIFS server. |
| **is-advertise-dfs-enabled** | | boolean optional | (DEPRECATED) This optional parameter specifies whether to advertise DFS referral of the CIFS protocol. The default value for this parameter is true. |
| **is-client-dup-detection-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server should detect duplicate sessions coming from the same SMB 1.0 client with VcNumber of zero (0). The default value for this parameter is true. |
| **is-client-version-reporting-enabled** | | boolean optional | This optional parameter specifies whether to report the client version through ASUP. The default value for this parameter is true. |
| **is-copy-offload-direct-copy-enabled** | | boolean optional | This optional parameter specifies whether the Direct-Copy Copy Offload mechanism is enabled or not. Default value for this parameter is true. |
| **is-copy-offload-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server is capable of performing copy offload operation. The default value for this parameter is true. |
| **is-dac-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server supports Dynamic Access Control. The default value for this parameter is false. |
| **is-exportpolicy-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server uses export policies to control client access. The default value for this parameter is false. |
| **is-fake-open-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server supports fake open requests. The default value for this parameter is true. |
| **is-fsctl-file-level-trim-enabled** | | boolean optional | This optional parameter specifies whether trim requests (FSCTL_FILE_LEVEL_TRIM) are supported on the cifs server. The default value for this parameter is true. |
| **is-hide-dotfiles-** | | boolean optional | This optional parameter specifies whether the CIFS server should hide files and directories beginning with a dot '.' during directory enumeration. The default |

| | | | |
|---|---|---|---|
| **enabled** | | | value for this parameter is false. |
| **is-inherit-modebits-with-nfsv4acl-enabled** | | boolean optional | This option Enables setting Modebits on file created by cifs user if it inherits nfs4acl. The default value for this parameter is false. |
| **is-large-mtu-enabled** | | boolean optional | This optional parameter specifies that the SMB 2.1 Large MTU feature is supported. The default value for this parameter is true. |
| **is-local-auth-enabled** | | boolean optional | This optional parameter specifies whether CIFS local users can authenticate. |
| **is-local-users-and-groups-enabled** | | boolean optional | This optional parameter specifies whether the CIFS local users and groups feature is enabled on the cluster. |
| **is-multichannel-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server supports Multichannel or not. The default value for this parameter is false. |
| **is-nbns-enabled** | | boolean optional | This optional parameter specifies that NBNS (port 137) is enabled or not. The default value for this parameter is false. |
| **is-netbios-over-tcp-enabled** | | boolean optional | This optional parameter specifies that the use of NetBIOS over TCP (port 139) is enabled or not. The default value for this parameter is true. |
| **is-path-component-cache-enabled** | | boolean optional | This optional parameter specifies whether the CIFS path component cache is enabled for SMB2 or not. The default value for this parameter is true. |
| **is-path-component-cache-symlink-enabled** | | boolean optional | This optional parameter specifies whether the CIFS symlink resolution for path component cache is enabled for SMB2 or not. The default value for this parameter is true. |
| **is-read-only-delete-enabled** | | enable optional | This optional parameter specifies that a file can be deleted using UNIX delete semantics when the DOS read-only bit is enabled. Possible values:<br>• "enabled" ,<br>• "disabled" |
| **is-referral-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server refers clients to more optimal data access paths (LIFs). The default value for this parameter is false. |
| **is-search-short-names-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server supports searching short names. The default value for this parameter is false. |
| **is-shadowcopy-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server is capable of performing shadow copy operations. Directories and files within a FlexGroup will not be shadow copied because FlexGroups do not support shadow copy. |
| **is-share-enum-permission-check-enabled** | | boolean optional | This option is used to control whether the NetShareEnum call should only respond with the shares the user has access to or with all shares. The default value is false which means it will respond with all shares. |
| | | | |

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|---|---|---|---|
| **is-smb1-enabled** | | boolean optional | (DEPRECATED) This optional parameter specifies whether the CIFS server negotiates the SMB1 versions of the CIFS protocol. The default value for this parameter is true for Vservers with Infinite Volume. For other data Vservers, the default value is false. |
| **is-smb2-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server negotiates the SMB2 versions of the CIFS protocol. The default value for this parameter is true. |
| **is-smb3-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server negotiates the SMB3 version of the CIFS protocol. The default value for this parameter is true. |
| **is-smb31-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server negotiates the SMB3.1 version of the CIFS protocol. The default value for this parameter is true. |
| **is-trusted-domain-enum-search-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server is capable of performing enumeration of trusted domains and search to map a UNIX user to a Windows user. |
| **is-unix-extensions-enabled** | | boolean optional | This optional parameter specifies whether CIFS server is capable of supporting UNIX Extensions. The default value for this parameter is false. |
| **is-unix-nt-acl-enabled** | | boolean optional | This optional parameter specifies whether NT ACLs can be set on a volume with UNIX security-style. |
| **is-use-junctions-as-reparse-points-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server exposes junction points as reparse points to Windows clients. |
| **map-sid-to-uid-on-set-owner** | | boolean optional | This option is used to control whether to map Windows SIDs to Unix UIDs when setting or restoring the owner SID. The default is true. Set this value to false to avoid performance-impacting SID lookups. It should be set true if your workflow involves converting the storage security style from 'ntfs' or 'mixed' to 'unix'. |
| **max-connections-per-session** | **[2..1024]** | integer optional | This optional parameter specifies the maximum number of connections allowed per Multichannel session. The default value for this parameter is 32. |
| **max-credits** | **[2..8192]** | integer optional | This optional parameter controls the maximum number of outstanding requests on a CIFS connection. The default value is 128. |
| **max-file-write-zero-length** | **[2^12..2^25]** | integer optional | This optional parameter specifies the maximum length of data in bytes that the CIFS server can write zero with one CIFS request. This parameter accepts data lengths between 4 KB and 32 MB. The default value for this option is 32 MB. |
| **max-lifs-per-session** | **[1..256]** | integer optional | This optional parameter specifies the maximum number of network interfaces advertised per Multichannel session. The default value for this parameter is 256. |
| **max-mpx** | **[2..65535]** | integer optional | This option controls maximum simultaneous operations the CIFS server reports it can process per TCP connection. The default value for this option is 255. |
| **max-opens-same-file-per-tree** | **[0..2^32-1]** | integer optional | This option controls maximum existing opens on the same file per CIFS Tree. The default value for this option is 1000. |
| **max-same-tree-connect-** | **[0..2^32-1]** | integer | This option controls maximum simultaneous CIFS connections to the same share per CIFS session. The |

| | | | |
|---|---|---|---|
| **per-session** | | optional | default value for this option is 5000. |
| **max-same-user-sessions-per-connection** | **[0..2^32-1]** | integer optional | This option controls maximum simultaneous sessions by the same user per TCP connection. The default value for this option is 2500. |
| **max-watches-set-per-tree** | **[0..2^32-1]** | integer optional | This option controls maximum watches that can be set per CIFS Tree. The default value for this option is 500. |
| **path-component-cache-entry-exp-time** | **[5000..3600000]** | integer optional | This optional parameter controls the time in milliseconds when the path component cache entry would be considered fresh. The default value for this parameter is 300000 milliseconds. |
| **path-component-cache-max-entries** | **[1000..1000000]** | integer optional | This optional parameter control the maximum number of cache entries in one instance of path component cache. The default value for this parameter is 100000. |
| **path-component-cache-max-session-token-size** | **[500..10000]** | integer optional | This optional parameter specifies maximum session token size for path component cache for SMB2. The default value for this parameter is 1000. |
| **path-component-cache-symlink-exp-time** | **[5000..3600000]** | integer optional | This optional parameter controls the time in milliseconds when the path component cache entry that is symlink would be considered fresh. The default value for this parameter is 300000 milliseconds. |
| **read-grants-execute** | | enable optional | On a file with UNIX Style security effective on it, if the file has read permission on it, a CIFS user would be allowed to execute permissions if this option is enabled. Possible values:<br>• "enabled" ,<br>• "disabled" |
| **restrict-anonymous** | | anonymous-restriction-level optional | This optional parameter specifies what level of access will a non authenticated user get Possible values:<br>• "no_restriction" - No Access Restriction for Anonymous User.,<br>• "no_enumeration" - Only Enumeration Is Restricted.,<br>• "no_access" - Access Restricted for Anonymous User. |
| **shadowcopy-dir-depth** | **[0..2^32-1]** | integer optional | This optional parameter specifies the maximum depth of directories to shadow copy. Directories and files within a FlexGroup will not be shadow copied because FlexGroups do not support shadow copy. |
| **smb1-max-buffer-size** | **[4356..65535]** | integer optional | This optional parameter specifies the maximum buffer size used for SMB1 message that the server can receive. The default value for this parameter is 65535. |
| **widelink-as-reparse-point-versions** | | cifs-dialects[] optional | This optional parameter specifies for which CIFS protocol versions widelink will be reported as reparse points. The default value for this parameter is SMB1. Possible values:<br>• "smb1" - SMB 1.0,<br>• "smb2" - SMB 2.0, |

| | | | |
|---|---|---|---|
| | | | • "smb2_1" - SMB 2.1,<br>• "smb3" - SMB 3.0,<br>• "smb3_1" - SMB 3.1 |
| **win-name-for-null-user** | | string<br>optional | This optional parameter specifies a valid Windows user or group name that will be added to the CIFS credentials for a NULL user Session. |
| **wins-servers** | | inet-address[]<br>optional | List of Windows Internet Name Service (WINS) IP addresses. The Vserver will send NetBIOS name resolution requests to these addresses. |

| Errno | Description |
|---|---|
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |

# cifs-password-change

[top]

Generate a new password for the CIFS server's machine account and change it in the Windows Active Directory domain.

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# cifs-password-reset

[top]

Reset the CIFS server's machine account password in the Windows Active Directory domain. This may be required if the password stored along with the machine account in the Windows Active Directory domain is changed or reset without the Vserver's knowledge. This operation requires the credentials for a user with permission to reset the password in the organizational unit (OU) that the machine account is a member of.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string | Account password for the admin-username. |
| **admin-username** | | string | Username of a user with permission to reset the password in the organizational unit (OU) that the machine account is a member of. This user is expected to be part of the same Windows Active Directory domain as the CIFS server. If the specified username is not part of the same domain but part of a domain that has a trust relationship with the CIFS server's domain, the username can be specified as ' @ ' where FQDN is the fully qualified domain name of the domain of which the user is a member. |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# cifs-preferred-dc-check-get-iter

[top]

Display the Status of the Preferred-DCs configured for the Given Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-preferred-dc-check-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-preferred-dc-check-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-preferred-dc-check object. All cifs-preferred-dc-check objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |
| **vserver** | | string | Vserver |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-preferred-dc-check-info[] optional | The list of attributes of cifs-preferred-dc-check objects. |
| **domain** | | string[] | Domain Name |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-preferred-dc-check objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |
| **server-ip** | | string[] | DC Address |
| **status** | | service-state[] | DC Status |
| **status-details** | | string[] | Status Details |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_ERROR_VSERVER_OPSTATE_STOPPED** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |
| **EOBJECTNOTFOUND** | |

# cifs-privilege-add-privilege

[top]

Add privileges to a local or Active Directory user or group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **privileges** | | cifs-privilege-entries[] | Privileges |
| **user-or-group-name** | | cifs-name | User or Group Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-privilege-get-iter

[top]

Retrieve the list of local groups

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-privilege optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-privilege optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-privilege object. All cifs-privilege objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-privilege[] optional | The list of attributes of cifs-privilege objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-privilege objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-privilege-remove-privilege

[top]

Remove privileges from a local or Active Directory user or group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **privileges** | | cifs-privilege-entries[] | Privileges |
| **user-or-group-name** | | cifs-name | User or Group Name |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# cifs-privilege-reset-privilege

[top]

Reset privileges for a local or Active Directory user or group

| Input Name | Range | Type | Description |
|---|---|---|---|
| user-or-group-name | | cifs-name | User or Group Name |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# cifs-security-get-iter

[top]

Iterate over a list of cifs-security objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | cifs-security optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | cifs-security optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-security object. All cifs-security objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | cifs-security[] optional | The list of attributes of cifs-security objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more cifs-security objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE | |

# cifs-security-modify

[top]

Modify the security configuration of a CIFS server.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string optional | The password of the account with administrative privilege for the Active Directory domain to which the CIFS server is joined. This part of the credential may need to be supplied if the AES encryption is being enabled or disabled. |
| **admin-username** | | string optional | The username of the account with administrative privilege for the Active Directory domain to which the CIFS server is joined. This part of the credential may need to be supplied if the AES encryption is being enabled or disabled. |
| **advertised-enc-types** | | cifskrbenctypes[] optional | This parameter determines which encryption types will be advertised to Kerberos. By default RC4 and DES will be advertised. Possible values:<br>• "des" ,<br>• "rc4" ,<br>• "aes_128" ,<br>• "aes_256" |
| **aes-enabled-for-netlogon-channel** | | boolean optional | This parameter determines whether to use AES session key as part of NetLogon secure channel establishment. By default this option is false. |
| **encryption-required-for-dc-connections** | | boolean optional | This parameter determines if encryption is required for connections to domain controllers. |
| **is-aes-encryption-enabled** | | boolean optional | (DEPRECATED) This parameter determines whether AES-128 and AES-256 encryption mechanisms are enabled for Kerberos-related CIFS communication. By default this option is false. |
| **is-password-complexity-required** | | boolean optional | This parameter determines whether password complexity is required for local users. By default this option is true. |
| **is-signing-required** | | boolean optional | This parameter determines whether signing is required for incoming CIFS traffic. By default this option is false. |
| **is-smb-encryption-required** | | boolean optional | This parameter determines whether SMB encryption is required for incoming CIFS traffic. By default this option is false. |
| **kerberos-clock-skew** | **[0..2^32-1]** | integer optional | The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock. |
| **kerberos-kdc-timeout** | **[0..2^32-1]** | integer optional | This parameter determines the timeout value in seconds for KDC connections. |
| **kerberos-renew-age** | **[0..2^32-1]** | integer optional | This parameter determines the maximum amount of time in days for which a ticket can be renewed. |
| **kerberos-ticket-age** | **[0..2^32-1]** | integer optional | This parameter determines the maximum amount of time in hours that a user's ticket may be used for the purpose of Kerberos authentication. |
| | | | This parameter determines the LM compatibility level. By default this option is 'LM, NTLM, NTLMv2 and Kerberos'. Possible values: |

| | | | |
|---|---|---|---|
| **lm-compatibility-level** | | lm-compatibility-level<br>optional | • "lm_ntlm_ntlmv2_krb" - Accepts LM, NTLM, NTLMv2 and Kerberos,<br>• "ntlm_ntlmv2_krb" - Accepts NTLM, NTLMv2 and Kerberos,<br>• "ntlmv2_krb" - Accepts NTLMv2 and Kerberos,<br>• "krb" - Accepts Kerberos only |
| **referral-enabled-for-ad-ldap** | | boolean<br>optional | This parameter determines whether LDAP referral chasing is enabled or not for AD LDAP connections. By default this option is false. |
| **session-security-for-ad-ldap** | | ldap-security<br>optional | This parameter determines the level of security required for LDAP communications. By default this option is none. Possible values:<br>• "none" - No Signing or Sealing.,<br>• "sign" - Sign LDAP traffic.,<br>• "seal" - Seal and Sign LDAP traffic |
| **smb1-enabled-for-dc-connections** | | system-default-bool<br>optional | (DEPRECATED) This parameter determines if SMB version 1 is used for connections to domain controllers. Possible values:<br>• "false" ,<br>• "true" ,<br>• "system_default" |
| **smb2-enabled-for-dc-connections** | | system-default-bool<br>optional | This parameter determines if SMB version 2 is used for connections to domain controllers. Possible values:<br>• "false" ,<br>• "true" ,<br>• "system_default" |
| **try-channel-binding-for-ad-ldap** | | boolean<br>optional | This parameter determines whether to try channel binding for AD LDAP connections. By default this option is true. |
| **use-ldaps-for-ad-ldap** | | boolean<br>optional | This parameter determines whether to use LDAPS for Secure Active Directory LDAP connections. By default this option is false. |
| **use-start-tls-for-ad-ldap** | | boolean<br>optional | This parameter determines whether to use start_tls for AD LDAP connections. By default this option is false. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **ECIFS_SERVER_SMB_ENCRYPTION_WITHOUT_SMB3** | |
| **ECIFS_SMB3_ENCRYPTION_NOT_ENABLED** | |
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_REALM_MODE** | |
| **E_CIFS_COMMAND_OPTION_CANNOT_MODIFY_IN_REALM_MODE** | |

# cifs-server-add-netbios-aliases

[top]

Add NetBIOS aliases for the CIFS server name

| Input Name | Range | Type | Description |
|---|---|---|---|
| **netbios-aliases** | | netbios-name[] | List of NetBIOS Aliases |

| Errno | Description |
|---|---|
| **ENBALIASMAXNUMREACHED** | |

# cifs-server-create

[top]

Configure and setup CIFS services on a Vserver. If joining a domain, this command may take several minutes to complete.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string optional | The password for the account used to add this CIFS server to the Active Directory. |
| **admin-username** | | string optional | The username of the account used to add this CIFS server to the Active Directory. |
| **administrative-status** | | service-state optional | CIFS Server Administrative Status Possible values:<br>• "down" ,<br>• "up" |
| **cifs-server** | | netbios-name | The NetBIOS name of the CIFS server. |
| **comment** | | string optional | CIFS Server Description |
| **default-site** | | string optional | The default site used by LIFs that do not have a site membership. |
| **domain** | | string optional | The fully qualified domain name of the Windows Active Directory this CIFS server belongs to. |
| **force-account-overwrite** | | boolean optional | If this is set and a machine account with the same name as specified in 'cifs-server' exists in the Active Directory, it will be overwritten and reused. The default value for this field is false. |
| **keytab-uri** | | uri optional | Kerberos Keytab File URI |
| **netbios-aliases** | | netbios-name[] optional | List of NetBIOS Aliases |
| **organizational-unit** | | string optional | The Organizational Unit (OU) within the Windows Active Directory this CIFS server belongs to. |
| **realm** | | string optional | The Kerberos realm this CIFS server belongs to. |
| **workgroup** | | netbios-name optional | The name of the workgroup this CIFS server belongs to |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **ECIFS_AD_ACCOUNT_ALREADY_EXISTS** | |
| **ENBALIASMAXNUMREACHED** | |

| | |
|---|---|
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_CREATE_IN_DOMAIN_MODE** | |
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_SERVER_AD_ADMINACCOUNT_ZEROLEN** | |

# cifs-server-delete

[top]

Delete a CIFS server. If the admin-username and admin-password are not specified, the CIFS server's machine account will not be deleted from the Windows Active Directory domain. The deletion of the CIFS server will also delete the CIFS shares associated with it.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string optional | Account password for the admin-username. |
| **admin-username** | | string optional | A user account name that has sufficient privileges in the Windows Active Directory domain to delete the CIFS server's machine account. |
| **force-account-delete** | | boolean optional | If this is set, the local CIFS configuration will be deleted irrespective of any communication errors. The default value for this field is false. |
| **keytab-uri** | | uri optional | Kerberos Keytab File URI |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-server-get-iter

[top]

Retrieve the list of CIFS servers on the cluster and their basic configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-server-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-server-config optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-server object. All cifs-server objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-server-config[] | The list of attributes of cifs-server objects. |

| | | | |
|---|---|---|---|
| | | optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-server objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-server-modify

[top]

Modify the basic properties of a CIFS server. If re-joining the current domain or joining a new one, this command may take several minutes to complete.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string optional | The password for the account used to add this CIFS server to the Active Directory. This part of the credential only needs to be supplied if the domain is being modified. |
| **admin-username** | | string optional | The username of the account used to add this CIFS server to the Active Directory. This part of the credential only needs to be supplied if the domain is being modified. |
| **administrative-status** | | service-state optional | CIFS Server Administrative Status. Possible values:<br>• "down" ,<br>• "up" |
| **cifs-server** | | netbios-name optional | The name of the CIFS server (up to 15 characters). |
| **comment** | | string optional | CIFS Server Description |
| **default-site** | | string optional | The default site used by LIFs that do not have a site membership. |
| **domain** | | string optional | The fully qualified domain name of the Windows Active Directory this CIFS server belongs to. Example: cifs.domain.com |
| **force-account-overwrite** | | boolean optional | If this is set and the domain is being modified, and a machine account with the same name as the current Vserver's CIFS server name exists in the Active Directory, it will be overwritten and reused. The default value for this field is false. |
| **keytab-uri** | | uri optional | Kerberos Keytab File URI |
| **ou** | | string optional | The organizational unit within the Active Directive domain to associate with the CIFS server. |
| **workgroup** | | netbios-name optional | The name of the workgroup this CIFS server belongs to. If this input is not specified, it is not modified. |

| Errno | Description |
|---|---|
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_MODIFY_IN_DOMAIN_MODE** | |

# cifs-server-remove-netbios-aliases

[top]

Remove NetBIOS aliases

| Input Name | Range | Type | Description |
|---|---|---|---|
| **netbios-aliases** | | netbios-name[] | List of NetBIOS Aliases |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-server-start

[top]

Start a CIFS server on the specified Vserver. The CIFS server must already exist. To create a CIFS server, use cifs-server-create.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-server-stop

[top]

Stop a CIFS server on the specified Vserver. Note that established sessions will be terminated and their open files closed. Workstations with cached data will not be able to save those changes, which could result in data loss.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-session-close

[top]

Close an open CIFS session

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | The ip address of the workstation from which the session is opened. |
| **auth-mechanism** | | auth-mechanism optional | The authentication mechanism used to establish the session. |
| **connection-id** | | integer optional | The connection that is used to establish the session. |

| | | | |
|---|---|---|---|
| **continuously-available** | | cifs-ca-protection optional | The type of continuous avalability protection provided to the session. |
| **is-session-signed** | | boolean optional | The status of SMB signing that is happening over the CIFS session. |
| **lif-address** | | ip-address optional | The data lif that is used to establish the session. |
| **node** | | node-name | The name of the node on which the session listing is done. |
| **protocol-version** | | cifs-dialects optional | The CIFS protocol version that is used to establish the session. |
| **session-id** | | integer optional | The unique identifier for the session. |
| **smb-encryption-status** | | smb-encryption optional | The status of SMB encryption that is happening over the CIFS session. |
| **unix-user** | | string optional | The name of the UNIX user for which the session is established. |
| **windows-user** | | string optional | The name of the CIFS user for which the session is established. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-session-file-close

[top]

Close an open CIFS file.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection-id** | | integer optional | The connection that is used to open the file. |
| **file-id** | | integer optional | The unique identifier for the opened file. |
| **node** | | node-name | The name of the node on which the file listing is done. |
| **session-id** | | integer optional | The session under which file is opened. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-session-file-get-iter

[top]

Retrieve the list of the opened CIFS files.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | cifs- | Specify the attributes that should be returned. If not present, all |

| | | | |
|---|---|---|---|
| **desired-attributes** | | session-file optional | attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-session-file optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-session-file object. All cifs-session-file objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-session-file[] optional | The list of attributes of cifs-session-file objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-session-file objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-session-get-iter

[top]

Retrieve the list of the established CIFS sessions.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-session optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-session optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-session object. All cifs-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-session[] optional | The list of attributes of cifs-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-session objects to return. |

| num-records | [0..2^32-1] | integer | The number of records returned in this call. |
|---|---|---|---|

| Errno | Description |
|---|---|
| EINTERNALERROR | |

## cifs-session-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| tag | | string | Tag from a previous cifs-session-list-iter-start. |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

## cifs-session-list-iter-next

[top]

Returns items from a previous call to cifs-session-list-iter-start.

| Input Name | Range | Type | Description |
|---|---|---|---|
| maximum | | integer | The maximum number of entries to retrieve. |
| tag | | string | Tag from a previous cifs-session-list-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| cifs-sessions | | cifs-session-info[] | An array, one entry per each cifs session. |
| records | | integer | This tells you how many records are being returned from this particular call to cifs-session-list-iter-next. When this value is 0, you have retrieved everything. Range: [0..2^32-1]. |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

## cifs-session-list-iter-start

[top]

Gives information on current CIFS activity. Without arguments, it returns a summary of information about the filer and lists the users who are connected to the filer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **host** | | string optional | IP address/machine name of the user's client machine. |
| **protocol** | | string optional | Filters the information on the basis of protocol version specified. When 'smb' is specified as the argument, this API retrieves information about only SMB 1.0 sessions. When 'smb2' is specified as the argument, this API retrieves information about only SMB 2.0 sessions. If this option is not specified, then information about both SMB 1.0 and SMB 2.0 sessions is retrieved. |
| **user** | | string optional | User name. If user is specified , this api returns information about the specified user, along with the names and access level of files that the user has opened. This api returns information about all the users, if the user is specified as '*' or is not specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number which tells you how many items have been saved for future retrieval with cifs-session-list-iter-next. |
| **tag** | | string | Tag to be used in subsequent calls to cifs-session-list-iter-next. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **ESERVICEDISABLED** | |
| **ESVCNOTAVAIL** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-setup

[top]

Configures the filer's CIFS service. The CIFS service will start automatically once this call completes successfully.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **auth-type** | | string | The authentication style that determines the method by which clients will be authenticated when connecting to this CIFS server. These styles are subject to change in a future release. Possible values: ad, nt4, workgroup, passwd Note: The domain-name, login-user and login-password fields are optional unless the auth-type is ad. |
| **domain-name** | | string optional | The name of the domain that the CIFS server will join. This can be the NetBIOS or fully qualified domain name. Examples: cifsdomain, cifs.domain.com |
| **login-password** | | string optional encrypted | The password for login-user. |

| | | | |
|---|---|---|---|
| **login-user** | | string optional | The name of a domain user that has the ability to add the CIFS server to the domain given in domain-name. Examples: username (assumes domain-name is the user's domain), cifsdomain\username, cifs.domain.com\username |
| **ou-name** | | string optional | The distinguished name of the organizational unit that the CIFS service will become a member of. This value must be one of the cifs-setup-ous retrieved from a call to the cifs-setup-container-list-iter APIs. By default, the filer will join the 'CN=Computers' organizational unit. Note: This information is only used when the auth-type is 'ad'. |
| **pdc-ip-address** | | ip-address optional | If this value is defined, CIFS will attempt to communicate with the domain controller directly using this address. Note: This information is only used when the auth-type is 'nt4'. |
| **security-style** | | string | The security style determines whether or not the CIFS service will support multiprotocol access. These styles are subject to change in a future release. Possible values: ntfs, multiprotocol |
| **server-name** | | string | The resulting CIFS server name. |
| **site-name** | | string optional | The name of the site that the CIFS service will become a member of. This value must be one of the cifs-setup-sites retrieved from a call to the cifs-setup-container-list-iter APIs. If a default-site was returned, it is the recommended choice. Sites will be ignored if this value is left blank. Note: This information is only used when the auth-type is 'ad'. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **ESVCNOTAVAIL** | |
| **ESVCDISABLED** | |
| **EINTERNALERROR** | |
| **ECIFS_LOGIN_FAILED** | |
| **ECIFS_BIND_FAILED** | |
| **ECIFS_DNS_REQUIRED** | |
| **ECIFS_KRB_CONFLICT** | |
| **ECIFS_AD_CLOCK_SKEW** | |
| **ECIFS_AD_RESET_REQUIRED** | |
| **ECIFS_LIST_UNAVAILABLE** | |
| **ECIFS_DC_CONNECT_FAILED** | |
| **ECIFS_PASSWD_AND_GROUP_REQUIRED** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-setup-create-group-file

[top]

Creates a basic /etc/group file. Note: This will overwrite an existing /etc/group file. See cifs-setup-verify-passwd-and-group for more information.

| Errno | Description |
|---|---|
| EAPILICENSE | |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |
| ECIFS_SETUP_CANNOT_WRITE | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-setup-create-passwd-file

[top]

Creates a basic /etc/passwd file including a root user with the specified password. Note: This will overwrite an existing /etc/passwd file. See cifs-setup-verify-passwd-and-group for more information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| default-root-password | | string encrypted | The password given to a locally defined root user which may be used in the event that other authentication services are unavailable. This will be defined in the filer's local /etc/passwd file. |

| Errno | Description |
|---|---|
| EAPILICENSE | |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |
| ECIFS_SETUP_CANNOT_WRITE | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-setup-ou-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| tag | | string | Tag from a previous cifs-setup-ou-list-iter-start. |

| Vfiler-enabled |
|---|
| Yes |

| License |
| --- |
| cifs |

# cifs-setup-ou-list-iter-next

[top]

Returns items from a previous call to cifs-setup-ou-list-iter-start

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| maximum | | integer | The maximum number of entries to retrieve. |
| tag | | string | Tag from a previous cifs-setup-ou-list-iter-start. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| cifs-setup-ous | | cifs-setup-ou[] | An array, one entry per each joinable organizational unit. |
| records | | integer | This tells you how many records are being returned from this particular call to cifs-setup-ou-list-iter-next. When this value is 0, you have retrieved everything. |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| cifs |

# cifs-setup-ou-list-iter-start

[top]

Gathers a list of joinable sites and organizational units from Active Directory for the login-user specified, which is retrieved by using cifs-setup-ou-list-iter-next. For more information regarding Active Directory organizational units and their use, please reference Microsoft's Active Directory documentation.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| domain-name | | string | The name of the domain that the CIFS server will join. Examples: cifsdomain, cifs.domain.com |
| login-password | | string encrypted | The password for login-user. |
| login-user | | string | The name of a domain user that has the ability to add the CIFS server to the domain given in domain-name. Examples: username (assumes domain-name is the user's domain), cifsdomain\username, cifs.domain.com\username |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| records | | integer | Number which tells you how many items have been saved for future retrieval with cifs-setup-ou-list-iter-next. |
| tag | | string | Tag to be used in subsequent calls to cifs-setup-ou-list-iter-next. |

| Errno | Description |
|---|---|
| EAPILICENSE | |
| EINVALIDINPUTERROR | |
| ESVCNOTAVAIL | |
| ESVCDISABLED | |
| EINTERNALERROR | |
| ECIFS_LOGIN_FAILED | |
| ECIFS_BIND_FAILED | |
| ECIFS_DNS_REQUIRED | |
| ECIFS_KRB_CONFLICT | |
| ECIFS_AD_CLOCK_SKEW | |
| ECIFS_AD_RESET_REQUIRED | |
| ECIFS_LIST_UNAVAILABLE | |
| ECIFS_DC_CONNECT_FAILED | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-setup-site-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| tag | | string | Tag from a previous cifs-setup-site-list-iter-start. |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-setup-site-list-iter-next

[top]

Returns items from a previous call to cifs-setup-site-list-iter-start

| Input Name | Range | Type | Description |
|---|---|---|---|
| maximum | | integer | The maximum number of entries to retrieve. |
| tag | | string | Tag from a previous cifs-setup-site-list-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | cifs- | |

| | | | |
|---|---|---|---|
| **cifs-setup-sites** | | setup-site[] | An array, one entry per each joinable organizational unit. |
| **default-site** | | string optional | If this subnet is part of a pre-defined site in Active Directory, this is the site name that would be used by default unless one of the other sites in cifs-setup-sites are specified instead. |
| **records** | | integer | This tells you how many records are being returned from this particular call to cifs-setup-site-list-iter-next. When this value is 0, you have retrieved everything. |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-setup-site-list-iter-start

[top]

Gathers a list of joinable sites and organizational units from Active Directory for the login-user specified, which is retrieved by using cifs-setup-site-list-iter-next. For more information regarding Active Directory sites and their use, please reference Microsoft's Active Directory documentation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **domain-name** | | string | The name of the domain that the CIFS server will join. Examples: cifsdomain, cifs.domain.com |
| **login-password** | | string encrypted | The password for login-user. |
| **login-user** | | string | The name of a domain user that has the ability to add the CIFS server to the domain given in domain-name. Examples: username (assumes domain-name is the user's domain), cifsdomain\username, cifs.domain.com\username |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **default-site** | | string optional | If this subnet is part of a pre-defined site in Active Directory, this is the site name that would be used by default unless one of the other sites in cifs-setup-sites are specified instead. |
| **records** | | integer | Number which tells you how many items have been saved for future retrieval with cifs-setup-site-list-iter-next. |
| **tag** | | string | Tag to be used in subsequent calls to cifs-setup-site-list-iter-next. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **ESVCNOTAVAIL** | |
| **ESVCDISABLED** | |
| **EINTERNALERROR** | |
| **ECIFS_LOGIN_FAILED** | |
| **ECIFS_BIND_FAILED** | |
| **ECIFS_DNS_REQUIRED** | |

| | |
|---|---|
| **ECIFS_KRB_CONFLICT** | |
| **ECIFS_AD_CLOCK_SKEW** | |
| **ECIFS_AD_RESET_REQUIRED** | |
| **ECIFS_LIST_UNAVAILABLE** | |
| **ECIFS_DC_CONNECT_FAILED** | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-setup-verify-name

[top]

Determines whether or not a particular CIFS server name is already in use on the network and a specified domain.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **auth-type** | | string | The authentication style that will be used in a subsequent call to cifs-setup. These styles are subject to change in a future release. Possible values: ad, nt4, workgroup, passwd Note: The domain-name, login-user and login-password fields are optional unless the auth-type is ad. |
| **domain-name** | | string | The name of the domain that the CIFS server will join. Examples: cifsdomain, cifs.domain.com |
| **login-password** | | string optional encrypted | The password for login-user. |
| **login-user** | | string optional | The name of a domain user that has the ability to add the CIFS server to the domain given in domain-name. Examples: username (assumes domain-name is the user's domain), cifsdomain\username, cifs.domain.com\username |
| **pdc-ip-address** | | ip-address optional | If this value is defined, CIFS will attempt to communicate with the domain controller directly using this address. Note: This information is only used when the auth-type is 'nt4'. |
| **server-name** | | string | The NetBIOS CIFS server name that will be verified. Example: cifsserver |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-in-domain** | | boolean | Returns 'true' if the name exists in the domain, otherwise returns 'false'. For 'ad'-style domains, if an entry exists a warning should be provided. For 'nt4'-style domains, an entry must exist or cifs-setup will fail. |
| **is-in-use** | | boolean | Returns 'true' if the name is in use on the network, otherwise returns 'false'. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **ESVCNOTAVAIL** | |
| **ESVCDISABLED** | |

| | |
|---|---|
| **EINTERNALERROR** | |
| **ECIFS_LOGIN_FAILED** | |
| **ECIFS_BIND_FAILED** | |
| **ECIFS_DNS_REQUIRED** | |
| **ECIFS_KRB_CONFLICT** | |
| **ECIFS_AD_CLOCK_SKEW** | |
| **ECIFS_AD_RESET_REQUIRED** | |
| **ECIFS_LIST_UNAVAILABLE** | |
| **ECIFS_DC_CONNECT_FAILED** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **cifs** |

# cifs-setup-verify-passwd-and-group

[top]

Determines whether or not the /etc/passwd and /etc/group files exist, which would be used in the event that the configured CIFS authentication method fails.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **group-file-exists** | | boolean | Returns 'true' if the /etc/group file exists, otherwise returns 'false'. |
| **passwd-file-exists** | | boolean | Returns 'true' if the /etc/passwd file exists, otherwise returns 'false'. |
| **required** | | boolean | Returns 'true' if the /etc/passwd and /etc/group files would be required before running the cifs-setup API. cifs-setup will require these files if neither LDAP nor NIS are enabled, as they will be used as a backup authentication method should the primary method (i.e. domain authentication) become unavailable. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **cifs** |

# cifs-share-access-control-create

[top]

Add permissions for a user or group for a defined CIFS share.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **permission** | | cifs-access-perms | The access rights that the user or group has on the defined CIFS share. Possible values:<br>• "no_access" - No access,<br>• "read" - Read,<br>• "change" - Change,<br>• "full_control" - Full Control,<br>• "custom" - Custom |
| **return-record** | | boolean optional | If set to true, returns the cifs-share-access-control on successful creation. Default: false |
| **share** | | string | The CIFS share for which the permissions are defined. |
| **user-group-type** | | string optional | The type of user for which ACL is configured. Default value is windows. Possible values:<br>• "windows" - Windows User or Group.,<br>• "unix_user" - Unix User.,<br>• "unix_group" - Unix Group. |
| **user-or-group** | | string | The user or group name for which the permissions are listed. |
| **winsid** | | windows-sid optional | The Windows SID for the user or group for which the permission is defined. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | cifs-share-access-control optional | The cifs-share-access-control created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-share-access-control-delete

[top]

Remove permissions for a user or group on a defined CIFS share.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **share** | | string | The CIFS share for which the permissions are defined. |
| **user-group-type** | | string optional | The type of user for which ACL is configured. Default value is windows. Possible values:<br>• "windows" - Windows User or Group.,<br>• "unix_user" - Unix User.,<br>• "unix_group" - Unix Group. |
| **user-or-group** | | string | The user or group name for which the permissions are listed. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-share-access-control-get-iter

[top]

Retrieve the list of permissions on defined CIFS shares.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-share-access-control optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-share-access-control optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-share-access-control object. All cifs-share-access-control objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-share-access-control[] optional | The list of attributes of cifs-share-access-control objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-share-access-control objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-share-access-control-modify

[top]

Modify the permissions for a user or group on a defined CIFS share.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **permission** | | cifs-access-perms optional | The access rights that the user or group has on the defined CIFS share. Possible values:<br>• "no_access" - No access,<br>• "read" - Read,<br>• "change" - Change,<br>• "full_control" - Full Control,<br>• "custom" - Custom |

| | | | |
|---|---|---|---|
| **share** | | string | The CIFS share for which the permissions are defined. |
| **user-group-type** | | string optional | The type of user for which ACL is configured. Default value is windows. Possible values:<br>• "windows" - Windows User or Group.,<br>• "unix_user" - Unix User.,<br>• "unix_group" - Unix Group. |
| **user-or-group** | | string | The user or group name for which the permissions are listed. |
| **winsid** | | windows-sid optional | The Windows SID for the user or group for which the permission is defined. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-share-ace-delete

[top]

Deletes the access control entry of the given share or the unix group. This API is equivalent to "cifs access [-g] " CLI.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-unixgroup** | | boolean optional | This filter is used to tell that the access rights of the unix group have to be deleted. If its value is true, uinx-group-name needs to be provided. Otherwise it fails with the reason "group-name missing". The default value of this is false. |
| **share-name** | | string | CIFS share name. It specifies name of the share of which the access rights have to be deleted. This is a case insensitive field. The maximum size of the share name is 256 characters. |
| **unix-group-name** | | string optional | Name of the unix group. This field specifies the unix group of which the access rights to be deleted. The format of this field . This is a case sensitive field. If the specified group name does not exist, it fails with the reason "Unknown Unix group " |
| **user-name** | | string optional | Name of the user. This API deletes the access rights of the specified user. This is a case sensitive field. The format of the field is . If specified user does not exist, It fails with the reason "Unknown user ". |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **ESVCDISABLED** | |
| **EAPILICENSE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-share-ace-set

[top]

Sets the ace to the share for the given user or unix group. This API is equivalent to "cifs access [-g] " CLI.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-rights** | | string | Access rights to be set to the above share and user. The format of the rights can be Unix-style combinations of r w x - or NT-style "No Access", "Read", "Change", and "Full Control" |
| **is-unixgroup** | | boolean optional | This filter is used to tell that the access rights are to be set to the unix group. If its value is true, unix-group-name needs to be provided. Otherwise API fails with the reason "group-name missing". The default value of this is false. |
| **share-name** | | string | CIFS share name. It specifies name of the share to which the access rights have to be set. This is a case insensitive field. The maximum size of the share name is 256 characters. |
| **unix-group-name** | | string optional | Name of the unix group. This field specifies the unix group to which the access rights are to be set. The format of this field . This is a case sensitive field. If the specified group name does not exist, it fails with the reason "Unknown Unix group : ". |
| **user-name** | | string optional | Name of the user. This API sets the access rights to the specified user. This is a case sensitive field. The format of the field . If specified user does not exist, It fails with the reason "Unknown user: ". |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **ESVCDISABLED** | |
| **EAPILICENSE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-share-acl-list-iter-end

[top]

Terminates a list iteration and cleans up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from the previous cifs-share-acl-list-iter-start |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|

**cifs**

# cifs-share-acl-list-iter-next

[top]

Returns items from a previous call to cifs-share-acl-list-iter-start.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maximum** | | integer | The maximum number of entries to retrieve. Range:[0..2^32-1] |
| **tag** | | string | Tag from the previous cifs-share-acl-list-iter-start |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **cifs-share-acls** | | cifs-share-acl-info[] | An array, one entry per each cifs share. |
| **records** | | integer | This tells you how many records are being returned from this particular call to cifs-share-acl-list-iter-next. When this value is 0, you have retrieved everything. Range:[0..2^32-1] |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-share-acl-list-iter-start

[top]

Gives information about one or more shares acl.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **share-name** | | string optional | Cifs share name. If share-name is specified, only information about that share is returned. If share-name is not specified, then information about all the shares is returned. If the name contains the wildcard characters * or ?, then all the shares matching the specified pattern are listed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number which tells you how many items have been saved for future retrieval with cifs-share-acl-list-iter-next. Range:[0..2^32-1] |
| **tag** | | string | Tag to be used in subsequent calls to cifs-share-acl-list-iter-next |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EAPIERROR** | |
| **ESVCNOTAVAIL** | |
| **EINTERNALERROR** | |
| | |

| ESVCDISABLED | |
|---|---|
| EAPILICENSE | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-share-add

[top]

Creates a new CIFS share rooted at the specified path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **caching** | | string optional | If specified, the following is done based on the value of the string: "no_caching": disallow Windows clients from caching any files on this share. This is the default value. "auto_document_caching": allow Windows clients to cache user documents on this share. "auto_program_caching": allow Windows clients to cache programs on this share. The actual caching behavior depends on the Windows client. "branchcache": clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office. |
| **comment** | | string optional | If specified, gives description of the new share. CIFS clients see this description when browsing the filer's shares. If not specified, the description is blank. |
| **dir-umask** | | integer optional | If specified, sets file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created directory. For directories, this mask overrides one set with "umask". |
| **file-umask** | | integer optional | If specified, sets file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created file. For files, this mask overrides one set with "umask". |
| **forcegroup** | | string optional | If specified, provides name of the group to which files to be created in the share belong. The groupname is the name of a group in the UNIX group database. If it is an empty string or else not specified, then files to be created in the share do not belong to a particular UNIX group. That is, each file belongs to the same group as the owner of the file. |
| **is-access-based-enum** | | boolean optional | If true Access Based Enumeration (ABE) is enabled, else it is disabled. ABE filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access. |
| **is-browse** | | boolean optional | If true or not specified, shares are visible to browsing clients and can be enumerated (e.g. "net view", SrvMgr, AD). |
| **is-namespace-caching-allowed** | | boolean optional | If true, namespace caching is enabled on the share. If namespace caching is enabled on a share, clients are allowed to cache the directory enumeration results for better performance. |
| **is-symlink-strict-security** | | boolean optional | If true or not specified, strict symlink security is enabled. If false, allows clients to follow symbolic links to destinations on this filer but outside of the current share. It is not checked if the client is authenticated to the |

| | | | |
|---|---|---|---|
| | | | symbolic link's destination. |
| **is-vscan** | | boolean optional | If true or not specified, virus scan is done when clients open files on this share, else no virus scan is done. |
| **is-vscanread** | | boolean optional | If true or not specified, virus scan is done when clients open files on this share for read access, else no virus scan is done for read access on this share. |
| **is-widelink** | | boolean optional | If true, allows clients to follow absolute symbolic links outside of this share, subject to NT security. This feature requires an entry in the /etc/symlink.translations file and it requires that the client supports Microsoft's Distributed File System (DFS). If false or not specified, widelinks in the share are disabled. |
| **maxusers** | | integer optional | If specified, gives the maximum number of simultaneous connections to the new share. It must be a positive number. If not specified, the filer does not impose a limit on the number of connections to the share. |
| **path** | | string | Full path name of the directory on the filer corresponding to the root of the new share. |
| **share-name** | | string | Name of the share to be added. The name cannot exceed 12 characters for DOS-style shares and 256 characters for others. |
| **umask** | | integer optional | If specified, sets file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created file or directory. If not specified, the file mode creation mask of the share is 0. This field is ignored when both dir-umask and file-umask are present. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EAPILICENSE** | |
| **EONTAPI_EINVAL** | |
| **ESHAREACCESSDENIED** | |
| **ESVCDISABLED** | |
| **ESVCNOTAVAIL** | |
| **ECIFSSHARINGVIOLATION** | |
| **EVOLUMEINUSE** | |
| **EONTAPI_ENOMEM** | |
| **ESHARETOOMANY** | |
| **ESHAREEXISTS** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-share-change

[top]

Changes settings of one or more CIFS shares at any time, even if the shares are in use.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | If specified, the following is done based on the value of the string: |

| | | | |
|---|---|---|---|
| **caching** | | string optional | "no_caching": disallow Windows clients from caching any files on this share. This is the default value. "auto_document_caching": allow Windows clients to cache user documents on this share. "auto_program_caching": allow Windows clients to cache programs on this share. The actual caching behavior depends on the Windows client. "manual_caching": allow users on Windows clients to manually select files to be cached. "branchcache": clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office. |
| **comment** | | string optional | If specified, changes description of the share. CIFS clients see this description when browsing the filer's shares. Specifying an empty string clears the previous description. |
| **dir-umask** | | integer optional | If specified, changes file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created directory. For directories, this mask overrides one set with "umask". Specifying an empty string resets (removes) this dir-umask. |
| **file-umask** | | integer optional | If specified, changes file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created file. For files, this mask overrides one set with "umask". Specifying an empty string resets (removes) this file-umask. |
| **forcegroup** | | string optional | If specified, changes name of the group to which files to be created in the share belong. The groupname is the name of a group in the UNIX group database. If the string is empty, files to be created in the share do not belong to a particular UNIX group. That is, each file belongs to the same group as the owner of the file. |
| **is-access-based-enum** | | boolean optional | If true Access Based Enumeration (ABE) is enabled, if false it is disabled. ABE filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access. |
| **is-browse** | | boolean optional | If true or undefined, share is visible to browsers and can be enumerated. |
| **is-namespace-caching-allowed** | | boolean optional | If true, namespace caching is enabled on the share. If false, namespace caching is disabled on the share. If namespace caching is enabled on a share, clients are allowed to cache the directory enumeration results for better performance. |
| **is-symlink-strict-security** | | boolean optional | If true, strict symlink security is enabled. If false, allows clients to follow symbolic links to destinations on this filer but outside of the current share. It is not checked if the client is authenticated to the symbolic link's destination. |
| **is-vscan** | | boolean optional | If true, virus scan is done when clients open files on this share, else virus scan is not done. |
| **is-vscanread** | | boolean optional | If true, virus scan is done when clients open files on this share for read access, else virus scan is not done for read access. |
| **is-widelink** | | boolean optional | If true, allows clients to follow absolute symbolic links outside of this share, subject to NT security. This feature requires an entry in the /etc/symlink.translations file and it requires that the client supports Microsoft's Distributed File System (DFS). If false, widelinks in the share are disabled. |
| **maxusers** | | integer optional | If specified, changes the maximum number of simultaneous connections to the new share. It must be a positive number or else zero, in which case no limit is imposed on the number of connections to the share. |
| **share-name** | | string | If fully specified, it's the name of the existing share to be changed. If the name contains the wildcard characters * or ?, then all the shares matching the specified name are to be changed. |
| | | | If specified, changes file mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions |

| | | | |
|---|---|---|---|
| **umask** | | integer optional | setting of a newly created file or directory. Specifying a zero value resets (removes) the file mode creation mask. This field is ignored when both dir-umask and file-umask are present. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EAPILICENSE** | |
| **EONTAPI_EINVAL** | |
| **ESHAREACCESSDENIED** | |
| **ESVCDISABLED** | |
| **ESVCNOTAVAIL** | |
| **EONTAPI_ENOMEM** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-share-create

[top]

Creates a new CIFS share rooted at the specified path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attribute-cache-ttl** | **[0..2^32-1]** | integer optional | The lifetime of an entry in the file attribute cache, in seconds. This value is used if the share has the 'attributecache' property set, which improves the performance of certain metadata operations in common workloads. The default is 10 seconds. Raising this value may improve performance, but the likelihood that stale metadata will be served increases as well. The value of this field must be in the range of 1 to 86400. |
| **comment** | | string optional | This string gives a description of the CIFS share. CIFS clients see this description when browsing the Vserver's CIFS shares. |
| **dir-umask** | **[0..777]** | integer optional | The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created directory. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values. |
| **file-umask** | **[0..777]** | integer optional | The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created file. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the |

| | | | |
|---|---|---|---|
| | | | second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values. |
| **force-group-for-create** | | string<br>optional | If specified, all files created by CIFS users in a specific share belong to the same group (also called the "force-group"). The "force-group" must be a predefined group in the UNIX group database. This setting has no effect unless the security style of the volume is UNIX or mixed security style. By default this option will be disabled. |
| **is-path-validation-enabled** | | boolean<br>optional | This optional parameter specifies whether the CIFS Share Path validation is enabled or not. The default value for this parameter is true. |
| **max-connections-per-share** | **[1..2^32-1]** | integer<br>optional | If specified, gives the maximum number of simultaneous connections to the new share. It must be a positive number. The default value is 4294967295. |
| **offline-files-mode** | | string<br>optional | Mode of the offline file for the CIFS share. The default value is manual. Possible values:<br>• "none" - Clients are not permitted to cache files for offline access.,<br>• "manual" - Clients may cache files that are explicitly selected by the user for offline use.,<br>• "documents" - Clients may automatically cache files that are used by the user for offline access.,<br>• "programs" - Clients may automatically cache files that are used by the user for offline access and may use those files in an offline mode even if the share is available. |
| **path** | | string | The file system path that is shared through this CIFS share. |
| **return-record** | | boolean<br>optional | If set to true, returns the cifs-share on successful creation. Default: false |
| **share-name** | | string | The name of the CIFS share. The CIFS share name is a UTF-8 string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:\|<>+=;,?"* |
| | | | The list of properties for this CIFS share. Possible values:<br>• "oplocks" - This specifies that opportunistic locks (client-side caching) are enabled on this share.,<br>• "browsable" - This specifies that the share can be browsed by Windows clients.,<br>• "showsnapshot" - This specifies that Snapshots can be viewed and traversed by clients.,<br>• "changenotify" - This specifies that CIFS clients can request for change notifications for directories on this share. If the path of the share is within a FlexGroup, change notifications are not sent because FlexGroups do not support Change Notify.,<br>• "homedirectory" - This specifies that the share is added and enabled as part of the CIFS home directory feature. The configuration of this share should be done using CIFS home directory feature interface. This property can only be set during the create process and cannot be altered later.<br>• "attributecache" - This specifies that connections through this share are caching attributes for a short time to improve performance.<br>• "branchcache" - This specifies that clients connecting to this share can make requests using BranchCache |

| | | | |
|---|---|---|---|
| **share-properties** | | cifs-share-properties[] optional | technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office.<br>• "continuously_available" - This specifies that clients connecting to this share can open files in a persistent manner. Files opened this way are protected from disruptive events, such as failover and giveback. This property is not supported for FlexGroups.<br>• "shadowcopy" - This specifies that the share is pointing to a shadow copy. This attribute cannot be added nor removed from a share.<br>• "access_based_enumeration" - This specifies that Access Based Enumeration is enabled on this share. ABE-filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access.<br>• "namespace_caching" - This specifies that the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers.<br>• "encrypt_data" - This specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption will not be able to access this share.<br>• "show_previous_versions" - This property specifies that the previous version can be viewed and restored from the client. This property is enabled by default. |
| **symlink-properties** | | cifs-share-symlink-properties[] optional | This flag controls whether the symlinks under this shared directory are hidden (option 'hide'), accessible (option 'enable') or are accessible as read-only (option 'read-only' along with option 'enable'). It controls whether only symlinks which have targets on this server can be resolved by a CIFS client (option 'symlinks') or if all symlinks can be resolved (option 'symlinks_and_widelinks'). It controls whether symlinks can have targets outside the client's share (option 'no_strict_security'). It controls whether no symlinks can be resolved (option 'disable'). Possible values:<br>• "enable" (DEPRECATED) Enable both local symlinks and wide links for read-write,<br>• "hide" (DEPRECATED) Hide both symlinks and wide links,<br>• "read_only" (DEPRECATED) Enable symlinks for read-only,<br>• "symlinks" Enable symlinks only for read-write, DFS is not advertised,<br>• "symlinks_and_widelinks" Enable both local symlinks and wide links, DFS is advertised,<br>• "disable" Disable both local symlinks and wide links, DFS is not advertised<br>• "no_strict_security" Allow clients to follow symlinks beyond share boundaries |
| **vscan-fileop-profile** | | vscan-fileop-profile optional | Profile-set of file-ops to which Vscan On-Access scanning is applicable. The default value is standard. Possible values:<br>• "no_scan" - Virus scans are never triggered for accesses to this share,<br>• "standard" - Virus scans can be triggered by open, close, and rename operations,<br>• "strict" - Virus scans can be triggered by open, read, close, and rename operations,<br>• "writes_only" - Virus scans can be triggered only when a |

| | | | |
|---|---|---|---|
| | | | file that has been modified is closed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | cifs-share optional | The cifs-share created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-share-delete

[top]

Deletes the specified CIFS share.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **share-name** | | string | The name of the CIFS share. The CIFS share name is a UTF-8 string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:\|<>+=;,?"* |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EAPILICENSE** | |
| **EONTAPI_EINVAL** | |
| **ESHAREACCESSDENIED** | |
| **ESVCDISABLED** | |
| **ESVCNOTAVAIL** | |
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-share-get-iter

[top]

Gives information about one or more CIFS shares.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-share optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | | |

| | | | |
|---|---|---|---|
| **query** | | cifs-share optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-share object. All cifs-share objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-share[] optional | The list of attributes of cifs-share objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-share objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-share-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from a previous cifs-share-list-iter-start. |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-share-list-iter-next

[top]

Returns items from a previous call to cifs-share-list-iter-start

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maximum** | | integer | The maximum number of entries to retrieve. |
| **tag** | | string | Tag from a previous cifs-share-list-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **cifs-shares** | | cifs-share-info[] | An array, one entry per each cifs share. |
| | | | This tells you how many records are being returned from this particular |

| | | | |
|---|---|---|---|
| **records** | | integer | call to cifs-share-list-iter-next. When this value is 0, you have retrieved everything. Range:[0..2^32-1] |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-share-list-iter-start

[top]

Gives information about one or more shares, the results of which are retrieved by using cifs-share-list-iter-next.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **share-name** | | string optional | Cifs share name. If share-name is specified, only information about that share is returned. If share-name is not specified, then information about all the shares is returned. If the name contains the wildcard characters * or ?, then all the shares matching the specified name are listed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number which tells you how many items have been saved for future retrieval with cifs-share-list-iter-next. |
| **tag** | | string | Tag to be used in subsequent calls to cifs-share-list-iter-next. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EONTAPI_EINVAL** | |
| **ESHAREACCESSDENIED** | |
| **ESERVICEDISABLED** | |
| **ESVCNOTAVAIL** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| cifs |

# cifs-share-modify

[top]

Modifies settings of a CIFS share, even if the shares are in use.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | The lifetime of an entry in the file attribute cache, in seconds. |

| | | | |
|---|---|---|---|
| **attribute-cache-ttl** | **[0..2^32-1]** | integer optional | This value is used if the share has the 'attributecache' property set, which improves the performance of certain metadata operations in common workloads. The default is 10 seconds. Raising this value may improve performance, but the likelihood that stale metadata will be served increases as well. The value of this field must be in the range of 1 to 86400. |
| **comment** | | string optional | This string gives a description of the CIFS share. CIFS clients see this description when browsing the Vserver's CIFS shares. |
| **dir-umask** | **[0..777]** | integer optional | The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created directory. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values. |
| **file-umask** | **[0..777]** | integer optional | The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created file. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values. |
| **force-group-for-create** | | string optional | This optional parameter specifies that all files that CIFS users create in a specific share belong to the same group (also called the "force-group"). The "force-group" must be a predefined group in the UNIX group database. This setting has no effect unless the security style of the volume is UNIX or mixed security style. You can disable this option by passing a null string "". |
| **is-path-validation-enabled** | | boolean optional | This optional parameter specifies whether the CIFS Share Path validation is enabled or not. |
| **max-connections-per-share** | **[1..2^32-1]** | integer optional | If specified, gives the maximum number of simultaneous connections to the new share. It must be a positive number. |
| **offline-files-mode** | | string optional | Mode of the offline file for the CIFS share. The default value is manual. Possible values:<br>• "none" - Clients are not permitted to cache files for offline access.,<br>• "manual" - Clients may cache files that are explicitly selected by the user for offline use.,<br>• "documents" - Clients may automatically cache files that are used by the user for offline access.,<br>• "programs" - Clients may automatically cache files that are used by the user for offline access and may use those files in an offline mode even if the share is available. |
| **path** | | string optional | The file system path that is shared through this CIFS share. |
| **share-name** | | string | The name of the CIFS share. The CIFS share name is a UTF-8 string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double |

| | | | |
|---|---|---|---|
| | | | quotes) and the characters \/[]:\|<>+=;,?"* |
| **share-properties** | | cifs-share-properties[] optional | The list of properties for this CIFS share. Possible values:<br>• "oplocks" - This specifies that opportunistic locks (client-side caching) are enabled on this share.,<br>• "browsable" - This specifies that the share can be browsed by Windows clients.,<br>• "showsnapshot" - This specifies that Snapshots can be viewed and traversed by clients.,<br>• "changenotify" - This specifies that CIFS clients can request for change notifications for directories on this share. If the path of the share is within a FlexGroup, change notifications are not sent because FlexGroups do not support Change Notify.,<br>• "homedirectory" - This specifies that the share is added and enabled as part of the CIFS home directory feature. The configuration of this share should be done using CIFS home directory feature interface. This property cannot be added or removed from existing share.<br>• "attributecache" - This specifies that connections through this share are caching attributes for a short time to improve performance.<br>• "branchcache" - This specifies that clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office.<br>• "continuously_available" - This specifies that clients connecting to this share can open files in a persistent manner. Files opened this way are protected from disruptive events, such as failover and giveback. This property is not supported for FlexGroups.<br>• "shadowcopy" - This specifies that the share is pointing to a shadow copy. This attribute cannot be added nor removed from a share.<br>• "access_based_enumeration" - This specifies that Access Based Enumeration is enabled on this share. ABE-filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access.<br>• "namespace_caching" - This specifies that the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers.<br>• "encrypt_data" - This specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption will not be able to access this share.<br>• "show_previous_versions" - This property specifies that the previous version can be viewed and restored from the client. This property is enabled by default. |
| | | | This flag controls whether the symlinks under this shared directory are hidden (option 'hide'), accessible (option 'enable') or are accessible as read-only (option 'read-only' along with option 'enable'). It controls whether only symlinks which have targets on this server can be resolved by a CIFS client (option 'symlinks') or if all symlinks can be resolved (option 'symlinks_and_widelinks'). It controls whether symlinks can have targets outside the client's share (option 'no_strict_security'). It controls whether no symlinks can be resolved (option 'disable'). Possible values: |

| | | | |
|---|---|---|---|
| **symlink-properties** | | cifs-share-symlink-properties[] optional | • "enable" (DEPRECATED) Enable both local symlinks and wide links for read-write,<br>• "hide" (DEPRECATED) Hide both symlinks and wide links,<br>• "read_only" (DEPRECATED) Enable symlinks for read-only,<br>• "symlinks" Enable symlinks only for read-write, DFS is not advertised,<br>• "symlinks_and_widelinks" Enable both local symlinks and wide links, DFS is advertised,<br>• "disable" Disable both local symlinks and wide links, DFS is not advertised<br>• "no_strict_security" Allow clients to follow symlinks beyond share boundaries |
| **vscan-fileop-profile** | | vscan-fileop-profile optional | Profile-set of file-ops to which Vscan On-Access scanning is applicable. Possible values:<br>• "no_scan" - Virus scans are never triggered for accesses to this share,<br>• "standard" - Virus scans can be triggered by open, close, and rename operations,<br>• "strict" - Virus scans can be triggered by open, read, close, and rename operations,<br>• "writes_only" - Virus scans can be triggered only when a file that has been modified is closed. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cifs-start

[top]

Starts the CIFS service, usually after a previous call to cifs-stop as the CIFS service starts automatically when cifs-setup completes successfully or the system reboots.

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **ESVCNOTAVAIL** | |
| **ESVCDISABLED** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-status

[top]

Returns the running state of the CIFS service.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **status** | | string | The current status of the CIFS service, which will be one of the following: STOPPED, STARTED, STOPPING, STARTING |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-stop

[top]

Stops the CIFS service for all users or a particular workstation, if specified. Appropriate warning should be given to connected clients before calling this API, as it will immediately terminate those sessions regardless of their current state. See the cifs-sessions API for the list of clients that are currently connected.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **workstation** | | string optional | The name or IP address of a workstation that will be disconnected from the CIFS service. Note that the CIFS service does not stop if this value is specified, it simply disconnects related sessions. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **ESVCNOTAVAIL** | |
| **ESVCDISABLED** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-symlink-create

[top]

Create a new CIFS symbolic link path mapping from a UNIX symlink to a target CIFS path. This symbolic link path mapping will be effective on symbolic links that have a prefix match with the value of 'unix-path'. e.g.: if the value of 'unix-path' is '/usr/local/' and there exists a symbolic link on the file

system at '/home/user/link' which points to '/usr/local/share/dest'. If a CIFS client accesses the symbolic link 'link', this entry of path mapping would have a prefix match '/usr/local/'. The CIFS client would be redirected to the location pointed to by this path mapping's 'cifs-server', 'share-name' and 'cifs-path' fields.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cifs-path** | | string | This field specifies the CIFS path on the destination to which the symbolic link maps. The final path is generated by concatenating the CIFS server name, the share name, the cifs-path and the remaining path in the symbolic link left after the prefix match. This value is specified by using a UNIX-style path name. The trailing forward slash is required for the full path name to be properly interpreted. This is a UTF-8 string and supports localization. |
| **cifs-server** | | string optional | This field specifies the destination CIFS server name for the mapping to which the symbolic link is mapped. The default is the local CIFS server. The field needs to be specified if the locality of the symbolic link is 'widelink'. This can be either a DNS name, NetBIOS name or an IP address. If a DNS name or a NetBIOS name are specified, the CIFS client configuration should be such that it is capable of resolving the CIFS server name to the correct IP address. |
| **home-directory** | | boolean optional | This field specifies whether the destination share is a home directory. If the value of this field is true, wildcard path elements in the destination path are replaced with specific values for the user accessing the symbolic link. Wildcard %w is replaced by the user's Windows name. Wildcard %u is replaced by the user's mapped Unix name. Wildcard %d is replaced by the domain to which the user belongs. The default value is false. |
| **locality** | | cifs-symlink-locality optional | This field specifies whether the CIFS symbolic link is a local link, free link or wide link. A local symbolic link maps to the local CIFS share. A free symlink maps to the local vserver. A wide symbolic link maps to any CIFS share on the network. If the CIFS server matches the VServer's NetBIOS name then the default value is local otherwise wide link. The symlink option 'freelink' is obsolete. Possible values:<br>• "local" - Share on This VServer,<br>• "widelink" - Share on Another CIFS Server,<br>• "freelink" - Anywhere on This VServer (OBSOLETE) |
| **return-record** | | boolean optional | If set to true, returns the cifs-symlink on successful creation. Default: false |
| **share-name** | | string optional | This field specifies the CIFS share name on the destination CIFS server to which the symbolic link is mapped. This is a UTF-8 string and supports localization. |
| **unix-path** | | string | This field specifies the UNIX path prefix to be matched for the mapping. If the prefix of the target path in the symbolic link matches against this field, this entry of symbolic link path mapping would be used. The path is a UTF-8 string and supports localization. The path must start and end with a forward slash ('/'). For example '/usr/local/'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | cifs-symlink optional | The cifs-symlink created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |

| Errno | Description |
|---|---|
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-symlink-delete

[top]

Delete a CIFS symbolic link path mapping.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **unix-path** | | string | This field specifies the UNIX path prefix to be matched for the mapping. If the prefix of the target path in the symbolic link matches against this field, this entry of symbolic link path mapping would be used. The path is a UTF-8 string and supports localization. The path must start and end with a forward slash ('/'). For example '/usr/local/'. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# cifs-symlink-get-iter

[top]

Retrieve the list of CIFS symbolic link path mappings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-symlink optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-symlink optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-symlink object. All cifs-symlink objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-symlink[] optional | The list of attributes of cifs-symlink objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-symlink objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# cifs-symlink-modify

[top]

Modify a CIFS symbolic link path mapping parameters.

| Input Name | Range | Type | Description |
|---|---|---|---|
| cifs-path | | string optional | This field specifies the CIFS path on the destination to which the symbolic link maps. The final path is generated by concatenating the CIFS server name, the share name, the cifs-path and the remaining path in the symbolic link left after the prefix match. This value is specified by using a UNIX-style path name. The trailing forward slash is required for the full path name to be properly interpreted. This is a UTF-8 string and supports localization. |
| cifs-server | | string optional | This field specifies the destination CIFS server name for the mapping to which the symbolic link is mapped. The default is the local CIFS server. The field needs to be specified if the locality of the symbolic link is 'widelink'. This can be either a DNS name, NetBIOS name or an IP address. If a DNS name or a NetBIOS name are specified, the CIFS client configuration should be such that it is capable of resolving the CIFS server name to the correct IP address. |
| home-directory | | boolean optional | This field specifies whether the destination share is a home directory. If the value of this field is true, wildcard path elements in the destination path are replaced with specific values for the user accessing the symbolic link. Wildcard %w is replaced by the user's Windows name. Wildcard %u is replaced by the user's mapped Unix name. Wildcard %d is replaced by the domain to which the user belongs. The default value is false. |
| locality | | cifs-symlink-locality optional | This field specifies whether the CIFS symbolic link is a local link, free link or wide link. A local symbolic link maps to the local CIFS share. A free symlink maps to the local vserver. A wide symbolic link maps to any CIFS share on the network. If the CIFS server matches the VServer's NetBIOS name then the default value is local otherwise wide link. The symlink option 'freelink' is obsolete. Possible values:<br>• "local" - Share on This VServer,<br>• "widelink" - Share on Another CIFS Server,<br>• "freelink" - Anywhere on This VServer (OBSOLETE) |
| share-name | | string optional | This field specifies the CIFS share name on the destination CIFS server to which the symbolic link is mapped. This is a UTF-8 string and supports localization. |
| unix-path | | string | This field specifies the UNIX path prefix to be matched for the mapping. If the prefix of the target path in the symbolic link matches against this field, this entry of symbolic link path mapping would be used. The path is a UTF-8 string and supports localization. The path must start and end with a forward slash ('/'). For example '/usr/local/'. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# cifs-top-iter-end

[top]

Terminate a list iteration and clean up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from a previous cifs-top-iter-start. |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-top-iter-next

[top]

Returns items from a previous call to cifs-top-iter-start.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maximum** | | integer | The maximum number of entries to retrieve. |
| **tag** | | string | Tag from a previous cifs-top-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **cifs-top** | | cifs-top-info[] | An array, one entry per cifs top. |
| **records** | | integer | This tells you how many records are being returned from this particular call to cifs-top-iter-next. When this value is 0, you have retrieved everything. |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-top-iter-start

[top]

Display CIFS client statistics

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Specifies how the client statistics are to be averaged for display: "smooth": Use a smoothed average which is weighted towards recent behavior but takes into account previous history of the client. "now": |

| | | | |
|---|---|---|---|
| **avgtype** | | string optional | Use a one-second sample taken immediately and no history is taken into account. "total": Use the total count of each statistic divided by the total time since sampling started. If the is-verbose option is also set, the totals are given without dividing by the sample time. |
| **maxclients** | | integer optional | Specifies the maximum number of top clients to display (the default is 20). |
| **sortgroup** | | string optional | If specified, the client statistics are sorted by the value of the string: "ops": Sort by the number of operations per second of any type. "reads": Sort by kbytes/sec of data in response to read requests. "writes": Sort by kbytes/sec of data written to the filer. "ios": Sort by the combined total of reads plus writes for each client. "suspicious": Sort by the number of "suspicious" events per second by each client. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number which tells you how many items have been saved for future retrieval with cifs-session-list-iter-next. Range:[0..2^32-1] |
| **tag** | | string | Tag to be used in subsequent calls to cifs-session-list-iter-next. |

| Errno | Description |
|---|---|
| **ECLIENTSTATSVFILER** | |
| **ECLIENTSTATSNOTENABLED** | |
| **ENOACTIVECLIENTS** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **cifs** |

# cifs-user-home-directory-path-get

[top]

Find the user's home directory based on user name

| Input Name | Range | Type | Description |
|---|---|---|---|
| **username** | | string | The name of CIFS user for which home directory path has to be found out. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **out-username** | | string optional | Output User Name |
| **path** | | string optional | The path of home directory for the specified user name. |
| **share-name** | | string optional | The expanded share name for the user. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# cifs-user-home-directory-path-get-iter

[top]

Find the user's home directory based on user name

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-user-home-directory-path optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-user-home-directory-path optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-user-home-directory-path object. All cifs-user-home-directory-path objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |
| **username** | | string | The name of CIFS user for which home directory path has to be found out. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-user-home-directory-path[] optional | The list of attributes of cifs-user-home-directory-path objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-user-home-directory-path objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |
| **out-username** | | string optional | Output User Name |
| **path** | | string optional | The path of home directory for the specified user name. |
| **share-name** | | string optional | The expanded share name for the user. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# cifs-users-and-group-local-group-members-get-iter

[top]

Retrieve the list of local group members

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-users-and-group-local-group-members optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-users-and-group-local-group-members optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-users-and-group-local-group-members object. All cifs-users-and-group-local-group-members objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-users-and-group-local-group-members[] optional | The list of attributes of cifs-users-and-group-local-group-members objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-users-and-group-local-group-members objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cifs-users-and-group-local-user-membership-get-iter

[top]

Retrieve local users' membership information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cifs-users-and-group-local-user-membership optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cifs-users-and-group-local-user-membership | A query that specifies which objects to return. A query could be specified on any number of attributes in the cifs-users-and-group-local-user-membership object. All cifs-users-and-group-local-user-membership objects matching this query up to |

| | | | |
|---|---|---|---|
| | | optional | 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cifs-users-and-group-local-user-membership[] optional | The list of attributes of cifs-users-and-group-local-user-membership objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cifs-users-and-group-local-user-membership objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-charmap-get

[top]

Return charmap information for a specified volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume on which to list the charmap information. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **charmap** | | string optional | A comma separated list of Unicode characters in the format of XX:XXXX. For example: 3f:ff76,3a:f3f4 wherein character 3f/3a which is invalid for windows, gets mapped to a character whose Unicode value is ff76/f3f4 respectively. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EOPNOTSUPPORTED** | |
| **EVOLUMEBUSY** | |

# volume-charmap-set

[top]

Set the character mapping on a volume

| Input Name | Range | Type | Description |
|---|---|---|---|
| **charmap** | | string optional | A comma separated list of Unicode characters in the format of XX:XXXX. For example: 3f:ff76,3a:f3f4 wherein character 3f/3a which is invalid for windows, gets mapped to a character whose Unicode value is ff76/f3f4 respectively. |
| **volume** | | volume- | The name of the volume for which character mapping needs to be |

| | | | |
|---|---|---|---|
| | | name | applied. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## Element definition: **anonymous-restriction-level** [top]

Classification of the CIFS null user restriction. Possible values:

- "no_restriction" - No Access Restriction for Anonymous User.,
- "no_enumeration" - Only Enumeration Is Restricted.,
- "no_access" - Access Restricted for Anonymous User.

[none]

## Element definition: **auth-mechanism** [top]

The list of possible known authentication mechanisms supported by the CIFS server. Possible values:

- "None" - None
- "NTLMv1" - NTLMv1
- "NTLMv2" - NTLMv2
- "Kerberos" - Kerberos
- "Anonymous" - Anonymous

[none]

## Element definition: **cifs-access-perms** [top]

access rights Possible values:

- "no_access" - No access,
- "read" - Read,
- "change" - Change,
- "full_control" - Full Control,
- "custom" - Custom

[none]

## Element definition: **cifs-bc-version-control** [top]

Versions of CIFS BranchCache that are currently supported.

[none]

# Element definition: **cifs-branchcache**

[top]

CIFS BranchCache configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **hash-store-max-size** | | size optional | Maximum size the hash store can grow to. Attributes: optional-for-create, modifiable |
| **hash-store-path** | | string optional | Path to the directory where hash files are stored. Attributes: required-for-create, modifiable |
| **operating-mode** | | string optional | The mode in which the BranchCache service will operate. Attributes: optional-for-create, modifiable |
| **server-key** | | string optional | BranchCache server key. Attributes: optional-for-create, modifiable |
| **versions** | | cifs-bc-version-control[] optional | Versions of the BranchCache protocol that are supported. Attributes: optional-for-create, modifiable |
| **vserver** | | vserver-name optional | The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-ca-protection**

[top]

The list of possible protection levels. Open files are "Continuously Available" if they are opened from an SMB 3 client through a share with the "continuously_available" property set. These open files are capable of non-disruptively recovering from takeover and giveback as well as general aggregate relocation between partners in a high-availability relationship. This is in addition to the traditional SMB 2 capability allowing clients to recover from LIF migration and other brief network interruptions. Note: The CA protection levels depicts the continuous availability at the connection level so it might not be accurate for a session if the connection has multiple sessions. Streams opened through a continuously available share are permitted, but are not currently made continuously available. Directories may be opened through a continuously available share, but will not appear continuously available as clients do not open them that way by design. These protection levels are applicable to the sessions/files on read/write volumes on SFO aggregates. Possible values:

- "No" - The open file is not continuously available. For sessions, it contains one or more open files but none of them are continuously available.
- "Yes" - The open file is continuously available. For sessions, it contains one or more open files and all of them are continuously available.

"Partial" - This value is used for sessions only. It contains at least one continuously available open file but other open files that are not.

[none]

# Element definition: **cifs-cache-settings-info**

[top]

Contains CIFS name and SID cache configuration information of a SVM When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Is Cache Enabled? Attributes: optional-for-create, modifiable |
| **is-negative-cache-enabled** | | boolean optional | Is Negative Cache Enabled? Attributes: optional-for-create, modifiable |
| **is-propagation-enabled** | | boolean optional | Is Propagation Enabled? Attributes: optional-for-create, modifiable |
| **negative-ttl** | | time-interval optional | Negative Time to Live Attributes: optional-for-create, modifiable |
| **ttl** | | time-interval optional | Time to Live Attributes: optional-for-create, modifiable |
| **vserver-name** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-character-mapping**

[top]

Display a character mapping When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | string[] | The mapping for invalid characters in the format XX:XXXX. Attributes: |

| | | | |
|---|---|---|---|
| **mapping** | | optional | required-for-create, modifiable |
| **volume** | | string optional | The name of the volume for which character mapping needs to be applied. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | string optional | Vserver Name on which the volume exists. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-check-info**

[top]

Basic configuration information for the CIFS Server. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cifs-domain-ip-addr** | | string optional | The IP address of the DC, CIFS Server Belongs to. Attributes: non-creatable, non-modifiable |
| **cifs-domain-name** | | string optional | The FQDN of the DC, CIFS Server Belongs to. Attributes: non-creatable, non-modifiable |
| **cifs-netbios-name** | | string optional | The NetBIOS Name of the CIFS Server. Attributes: non-creatable, non-modifiable |
| **cifs-server-site** | | string optional | The Site CIFS Server Belongs to. Attributes: non-creatable, non-modifiable |
| **cifs-server-status** | | string optional | CIFS Server Status. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The Node on Which the Command Will Be Run. Attributes: key, non-creatable, non-modifiable |
| **status** | | service-state optional | Status of NETLOGON Connection from Node to the CIFS Server. Attributes: non-creatable, non-modifiable Possible values:<br>• "down" ,<br>• "up" |
| **status-details** | | string optional | Time for Establishing NETLOGON Connection from Node to the CIFS Server. Attributes: non-creatable, non-modifiable |
| **vserver-name** | | string optional | Vserver For Checking the CIFS Server. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-connection**

[top]

Displays established CIFS connections When returned as part of the output, all elements of this typedef

are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **connection-id** | **[0..2^32-1]** | integer optional | The unique identifier for the connection. Attributes: key, optional-for-create, non-modifiable |
| **lif-ip** | | ip-address optional | The data lif that is used to establish the connection. Attributes: non-creatable, non-modifiable |
| **network-context-id** | **[0..2^32-1]** | integer optional | The network context id associated with the connection. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | The name of the node on which the connection listing is done. Attributes: key, required-for-create, non-modifiable |
| **session-id** | **[0..2^64-1]** | integer[] optional | The sessions that are associated with this connection. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | The Vserver name on which the connection listing is done. Attributes: key, required-for-create, non-modifiable |
| **workstation-ip** | | ip-address optional | The ip address of the workstation from which the connection is established. Attributes: non-creatable, non-modifiable |
| **workstation-port** | **[0..2^32-1]** | integer optional | The TCP port of the workstation through which the connection is established. Attributes: non-creatable, non-modifiable |

# Element definition: **cifs-dialects**

[top]

The list of possible known dialects Dialects negotiated by CIFS servers. Possible values:

- "SMB1" - SMB 1.0
- "SMB2" - SMB 2.0
- "SMB2_1" - SMB 2.1
- "SMB3" - SMB 3.0

[none]

# Element definition: **cifs-domain-discovered-servers**

[top]

List of servers discovered by the cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | inet-address optional | The IP address of the server that was discovered. Attributes: key, non-creatable, non-modifiable |
| **dc-functional-level** | | cifs-domain-discovered-server-funclvl optional | DC Functional Level Attributes: non-creatable, non-modifiable Possible values:<br>• "win2000" - WIN2000,<br>• "unknown" - The DC functionality level is unknown,<br>• "win2003" - WIN2003,<br>• "win2008" - WIN2008,<br>• "win2008r2" - WIN2008R2,<br>• "win2012" - WIN2012,<br>• "win2012r2" - WIN2012R2,<br>• "win2016" - WIN2016,<br>• "winthreshold" - WINTHRESHOLD |
| **domain** | | string optional | The Active Directory domain that the discovered server is a member of. Attributes: key, non-creatable, non-modifiable |
| **is-dc-read-only** | | boolean optional | Is DC Read Only Attributes: non-creatable, non-modifiable |
| **name** | | string optional | The hostname of the server that was discovered. Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | The name of the node on which server discovery was done. Attributes: key, non-creatable, non-modifiable |
| **prefer-type** | | cifs-domain-server-prefer-type optional | The preference level of the server that was discovered. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The preference level of this server is unknown.,<br>• "preferred" - This server was administratively marked as a preferred server due to its presence in the list of preferred servers.,<br>• "favored" - This server was marked as favored by the server discovery process by virtue of site membership.,<br>• "adequate" - This server was discovered by the server discovery process and can be used, but has no preference associated with it. |
| **server-type** | | cifs-domain-discovered-server-type optional | The type of the server that was discovered. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "unknown" - The server type is not known,<br>• "kerberos" - Kerberos server,<br>• "ms_ldap" - Microsoft Lightweight Directory Access Protocol (LDAP) server,<br>• "ms_dc" - Microsoft Domain Controller,<br>• "ldap" - Lightweight Directory Access Protocol (LDAP) server |
| | | cifs-domain- | The status of the connection to the server that was discovered. Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" - The connection to this server is usable., |

| | | | |
|---|---|---|---|
| **status** | | discovered-server-status optional | • "unavailable" - This server is currently unavailable for use.,<br>• "slow" - The connection to this server is usable but slow.,<br>• "expired" - The connection to this server has expired.,<br>• "undetermined" - A connection to this server has not been attempted.,<br>• "unreachable" - This server is currently unreachable. |
| **vserver** | | vserver-name optional | The name of the Vserver which scopes the discovered servers. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-domain-name-mapping-search**

[top]

List of trusted domains, organized by Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **trusted-domains** | | realm-name[] optional | The list of trusted domains used for name-mapping. Attributes: required-for-create, modifiable |
| **vserver** | | vserver-name optional | Vserver containing the CIFS server. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-domain-password-schedule**

[top]

CIFS domain password schedule parameters When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-schedule-enabled** | | boolean optional | Value of this field indicates whether domain account password change schedule is enabled or not. Value of true indicates schedule is enabled. Attributes: non-creatable, modifiable |
| **schedule-day-of-week** | | cron-day-of-week | This field specifies the day of week when the scheduled domain account password change occurs Attributes: non-creatable, modifiable |

| | | | |
|---|---|---|---|
| | | optional | |
| **schedule-randomized-minute** | **[1..180]** | integer optional | This field specifies the minutes within which the scheduled domain account password start time can be randomized beginning schedule-time-of-day Attributes: non-creatable, modifiable |
| **schedule-time-of-day** | | time-of-day optional | This field specifies the time in HH:MM:SS at which the scheduled domain account password change starts Attributes: non-creatable, modifiable |
| **schedule-weekly-interval** | **[1..52]** | integer optional | This field specifies the number of weeks after which the scheduled domain account password change must occur Attributes: non-creatable, modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-domain-preferred-dc**

[top]

List of preferred domain controllers associated with an Active Directory domain, organized by Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **domain** | | string optional | The fully qualified domain name of the Active Directory domain to which the domain controllers in the list belong. Attributes: key, required-for-create, non-modifiable |
| **preferred-dc** | | inet-address[] optional | The list of preferred domain controller IP addresses. Attributes: required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | Vserver containing the CIFS server. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-domain-server-discovery-mode**

[top]

The mode of server discovery. Possible values:

- "all" - Discover all the servers in the domain.,
- "site" - Discover the servers local to the site.,
- "none" - Discover nothing. Expect admins to configure pref-dcs.

[none]

# Element definition: **cifs-domain-server-discovery-mode-info**

[top]

CIFS domain server discovery mode When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **mode** | | cifs-domain-server-discovery-mode optional | Server discovery mode Attributes: required-for-create, modifiable Possible values:<br>• "all" - Discover all the servers in the domain.,<br>• "site" - Discover the servers local to the site.,<br>• "none" - Discover nothing. Expect admins to configure pref-dcs. |
| **vserver** | | vserver-name optional | Vserver name Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-domain-trusts**

[top]

List of trusted domains discovered. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **home-domain** | | realm-name optional | The fully-qualified domain name of the Active Directory domain the CIFS server is joined to. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | The name of the node on which discovery was done. Attributes: key, non-creatable, non-modifiable |
| **trusted-domain** | | realm-name[] optional | A domain that has a trust relationship with the home domain. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | The name of the Vserver which scopes the discovered trusted domains. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-filesystem-sector-size**

[top]

CIFS File System Sector sizes reported to SMB Clients (in bytes). Possible values:

- "512" - Reported file system sector size to SMB clients is 512 bytes,
- "4096" - Reported file system sector size to SMB clients is 4096 bytes

[none]

# Element definition: **cifs-functional-level**

[top]

Possible values are:

- "windows_2000"
- "windows_2003_with_mixed_domain"
- "windows_2003"
- "windows_2008"
- "windows_2008R2"
- "windows_8"

[none]

# Element definition: **cifs-home-directory**

[top]

Handle cifs home directory related configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-home-dirs-access-for-admin-enabled** | | boolean optional | Is home directory access is enabled to admin. Default value is true. Attributes: optional-for-create, modifiable |
| **is-home-dirs-access-for-public-enabled** | | boolean optional | Is home directory access is enabled to public. Default value is false. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver containing the CIFS server. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-home-directory-search-path**

[top]

This is a list of CIFS Home Directory search paths. When a CIFS client connects to a home directory share, these paths are searched in the order indicated by the 'position' field to find the user's home directory. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string optional | The file system path that will be searched for finding a CIFS user's home directory. Attributes: key, required-for-create, non-modifiable |
| **position** | **[1..1024]** | integer optional | The position of this entry in the list of paths that will be searched for finding a CIFS user's home directory. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-local-group**

[top]

List of local groups, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | The description of the local group Attributes: optional-for-create, modifiable |
| **group-name** | | cifs-name optional | The name of the local group Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-local-group-members**

[top]

List of local groups, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | cifs-name optional | The name of the local group Attributes: key, non-creatable, non-modifiable |
| **member** | | cifs-name optional | The member of a local group Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-local-user**

[top]

List of local users, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | The description of the local user Attributes: optional-for-create, modifiable |
| **full-name** | | string optional | Full name of the local user Attributes: optional-for-create, modifiable |
| **is-account-disabled** | | boolean optional | The user account is disabled Attributes: optional-for-create, modifiable |
| **user-name** | | cifs-name optional | The name of the local user Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-local-user-membership**

[top]

List of local users' membership information, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **membership** | | cifs-name optional | The membership of the local user Attributes: non-creatable, non-modifiable |
| **user-name** | | cifs-name optional | The name of the local user Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-name**

[top]

[none]

# Element definition: **cifs-nbtstat**

[top]

Display NetBIOS Statistics. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **nbt-mode** | | string optional | Mode in which the NetBIOS Name Service is configured. Possible values: 'p' - Point to Point, 'h' - Hybrid, 'm' - Mixed or 'b' - Broadcast. Attributes: non-creatable, non-modifiable |
| **nbt-name-state** | | string optional | Registration State of NetBIOS Name. Possible values: 'must_register', 'must_unregister', 'wins', 'broadcast', 'name_released', 'wins_conflict', 'broadcast_conflict. Attributes: non-creatable, non-modifiable |
| **nbt-scope** | | string optional | Scope is used as a name for the set of NetBIOS nodes that participate in an NBT virtual LAN. Attributes: non-creatable, non-modifiable |
| **netbios-name** | | string optional | NetBIOS Name. Attributes: key, non-creatable, non-modifiable |
| **netbios-suffix** | | string optional | A NetBIOS suffix is the 16th character of the 16-character NetBIOS name. The NetBIOS suffix is used by Microsoft Networking software to identify functionality installed on the registered device. Attributes: key, non-creatable, non-modifiable |
| | | string | The name of the node on which nbtstat was done. Attributes: key, |

| | | | |
|---|---|---|---|
| **node** | | optional | non-creatable, non-modifiable |
| **registered-addresses** | | ip-address[] optional | List of interface IP Addresses for which the NetBIOS Name is registered. Attributes: non-creatable, non-modifiable |
| **registered-type** | | string optional | Name registration type. Possible values: 'registered', 'active', 'permanent', 'group'. Attributes: non-creatable, non-modifiable |
| **registration-time-left-minutes** | **[0..2^32-1]** | integer optional | Time left in minutes for a name registered with WINS. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | The Vserver name on which nbtstat was done. Attributes: key, non-creatable, non-modifiable |
| **wins-entries** | | wins-entry-info[] optional | Windows Internet Name Server (WINS) information |

# Element definition: **cifs-options**

[top]

The CIFS specific tunables that can be set on a Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-session-timeout** | **[0..2^32-1]** | integer optional | This optional parameter specifies the amount of idle time (in seconds) before a CIFS session is disconnected Attributes: optional-for-create, modifiable |
| **default-unix-group** | | string optional | The default UNIX group used if the identity of a CIFS group cannot be mapped using normal group mapping rules. Attributes: optional-for-create, modifiable |
| **default-unix-user** | | string optional | The default UNIX user used if the identity of a CIFS user cannot be mapped using normal user mapping rules. Attributes: optional-for-create, modifiable |
| **file-system-sector-size** | | cifs-filesystem-sector-size optional | This optional parameter specifies the size of file system sector in bytes reported to SMB Clients. Attributes: optional-for-create, modifiable Possible values:<br>• "512" - Reported file system sector size to SMB clients is 512 bytes,<br>• "4096" - Reported file system sector size to SMB clients is 4096 bytes |
| **grant-unix-group-perms-to-others** | | boolean optional | This optional parameter specifies whether UNIX group permissions should be granted to others when Windows clients access files on a UNIX security-style Volume/Qtree as well as mixed security style Volume/Qtree, as long as the effective security style on the file is UNIX. The default value for this parameter is |

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|---|---|---|---|
| | | | false. Attributes: optional-for-create, modifiable |
| **guest-unix-user** | | string optional | This optional parameter specifies that a guest user coming from any untrusted domain can be mapped to specified UNIX user. Attributes: optional-for-create, modifiable |
| **is-admin-users-mapped-to-root-enabled** | | boolean optional | This optional parameter specifies that if name-mapping is not present for members of BUILTIN\Administrators group then whether they can be mapped to Unix User 'root'. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-advanced-sparse-file-support-enabled** | | boolean optional | This optional parameter specifies whether advanced sparse file capabilities, such as Query Allocated Ranges and Set Zero Data, are enabled on the CIFS server. Attributes: optional-for-create, modifiable |
| **is-advertise-dfs-enabled** | | boolean optional | (DEPRECATED) This optional parameter specifies whether to advertise DFS referral of the CIFS protocol. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-client-dup-detection-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server should detect duplicate sessions coming from the same SMB 1.0 client with VcNumber of zero (0). The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-client-version-reporting-enabled** | | boolean optional | This optional parameter specifies whether to report the client version through ASUP. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-copy-offload-direct-copy-enabled** | | boolean optional | This optional parameter specifies whether the Direct-Copy Copy Offload mechanism is enabled or not. Default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-copy-offload-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server is capable of performing copy offload operation. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-dac-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server supports Dynamic Access Control. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **is-exportpolicy-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server uses export policies to control client access. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **is-fake-open-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server supports fake open requests. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-fsctl-file-level-trim-enabled** | | boolean optional | This optional parameter specifies whether trim requests (FSCTL_FILE_LEVEL_TRIM) are supported on the cifs server. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-hide-dotfiles-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server should hide files and directories beginning with a dot '.' during directory enumeration. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **is-inherit-** | | | |

| | | | |
|---|---|---|---|
| **modebits-with-nfsv4acl-enabled** | | boolean optional | This option Enables setting Modebits on file created by cifs user if it inherits nfs4acl. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **is-large-mtu-enabled** | | boolean optional | This optional parameter specifies that the SMB 2.1 Large MTU feature is supported. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-local-auth-enabled** | | boolean optional | This optional parameter specifies whether CIFS local users can authenticate. Attributes: optional-for-create, modifiable |
| **is-local-users-and-groups-enabled** | | boolean optional | This optional parameter specifies whether the CIFS local users and groups feature is enabled on the cluster. Attributes: optional-for-create, modifiable |
| **is-multichannel-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server supports Multichannel or not. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **is-nbns-enabled** | | boolean optional | This optional parameter specifies that NBNS (port 137) is enabled or not. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **is-netbios-over-tcp-enabled** | | boolean optional | This optional parameter specifies that the use of NetBIOS over TCP (port 139) is enabled or not. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-path-component-cache-enabled** | | boolean optional | This optional parameter specifies whether the CIFS path component cache is enabled for SMB2 or not. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-path-component-cache-symlink-enabled** | | boolean optional | This optional parameter specifies whether the CIFS symlink resolution for path component cache is enabled for SMB2 or not. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-read-only-delete-enabled** | | enable optional | This optional parameter specifies that a file can be deleted using UNIX delete semantics when the DOS read-only bit is enabled. Attributes: optional-for-create, modifiable Possible values:<br>• "enabled" ,<br>• "disabled" |
| **is-referral-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server refers clients to more optimal data access paths (LIFs). The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **is-search-short-names-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server supports searching short names. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **is-shadowcopy-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server is capable of performing shadow copy operations. Directories and files within a FlexGroup will not be shadow copied because FlexGroups do not support shadow copy. Attributes: optional-for-create, modifiable |

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|---|---|---|---|
| **is-share-enum-permission-check-enabled** | | boolean optional | This option is used to control whether the NetShareEnum call should only respond with the shares the user has access to or with all shares. The default value is false which means it will respond with all shares. Attributes: optional-for-create, modifiable |
| **is-smb1-enabled** | | boolean optional | (DEPRECATED) This optional parameter specifies whether the CIFS server negotiates the SMB1 versions of the CIFS protocol. The default value for this parameter is true for Vservers with Infinite Volume. For other data Vservers, the default value is false. Attributes: optional-for-create, modifiable |
| **is-smb2-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server negotiates the SMB2 versions of the CIFS protocol. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-smb3-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server negotiates the SMB3 version of the CIFS protocol. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-smb31-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server negotiates the SMB3.1 version of the CIFS protocol. The default value for this parameter is true. Attributes: optional-for-create, modifiable |
| **is-trusted-domain-enum-search-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server is capable of performing enumeration of trusted domains and search to map a UNIX user to a Windows user. Attributes: optional-for-create, modifiable |
| **is-unix-extensions-enabled** | | boolean optional | This optional parameter specifies whether CIFS server is capable of supporting UNIX Extensions. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **is-unix-nt-acl-enabled** | | boolean optional | This optional parameter specifies whether NT ACLs can be set on a volume with UNIX security-style. Attributes: optional-for-create, modifiable |
| **is-use-junctions-as-reparse-points-enabled** | | boolean optional | This optional parameter specifies whether the CIFS server exposes junction points as reparse points to Windows clients. Attributes: optional-for-create, modifiable |
| **map-sid-to-uid-on-set-owner** | | boolean optional | This option is used to control whether to map Windows SIDs to Unix UIDs when setting or restoring the owner SID. The default is true. Set this value to false to avoid performance-impacting SID lookups. It should be set true if your workflow involves converting the storage security style from 'ntfs' or 'mixed' to 'unix'. Attributes: optional-for-create, modifiable |
| **max-connections-per-session** | **[2..1024]** | integer optional | This optional parameter specifies the maximum number of connections allowed per Multichannel session. The default value for this parameter is 32. Attributes: optional-for-create, modifiable |
| **max-credits** | **[2..8192]** | integer optional | This optional parameter controls the maximum number of outstanding requests on a CIFS connection. The default value is 128. Attributes: optional-for-create, modifiable |
| **max-file-write-zero-** | **[2^12..2^25]** | integer | This optional parameter specifies the maximum length of data in bytes that the CIFS server can write zero with one CIFS request. This parameter accepts data |

| | | | |
|---|---|---|---|
| **length** | | optional | lengths between 4 KB and 32 MB. The default value for this option is 32 MB. Attributes: optional-for-create, modifiable |
| **max-lifs-per-session** | **[1..256]** | integer optional | This optional parameter specifies the maximum number of network interfaces advertised per Multichannel session. The default value for this parameter is 256. Attributes: optional-for-create, modifiable |
| **max-mpx** | **[2..65535]** | integer optional | This option controls maximum simultaneous operations the CIFS server reports it can process per TCP connection. The default value for this option is 255. Attributes: optional-for-create, modifiable |
| **max-opens-same-file-per-tree** | **[0..2^32-1]** | integer optional | This option controls maximum existing opens on the same file per CIFS Tree. The default value for this option is 1000. Attributes: optional-for-create, modifiable |
| **max-same-tree-connect-per-session** | **[0..2^32-1]** | integer optional | This option controls maximum simultaneous CIFS connections to the same share per CIFS session. The default value for this option is 5000. Attributes: optional-for-create, modifiable |
| **max-same-user-sessions-per-connection** | **[0..2^32-1]** | integer optional | This option controls maximum simultaneous sessions by the same user per TCP connection. The default value for this option is 2500. Attributes: optional-for-create, modifiable |
| **max-watches-set-per-tree** | **[0..2^32-1]** | integer optional | This option controls maximum watches that can be set per CIFS Tree. The default value for this option is 500. Attributes: optional-for-create, modifiable |
| **path-component-cache-entry-exp-time** | **[5000..3600000]** | integer optional | This optional parameter controls the time in milliseconds when the path component cache entry would be considered fresh. The default value for this parameter is 300000 milliseconds. Attributes: optional-for-create, modifiable |
| **path-component-cache-max-entries** | **[1000..1000000]** | integer optional | This optional parameter control the maximum number of cache entries in one instance of path component cache. The default value for this parameter is 100000. Attributes: optional-for-create, modifiable |
| **path-component-cache-max-session-token-size** | **[500..10000]** | integer optional | This optional parameter specifies maximum session token size for path component cache for SMB2. The default value for this parameter is 1000. Attributes: optional-for-create, modifiable |
| **path-component-cache-symlink-exp-time** | **[5000..3600000]** | integer optional | This optional parameter controls the time in milliseconds when the path component cache entry that is symlink would be considered fresh. The default value for this parameter is 300000 milliseconds. Attributes: optional-for-create, modifiable |
| **read-grants-execute** | | enable optional | On a file with UNIX Style security effective on it, if the file has read permission on it, a CIFS user would be allowed to execute permissions if this option is enabled. Attributes: optional-for-create, modifiable Possible values:<br>• "enabled" ,<br>• "disabled" |
| | | | This optional parameter specifies what level of access will a non authenticated user get Attributes: optional-for-create, modifiable Possible values: |

| | | | |
|---|---|---|---|
| **restrict-anonymous** | | anonymous-restriction-level optional | • "no_restriction" - No Access Restriction for Anonymous User.,<br>• "no_enumeration" - Only Enumeration Is Restricted.,<br>• "no_access" - Access Restricted for Anonymous User. |
| **shadowcopy-dir-depth** | **[0..2^32-1]** | integer optional | This optional parameter specifies the maximum depth of directories to shadow copy. Directories and files within a FlexGroup will not be shadow copied because FlexGroups do not support shadow copy. Attributes: optional-for-create, modifiable |
| **smb1-max-buffer-size** | **[4356..65535]** | integer optional | This optional parameter specifies the maximum buffer size used for SMB1 message that the server can receive. The default value for this parameter is 65535. Attributes: optional-for-create, modifiable |
| **vserver** | | vserver-name optional | The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable |
| **widelink-as-reparse-point-versions** | | cifs-dialects[] optional | This optional parameter specifies for which CIFS protocol versions widelink will be reported as reparse points. The default value for this parameter is SMB1. Attributes: optional-for-create, modifiable Possible values:<br>• "smb1" - SMB 1.0,<br>• "smb2" - SMB 2.0,<br>• "smb2_1" - SMB 2.1,<br>• "smb3" - SMB 3.0,<br>• "smb3_1" - SMB 3.1 |
| **win-name-for-null-user** | | string optional | This optional parameter specifies a valid Windows user or group name that will be added to the CIFS credentials for a NULL user Session. Attributes: optional-for-create, modifiable |
| **wins-servers** | | inet-address[] optional | List of Windows Internet Name Service (WINS) IP addresses. The Vserver will send NetBIOS name resolution requests to these addresses. Attributes: optional-for-create, modifiable |

# Element definition: **cifs-preferred-dc-check-info**

[top]

Basic configuration information for the Preferred DC. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | string[] | |

| | | | |
|---|---|---|---|
| **dc-ip-addr** | | optional | DC Address Attributes: key, non-creatable, non-modifiable |
| **domain-name** | | string[] optional | Domain Name Attributes: non-creatable, non-modifiable |
| **status** | | service-state[] optional | DC Status Attributes: non-creatable, non-modifiable Possible values:<br>• "down" ,<br>• "up" |
| **status-details** | | string[] optional | Status Details Attributes: non-creatable, non-modifiable |
| **vserver-name** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-privilege**

[top]

List of privileges assigned to local or Active Directory users or groups, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **privileges** | | cifs-privilege-entries[] optional | The privileges associated with a local or Active Directory user or group Attributes: non-creatable, non-modifiable Possible values:<br>• "setcbprivilege" - Act as part of the operating system,<br>• "sebackupprivilege" - Back up files and directories, overriding any ACLs,<br>• "serestoreprivilege" - Restore files and directories, overriding any ACLs,<br>• "setakeownershipprivilege" - Take ownership of files or other objects,<br>• "sesecurityprivilege" - Manage auditing and viewing/dumping/clearing the security log,<br>• "sechangenotifyprivilege" - Bypass traverse checking |
| **user-or-group-name** | | cifs-name optional | The name of the local or Active Directory user or group Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-privilege-entries**

[top]

Privilege Possible values:

- "setcbprivilege" - Act as part of the operating system,
- "sebackupprivilege" - Back up files and directories, overriding any ACLs,
- "serestoreprivilege" - Restore files and directories, overriding any ACLs,
- "setakeownershipprivilege" - Take ownership of files or other objects,
- "sesecurityprivilege" - Manage auditing and viewing/dumping/clearing the security log,
- "sechangenotifyprivilege" - Bypass traverse checking

[none]

# Element definition: **cifs-security**

[top]

CIFS security tunable parameters. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **advertised-enc-types** | | cifskrbenctypes[] optional | This parameter determines which encryption types will be advertised to Kerberos. By default RC4 and DES will be advertised. Attributes: non-creatable, modifiable Possible values:<br>• "des" ,<br>• "rc4" ,<br>• "aes_128" ,<br>• "aes_256" |
| **aes-enabled-for-netlogon-channel** | | boolean optional | This parameter determines whether to use AES session key as part of NetLogon secure channel establishment. By default this option is false. Attributes: non-creatable, modifiable |
| **encryption-required-for-dc-connections** | | boolean optional | This parameter determines if encryption is required for connections to domain controllers. Attributes: non-creatable, modifiable |
| **is-aes-encryption-enabled** | | boolean optional | This parameter determines whether AES-128 and AES-256 encryption mechanisms are enabled for Kerberos-related CIFS communication. By default this option is false. Attributes: non-creatable, modifiable |
| **is-password-complexity-required** | | boolean optional | This parameter determines whether password complexity is required for local users. By default this option is true. Attributes: non-creatable, modifiable |
| **is-signing-required** | | boolean optional | This parameter determines whether signing is required for incoming CIFS traffic. By default this option is false. Attributes: non-creatable, modifiable |
| **is-smb-** | | boolean | This parameter determines whether SMB encryption is |

| | | | |
|---|---|---|---|
| **encryption-required** | | optional | required for incoming CIFS traffic. By default this option is false. Attributes: non-creatable, modifiable |
| **kerberos-clock-skew** | **[0..2^32-1]** | integer optional | The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock. Attributes: non-creatable, modifiable |
| **kerberos-kdc-timeout** | **[1..23]** | integer optional | This parameter determines the timeout value in seconds for KDC connections. Attributes: non-creatable, modifiable |
| **kerberos-renew-age** | **[0..2^32-1]** | integer optional | This parameter determines the maximum amount of time in days for which a ticket can be renewed. Attributes: non-creatable, modifiable |
| **kerberos-ticket-age** | **[0..2^32-1]** | integer optional | This parameter determines the maximum amount of time in hours that a user's ticket may be used for the purpose of Kerberos authentication. Attributes: non-creatable, modifiable |
| **lm-compatibility-level** | | lm-compatibility-level optional | This parameter determines the LM compatibility level. By default this option is 'LM, NTLM, NTLMv2 and Kerberos'. Attributes: non-creatable, modifiable Possible values:<br>• "lm_ntlm_ntlmv2_krb" - Accepts LM, NTLM, NTLMv2 and Kerberos,<br>• "ntlm_ntlmv2_krb" - Accepts NTLM, NTLMv2 and Kerberos,<br>• "ntlmv2_krb" - Accepts NTLMv2 and Kerberos,<br>• "krb" - Accepts Kerberos only |
| **referral-enabled-for-ad-ldap** | | boolean optional | This parameter determines whether LDAP referral chasing is enabled or not for AD LDAP connections. By default this option is false. Attributes: non-creatable, modifiable |
| **session-security-for-ad-ldap** | | ldap-security optional | This parameter determines the level of security for LDAP communications. By default this option is none. Attributes: non-creatable, modifiable Possible values:<br>• "none" - No Signing or Sealing.,<br>• "sign" - Sign LDAP traffic.,<br>• "seal" - Seal and Sign LDAP traffic |
| **smb1-enabled-for-dc-connections** | | system-default-bool optional | (DEPRECATED) This parameter determines if SMB version 1 is used for connections to domain controllers. Attributes: non-creatable, modifiable Possible values:<br>• "false" ,<br>• "true" ,<br>• "system_default" |
| **smb2-enabled-for-dc-connections** | | system-default-bool optional | This parameter determines if SMB version 2 is used for connections to domain controllers. Attributes: non-creatable, modifiable Possible values:<br>• "false" ,<br>• "true" ,<br>• "system_default" |
| **try-channel-binding-for-ad-ldap** | | boolean optional | This parameter determines whether to try channel binding for AD LDAP connections. By default this option is true. Attributes: non-creatable, modifiable |
| **use-ldaps-for-ad-ldap** | | boolean optional | This parameter determines whether to use LDAPS(port 636) for Secure Active Directory LDAP connections. By default this option is false. Attributes: non-creatable, modifiable |

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| **use-start-tls-for-ad-ldap** | | boolean optional | This parameter determines whether to use start_tls for AD LDAP connections. By default this option is false. Attributes: non-creatable, modifiable |
| **vserver** | | vserver-name optional | The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-server-config**

[top]

Basic configuration information for the CIFS Server. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **administrative-status** | | service-state optional | CIFS Server Administrative Status. Attributes: optional-for-create, modifiable Possible values:<br>• "down" ,<br>• "up" |
| **auth-style** | | cifs-auth-style optional | The authentication style to be used for CIFS clients connecting to this CIFS server. Attributes: non-creatable, non-modifiable Possible values:<br>• "domain" - DOMAIN,<br>• "workgroup" - WORKGROUP,<br>• "realm" - KERBEROS REALM |
| **cifs-server** | | netbios-name optional | The NetBIOS name of the CIFS server. Attributes: required-for-create, modifiable |
| **comment** | | string optional | CIFS Server Description. Attributes: optional-for-create, modifiable |
| **default-site** | | string optional | The default site used by LIFs that do not have a site membership. Attributes: optional-for-create, modifiable |
| **domain** | | string optional | The Fully Qualified Domain Name of the Windows Active Directory this CIFS server belongs to. Attributes: optional-for-create, modifiable |
| **domain-workgroup** | | domain-name optional | The NetBIOS name of the domain or workgroup this CIFS server belongs to. Attributes: non-creatable, non-modifiable |
| **netbios-aliases** | | netbios-name[] optional | List of NetBIOS Aliases Attributes: optional-for-create, non-modifiable |
| **organizational-unit** | | string optional | The Organizational Unit (OU) within the Windows Active Directory this CIFS server belongs to. Attributes: optional-for-create, modifiable |
| **realm** | | string optional | The Kerberos realm this CIFS server belongs to. Attributes: optional-for-create, modifiable |
| **vserver** | | string | Vserver containing the CIFS server. Attributes: key, non-creatable, |

| | | | |
|---|---|---|---|
| | | optional | non-modifiable |
| **workgroup** | | netbios-name optional | The name of the workgroup this CIFS server belongs to. Attributes: optional-for-create, modifiable |

# Element definition: **cifs-session**

[top]

Displays the established CIFS sessions When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | The ip address of the workstation from which the session is opened. Attributes: non-creatable, non-modifiable |
| **auth-mechanism** | | auth-mechanism optional | The authentication mechanism used to establish the session. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" ,<br>• "ntlmv1" ,<br>• "ntlmv2" ,<br>• "kerberos" ,<br>• "anonymous" |
| **connected-time** | | elapsed-time-ext optional | The time duration since the session was established. Attributes: non-creatable, non-modifiable |
| **connection-count** | **[0..2^32-1]** | integer optional | The number of CIFS connections associated with the CIFS session. Attributes: non-creatable, non-modifiable |
| **connection-id** | **[0..2^32-1]** | integer optional | The connection that is used to establish the session. Attributes: key, optional-for-create, non-modifiable |
| **continuously-available** | | cifs-ca-protection optional | The type of continuous avalability protection provided to the session. Attributes: non-creatable, non-modifiable Possible values:<br>• "no" - The open file is not continuously available. For sessions, it contains one or more open file but none of them are continuously available.,<br>• "yes" - The open file is continuously available. For sessions, it contains one or more open files and all of them are continuously available.,<br>• "partial" - This value is used for sessions only. It contains at least one continuously available open file but other open files that are not. |
| **files** | **[0..2^64-1]** | integer optional | The number of the regular files that are opened under the session. Attributes: non-creatable, non-modifiable |
| **idle-time** | | elapsed-time-ext | The time duration since there was last activity on the session. |

| | | | |
|---|---|---|---|
| | | optional | Attributes: non-creatable, non-modifiable |
| **is-large-mtu-enabled** | | boolean optional | This optional parameter specifies the status of the Large MTU over the CIFS session. Attributes: non-creatable, non-modifiable |
| **is-session-signed** | | boolean optional | Displays if a CIFS session is SMB Signed. If true, the CIFS session is signed. If false, the CIFS session is not signed. Attributes: non-creatable, non-modifiable |
| **lif-address** | | ip-address optional | The data lif that is used to establish the session. Attributes: non-creatable, non-modifiable |
| **netbios-name** | | string optional | Displays the NetBIOS name client used for connecting to the share. Attributes: non-creatable, non-modifiable |
| **node** | | string optional | The name of the node on which the session listing is done. Attributes: key, required-for-create, non-modifiable |
| **other** | **[0..2^64-1]** | integer optional | The number of the special files that are opened under the session. Attributes: non-creatable, non-modifiable |
| **protocol-version** | | cifs-dialects optional | The CIFS protocol version that is used to establish the session. Attributes: non-creatable, non-modifiable Possible values:<br>• "smb1" - SMB 1.0,<br>• "smb2" - SMB 2.0,<br>• "smb2_1" - SMB 2.1,<br>• "smb3" - SMB 3.0,<br>• "smb3_1" - SMB 3.1 |
| **session-id** | **[0..2^64-1]** | integer optional | The unique identifier for the session. Attributes: key, optional-for-create, non-modifiable |
| **shares** | **[0..2^32-1]** | integer optional | The number of the CIFS shares that are opened under the session. Attributes: non-creatable, non-modifiable |
| **smb-encryption-status** | | smb-encryption optional | Displays the status of SMB encryption that is happening over the CIFS session. Attributes: non-creatable, non-modifiable Possible values:<br>• "unencrypted" - CIFS session is not encrypted.,<br>• "encrypted" - CIFS session is fully encrypted. Vserver level encryption is enabled and encryption happens for the entire session.,<br>• "partially_encrypted" - CIFS session is partially encrypted. Share level encryption is enabled and encryption is initiated when the tree-connect occurs. |
| **unix-user** | | string optional | The name of the UNIX user for which the session is established. Attributes: non-creatable, non-modifiable |
| **user-type** | | string optional | The Classification of the Authenticated user. Attributes: non-creatable, non-modifiable Possible values:<br>• "local_user" ,<br>• "domain_user" ,<br>• "guest_user" ,<br>• "anonymous_user" |
| **vserver** | | string optional | The Vserver name on which the session listing is done. Attributes: key, non-creatable, non-modifiable |
| **win-unix-creds** | | string optional | Display the Windows and UNIX credentials. This field is not returned by default and must be requested via desired-attributes. Attributes: non-creatable, non-modifiable |
| **windows-user** | | string optional | The name of the CIFS user for which the session is established. Attributes: non-creatable, non-modifiable |

# Element definition: **cifs-session-file**

[top]

Displays the opened CIFS files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **connection-count** | **[0..2^32-1]** | integer optional | The number of CIFS connections associated with the CIFS session. Attributes: non-creatable, non-modifiable |
| **connection-id** | **[0..2^32-1]** | integer optional | The connection that is used to open the file. Attributes: key, optional-for-create, non-modifiable |
| **continuously-available** | | cifs-ca-protection optional | The type of continuous availability protection provided to the file. Attributes: non-creatable, non-modifiable Possible values:<br>• "no" - The open file is not continuously available. For sessions, it contains one or more open file but none of them are continuously available.,<br>• "yes" - The open file is continuously available. For sessions, it contains one or more open files and all of them are continuously available.,<br>• "partial" - This value is used for sessions only. It contains at least one continuously available open file but other open files that are not. |
| **file-id** | **[0..2^64-1]** | integer optional | The unique identifier for the opened file. Attributes: key, optional-for-create, non-modifiable |
| **file-type** | | cifs-file-type optional | The type of opened file. Attributes: non-creatable, non-modifiable Possible values:<br>• "regular" ,<br>• "symlink" ,<br>• "stream" ,<br>• "directory" |
| **flexgroup-msid** | **[0..2^64-1]** | integer optional | The FlexGroup MSID of the volume on which the file resides. Attributes: non-creatable, non-modifiable |
| **hosting-aggregate** | | aggr-name optional | The name of the aggregate on which the file resides. Attributes: non-creatable, non-modifiable |
| **hosting-volume** | | volume-name optional | The name of the volume on which the file resides. Attributes: non-creatable, non-modifiable |
| **node** | | string optional | The name of the node on which the file listing is done. Attributes: key, required-for-create, non-modifiable |
| **open-mode** | | cifs-open-mode | The mode in which the file is opened. Attributes: non-creatable, non-modifiable Possible values:<br>• "r" - Read, |

| | | | |
|---|---|---|---|
| | | optional | "w" - Write,<br>• "d" - Delete |
| **path** | | string optional | The path of the file. Attributes: non-creatable, non-modifiable |
| **range-locks** | **[0..2^32-1]** | integer optional | The number of range locks granted on the file. Attributes: non-creatable, non-modifiable |
| **reconnected** | | string optional | The state that represents if the file was opened after network disconnect. Attributes: non-creatable, non-modifiable |
| **session-id** | **[0..2^64-1]** | integer optional | The session under which file is opened. Attributes: key, optional-for-create, non-modifiable |
| **share** | | cifs-share-name optional | The share name where the file resides. Attributes: non-creatable, non-modifiable |
| **share-mode** | | cifs-open-mode optional | The share mode used to open the file. Attributes: non-creatable, non-modifiable Possible values:<br>• "r" - Read,<br>• "w" - Write,<br>• "d" - Delete |
| **vserver** | | string optional | The Vserver name on which the file listing is done. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-session-info**

[top]

Information about a single cifs session.

| Name | Range | Type | Description |
|---|---|---|---|
| **change-notifies** | | integer | Number of active ChangeNotify requests. |
| **dirs** | | integer | Number of open directories. |
| **files** | | integer | Number of open files. |
| **host-ip** | | ip-address | IP address, in dotted-decimal format, of the CIFS client. |
| **host-name** | | string optional | NetBios name of the CIFS client. This may be unavailable in certain situations. In such cases, the ONTAPI element 'host-ip' alone provides identity of the host. |
| **shares** | | integer | Number of open shares. |
| **user** | | string optional | Name of the user. |
| **volumes-list** | | volumes-list-info[] | List of volumes being accessed during the session. |

# Element definition: **cifs-setup-ou**

[top]

The fully qualified name of a single joinable organizational unit.

[none]

# Element definition: **cifs-setup-site**

[top]

The fully qualified name of a single joinable organizational unit.

[none]

# Element definition: **cifs-share**

[top]

CIFS share configuration. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **acl** | | string[] optional | This string list gives the applicable Access Control list for the CIFS share. Each list entry is a '/' separated pair of the User or Group name and the effective permissions. The permission could be 'Full Control', Change', 'Read' or 'No access'. e.g.: If the group is 'Everyone' and the effective permission for this group is 'Change', the entry would be 'Everyone / Change'. Attributes: non-creatable, non-modifiable |
| **attribute-cache-ttl** | **[0..2^32-1]** | integer optional | The lifetime of an entry in the file attribute cache, in seconds. This value is used if the share has the 'attributecache' property set, which improves the performance of certain metadata operations in common workloads. The default is 10 seconds. Raising this value may improve performance, but the likelihood that stale metadata will be served increases as well. The value of this field must be in the range of 1 to 86400. Attributes: optional-for-create, modifiable |
| **cifs-server** | | string optional | The NetBIOS name of the CIFS server that owns this share. Attributes: non-creatable, non-modifiable |
| **comment** | | string optional | This string gives a description of the CIFS share. CIFS clients see this description when browsing the Vserver's CIFS shares. Attributes: optional-for-create, modifiable |
| **dir-umask** | **[0..777]** | integer optional | The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created directory. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values. Attributes: optional-for- |

| | | | |
|---|---|---|---|
| | | | create, modifiable |
| **file-umask** | **[0..777]** | integer optional | The value of this field controls the file mode creation mask for the CIFS share in qtrees with UNIX or Mixed security styles. The mask restricts the initial permissions setting of a newly created file. The input value is a numeric mode comprising of one to three octal digits (0-7), derived by adding up the bits with values 4, 2, and 1. The first digit selects permissions for the user who owns the file: read (4), write (2), and execute (1); the second selects permissions for other users in the file's group, with the same values; and the third for other users not in the file's group, with the same values. Attributes: optional-for-create, modifiable |
| **force-group-for-create** | | string optional | This option specifies a predefined UNIX group name for which all files created by CIFS users in that share will be assigned group owenership to. Attributes: optional-for-create, modifiable |
| **max-connections-per-share** | **[1..2^32-1]** | integer optional | The maximum number of simultaneous connections allowed to the share. Attributes: optional-for-create, modifiable |
| **offline-files-mode** | | string optional | Mode of the offline file for the CIFS share. The default value is manual. Possible values:<br>• "none" - Clients are not permitted to cache files for offline access.,<br>• "manual" - Clients may cache files that are explicitly selected by the user for offline use.,<br>• "documents" - Clients may automatically cache files that are used by the user for offline access.,<br>• "programs" - Clients may automatically cache files that are used by the user for offline access and may use those files in an offline mode even if the share is available. |
| **path** | | string optional | The file system path that is shared through this CIFS share. The path is the full, user visible path relative to the vserver root, and it might be crossing junction mount points. The path is in UTF8 and uses forward slash as directory separator. Attributes: required-for-create, modifiable |
| **share-name** | | string optional | The name of the CIFS share. The CIFS share name is a UTF-8 string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:\|<>+=;,?"* Attributes: key, required-for-create, non-modifiable |
| | | | The list of properties for this CIFS share. Attributes: optional-for-create, modifiable Possible values:<br>• "oplocks" - This specifies that opportunistic locks (client-side caching) are enabled on this share.,<br>• "browsable" - This specifies that the share can be browsed by Windows clients.,<br>• "showsnapshot" - This specifies that Snapshots can be viewed and traversed by clients.,<br>• "changenotify" - This specifies that CIFS clients can request for change notifications for directories on this share. If the path of the share is within a FlexGroup, change notifications are not sent because FlexGroups do not support Change Notify.,<br>• "homedirectory" - This specifies that the share is added and enabled as part of the CIFS home directory feature. The configuration of this share should be done using CIFS home directory feature interface.,<br>• "attributecache" - This specifies that connections through |

| | | | |
|---|---|---|---|
| **share-properties** | | cifs-share-properties[] optional | this share are caching attributes for a short time to improve performance.<br>• "branchcache" - This specifies that clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office.<br>• "continuously_available" - This specifies that clients connecting to this share can open files in a persistent manner. Files opened this way are protected from disruptive events, such as failover and giveback. This property is not supported for FlexGroups.<br>• "shadowcopy" - This specifies that the share is pointing to a shadow copy. This attribute cannot be added nor removed from a share.<br>• "access_based_enumeration" - This specifies that Access Based Enumeration is enabled on this share. ABE-filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access.<br>• "namespace_caching" - This specifies that the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers.<br>• "encrypt_data" - This specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption will not be able to access this share.<br>• "show_previous_versions" - This property specifies that the previous version can be viewed and restored from the client. This property is enabled by default. |
| **symlink-properties** | | cifs-share-symlink-properties[] optional | This flag controls whether the symlinks under this shared directory are hidden (option 'hide'), accessible (option 'enable') or are accessible as read-only (option 'read-only' along with option 'enable'). It controls whether only symlinks which have targets on this server can be resolved by a CIFS client (option 'symlinks') or if all symlinks can be resolved (option 'symlinks_and_widelinks'). It controls whether symlinks can have targets outside the client's share (option 'no_strict_security'). It controls whether no symlinks can be resolved (option 'disable'). Attributes: optional-for-create, modifiable Possible values:<br>• "enable" (DEPRECATED) Enable both local symlinks and wide links for read-write,<br>• "hide" (DEPRECATED) Hide both symlinks and widelinks,<br>• "read_only" (DEPRECATED) Enable symlinks for read-only,<br>• "symlinks" Enable symlinks only for read-write, DFS is not advertised,<br>• "symlinks_and_widelinks" Enable both local symlinks and wide links, DFS is advertised,<br>• "disable" Disable both local symlinks and wide links, DFS is not advertised<br>• "no_strict_security" Allow clients to follow symlinks beyond share boundaries |
| **volume** | | string optional | The name of the volume where the root of the CIFS share resides. |
| | | | Profile-set of file-ops to which Vscan On-Access scanning is applicable. The default value is standard. Possible values:<br>• "no_scan" - Virus scans are never triggered for accesses to |

| | | | |
|---|---|---|---|
| **vscan-fileop-profile** | | vscan-fileop-profile optional | this share,<br>• "standard" - Virus scans can be triggered by open, close, and rename operations,<br>• "strict" - Virus scans can be triggered by open, read, close, and rename operations,<br>• "writes_only" - Virus scans can be triggered only when a file that has been modified is closed. |
| **vserver** | | string optional | The name of the Vserver. Attributes: key, required-for-create, non-modifiable |

# Element definition: **cifs-share-access-control**

[top]

The permissions that users and groups have to a CIFS share. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **permission** | | cifs-access-perms optional | The access rights that the user or group has on the defined CIFS share. Attributes: required-for-create, modifiable Possible values:<br>• "no_access" - No access,<br>• "read" - Read,<br>• "change" - Change,<br>• "full_control" - Full Control,<br>• "custom" - Custom |
| **share** | | string optional | The CIFS share for which the permissions are defined. Attributes: key, required-for-create, non-modifiable |
| **user-group-type** | | string optional | The type of user for which ACL is configured. Default value is windows. Attributes: key, optional-for-create, non-modifiable Possible values:<br>• "windows" - Windows User or Group.,<br>• "unix_user" - Unix User.,<br>• "unix_group" - Unix Group. |
| **user-or-group** | | string optional | The user or group name for which the permissions are listed. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable |
| **winsid** | | windows-sid optional | The Windows SID for the user or group for which the permission is defined. Attributes: optional-for-create, modifiable |

[top]

# Element definition: **cifs-share-acl-info**

Information about single share.

| Name | Range | Type | Description |
|---|---|---|---|
| **share-name** | | string | Name of the share. |
| **user-acl-info** | | access-rights-info[] | List of users or Unix groups that have access to this share. |

# Element definition: **cifs-share-info**

[top]

Information about a single cifs share.

| Name | Range | Type | Description |
|---|---|---|---|
| **caching** | | string optional | String specifying the type of caching: "no_caching", "auto_document_caching", "auto_program_caching" and "manual_caching". |
| **description** | | string optional | description of the share. |
| **dir-umask** | | integer optional | File mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created directory. This mask overrides one set with "umask". |
| **file-umask** | | integer optional | File mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of a newly created file. This mask overrides one set with "umask". |
| **forcegroup** | | string optional | name of the group to which files to be created in the share belong to. |
| **is-access-based-enum** | | boolean optional | If true Access Based Enumeration (ABE) is enabled, else it is disabled. ABE filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access. Its value is returned only if it is non-default value. Its default value is false. |
| **is-browse** | | boolean optional | if true, this share can be browsed. Its values is returned only if it is non-default value. Its default value is true. |
| **is-namespace-caching-allowed** | | boolean optional | If true, namespace caching is enabled on the share. If false or not specified, namespace caching is disabled. If namespace caching is enabled on a share, clients are allowed to cache the directory enumeration results for better performance. |
| **is-symlink-strict-security** | | boolean optional | If true or not specified, strict symlink security is enabled. If false, allows clients to follow symbolic links to destinations on this filer but outside of the current share. Its value is returned only if it is non-default value. Its default value is true. |
| **is-vol-offline** | | boolean optional | If true, volume is offline and the shares are not available. Its value is returned only if it is non-default value. Its default value is false. |
| **is-vscan** | | boolean optional | If true or not specified, virus scan is done when clients open files on this share. Its value is returned only if it is non-default value. Its default value is true. |
| **is-vscanread** | | boolean optional | If true or not specified, virus scan is done when clients open files on this share for read access. Its value is returned only if it is non-default value. Its defalut value is true. |
| **is-widelink** | | boolean | If true, allows clients to follow absolute symbolic links outside of this share, subject to NT security. Its value is returned only if it is non-default |

| | | | |
|---|---|---|---|
| | | optional | value. Its default value is false. |
| **maxusers** | | integer optional | max no. of simultaneous connections to the share. |
| **mount-point** | | string | mount point of the share. |
| **share-name** | | string | name of the cifs share. |
| **umask** | | integer optional | File mode creation mask for a share in qtrees with Unix or mixed security styles. The mask restricts the initial permissions setting of newly created files and directories. This field is ignored when both dir-umask and file-umask are present. |

# Element definition: **cifs-share-properties**

[top]

The list of properties on a CIFS share. Possible values:

- "oplocks" - This specifies that opportunistic locks (client-side caching) are enabled on this share.,
- "browsable" - This specifies that the share can be browsed by Windows clients.,
- "showsnapshot" - This specifies that Snapshots can be viewed and traversed by clients.,
- "changenotify" - This specifies that CIFS clients can request for change notifications for directories on this share. If the path of the share is within a FlexGroup, change notifications are not sent because FlexGroups do not support Change Notify.,
- "homedirectory" - This specifies that the share is added and enabled as part of the CIFS home directory feature. The configuration of this share should be done using CIFS home directory feature interface.,
- "attributecache" - This specifies that connections through this share are caching attributes for a short time to improve performance.
- "branchcache" - This specifies that clients connecting to this share can make requests using BranchCache technology that allows them to cache the content in an attempt to reduce WAN utilization from a remote office.
- "continuously_available" - This specifies that clients connecting to this share can open files in a persistent manner. Files opened this way are protected from disruptive events, such as failover and giveback.
- "shadowcopy" - This specifies that the share is pointing to a shadow copy. This attribute cannot be added nor removed from a share.
- "access_based_enumeration" - This specifies that Access Based Enumeration is enabled on this share. ABE-filtered shared folders are visible to a user based on that individual user's access rights, preventing the display of folders or other shared resources that the user does not have rights to access.
- "namespace_caching" - This specifies that the SMB clients connecting to this share can cache the directory enumeration results returned by the CIFS servers.
- "encrypt_data" - This specifies that SMB encryption must be used when accessing this share. Clients that do not support encryption will not be able to access this share.
- "show_previous_versions" - This property specifies that the previous version can be viewed and restored from the client. This property is enabled by default.

[none]

# Element definition: **cifs-share-symlink-properties**

[top]

enable|hide|read-only|symlinks|symlinks-and-widelinks|disable|no-strict-security Possible values:

- "enable" - (DEPRECATED)-Enable both local symlinks and wide links for read-write,
- "hide" - (DEPRECATED)-Hide both symlinks and wide links,
- "read_only" - (DEPRECATED)-Enable symlinks for read-only,
- "symlinks" - Enable symlinks only for read-write, DFS is not advertised,
- "symlinks_and_widelinks" - Enable both local symlinks and wide links, DFS is advertised,
- "disable" - Disable both local symlinks and wide links, DFS is not advertised,
- "no_strict_security" - Allow clients to follow symlinks outside share boundaries

[none]

# Element definition: **cifs-symlink**

[top]

CIFS symbolic link path mapping configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cifs-path** | | string optional | This field specifies the CIFS path on the destination to which the symbolic link maps. The final path is generated by concatenating the CIFS server name, the share name, the cifs-path and the remaining path in the symbolic link left after the prefix match. This value is specified by using a UNIX-style path name. The trailing forward slash is required for the full path name to be properly interpreted. This is a UTF-8 string and supports localization. Attributes: required-for-create, modifiable |
| **cifs-server** | | string optional | This field specifies the destination CIFS server name for the mapping to which the symbolic link is mapped. The default is the local CIFS server. The field needs to be specified if the locality of the symbolic link is 'widelink'. This can be either a DNS name, NetBIOS name or an IP address. If a DNS name or a NetBIOS name are specified, the CIFS client configuration should be such that it is capable of resolving the CIFS server name to the correct IP address. Attributes: optional-for-create, modifiable |
| **home-directory** | | boolean optional | This field specifies whether the destination share is a home directory. If the value of this field is true, wildcard path elements in the destination path are replaced with specific values for the user accessing the symbolic link. Wildcard %w is replaced by the user's Windows name. Wildcard %u is replaced by the user's mapped Unix name. Wildcard %d is replaced by the domain to which the user belongs. The default value is false. Attributes: optional-for-create, modifiable |
| **locality** | | cifs-symlink-locality optional | This field specifies whether the CIFS symbolic link is a local link, free link or wide link. A local symbolic link maps to the local CIFS share. A free symlink maps to the local vserver. A wide symbolic link maps to any CIFS share on the network. If the CIFS server matches the VServer's NetBIOS name then the default value is local otherwise wide link. The symlink option 'freelink' is obsolete. Attributes: optional-for-create, modifiable Possible values:<br>• "local" - Share on This VServer,<br>• "widelink" - Share on Another CIFS Server,<br>• "freelink" - Anywhere on This VServer (OBSOLETE) |

| | | | |
|---|---|---|---|
| **share-name** | | string optional | This field specifies the CIFS share name on the destination CIFS server to which the symbolic link is mapped. This is a UTF-8 string and supports localization. Attributes: optional-for-create, modifiable |
| **unix-path** | | string optional | This field specifies the UNIX path prefix to be matched for the mapping. If the prefix of the target path in the symbolic link matches against this field, this entry of symbolic link path mapping would be used. The path is a UTF-8 string and supports localization. The path must start and end with a forward slash ('/'). For example '/usr/local/'. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | The name of the Vserver associated with this CIFS server. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-symlink-locality**

[top]

Locality of the destination where this symbolic link points. Possible values:

- "local" - Share on This VServer,
- "widelink" - Share on Another CIFS Server,
- "freelink" - Anywhere on This VServer (OBSOLETE)

[none]

# Element definition: **cifs-top-info**

[top]

Information about a single cifs top.

| Name | Range | Type | Description |
|---|---|---|---|
| **ops-per-sec** | | integer | The number of operations of any type per second. |
| **read-ops** | | integer | The number of read requests. |
| **read-size** | | integer | The size in kbytes per second of data of read requests. |
| **suspicious-per-sec** | | integer | The number of "suspicious" events per second due to the following conditions: ACCESS-DENIED returned for FindFirst ACCESS-DENIED returned for Open/CreateFile ACCESS-DENIED returned for DeleteFile SUCCESS returned for DeleteFile SUCCESS returned for TruncateFile |
| **user-info** | | string | Information on the client with its IP address and user account. |
| **write-ops** | | integer | The number of write requests. |
| **write-size** | | integer | The size in kbytes per second of data of write requests. |

# Element definition: **cifs-user-home-directory-path**

[top]

This commands finds the home directory of a user specified in the command in all the home directory search path configured. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes

specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string optional | The path of home directory for the specified user name. Attributes: non-creatable, non-modifiable |
| **share-name** | | string optional | The expanded share name for the user. Attributes: non-creatable, non-modifiable |
| **username** | | string optional | Output User Name Attributes: non-creatable, non-modifiable |
| **vserver** | | vserverid optional | The name of the Vserver in which home directory for a user has to be searched. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-users-and-group-local-group-members**

[top]

List of local groups, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | cifs-name optional | The name of the local group Attributes: key, non-creatable, non-modifiable |
| **member** | | cifs-name[] optional | The member of a local group Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifs-users-and-group-local-user-membership**

[top]

List of local users' membership information, organized by Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **membership** | | cifs-name[] optional | The membership of the local user Attributes: non-creatable, non-modifiable |
| **user-name** | | cifs-name optional | The name of the local user Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cifskrbenctypes**

[top]

CIFS Kerberos Encryption Type Possible values:

- "des" ,
- "rc4" ,
- "aes_128" ,
- "aes_256"

[none]

# Element definition: **connection-info**

[top]

Structure containing information on the connection.

| Name | Range | Type | Description |
|---|---|---|---|
| **connected-address** | | address-info[] optional | An address list of currently connected servers. |
| **favored-address** | | address-info[] optional | An address list of favored servers. |
| **other-address** | | address-info[] optional | An address list of other servers. |
| **preferred-address** | | address-info[] optional | An address list of preferred servers. |

# Element definition: **cron-day-of-week**

[top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

## Element definition: **enable** [top]

'enabled' or 'disabled'

[none]

## Element definition: **homedir-path-info** [top]

path to user home directory paths Unix style path to user home directories, example: /vol/vol1/users1 The paths are listed in the same order that the filer will use to evaluate whether a user has a cifs home directory.

[none]

## Element definition: **inet-address** [top]

Internet Address

[none]

## Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

## Element definition: **ldap-security** [top]

The list of possible values for LDAP Security. Possible values:

- "none" - No Signing or Sealing.
- "sign" - Sign LDAP traffic.
- "seal" - Seal and Sign LDAP traffic.

[none]

## Element definition: **lm-compatibility-level** [top]

LM compatibility level. Possible values:

- "lm_ntlm_ntlmv2_krb" - Accepts LM, NTLM, NTLMv2 and Kerberos,
- "ntlm_ntlmv2_krb" - Accepts NTLM, NTLMv2 and Kerberos,
- "ntlmv2_krb" - Accepts NTLMv2 and Kerberos,
- "krb" - Accepts Kerberos only

[none]

# Element definition: **nbalias-name-info**

[top]

NetBIOS alias for the filer

[none]

# Element definition: **netbios-name**

[top]

Name of a client or a server participating in a NetBIOS Windows File sharing service network. This can be different from the host name.

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **path-error-info**

[top]

Error description

| Name | Range | Type | Description |
|---|---|---|---|
| **error-path** | | string | Homedir path, if any, which had the error. This value is set to NULL if there is no path associated with the error. |
| **error-path-desc** | | string | A description of the error. |

# Element definition: **realm-name**

[top]

[none]

## Element definition: **service-state**

[top]

down|up Possible values:

- "down" ,
- "up"

[none]

## Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **smb-encryption**

[top]

The list of possible values for SMB Encryption status. Possible values:

- "unencrypted" - CIFS session is not encrypted.
- "encrypted" - CIFS session is fully encrypted. Vserver level encryption is enabled and encryption happens for the entire session.
- "partially_encrypted" - CIFS session is partially encrypted. Share level encryption is enabled and encryption is initiated when the tree-connect occurs.

[none]

## Element definition: **system-default-bool**

[top]

false|true|system-default Possible values:

- "false" ,
- "true" ,
- "system_default"

[none]

# Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

# Element definition: **time-of-day**

[top]

Time of day in HH::MM::SS

[none]

# Element definition: **uri**

[top]

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **vscan-fileop-profile**

[top]

Profile-set of file-ops to which Vscan On-Access scanning is applicable. Possible values:

- "no_scan" - Virus scans are never triggered for accesses to this share,
- "standard" - Virus scans can be triggered by open, close, and rename operations,
- "strict" - Virus scans can be triggered by open, read, close, and rename operations,
- "writes_only" - Virus scans can be triggered only when a file that has been modified is closed.

[none]

## Element definition: **windows-sid**

[top]

Unique Windows Security Identifier that identifies a User or Group or Machine account.

[none]

## Element definition: **access-rights-info**

[top]

Access rights of single user or single Unix group.

| Name | Range | Type | Description |
|---|---|---|---|
| **access-rights** | | string | User access rights. The format of the rights can be Unix-style combinations of r w x - or NT-style "No Access", "Read", "Change", and "Full Control". |
| **unix-group-name** | | string optional | Name of the Unix group. |
| **user-name** | | string optional | Name of the user. |

## Element definition: **address-info**

[top]

Structure containing address information of servers.

| Name | Range | Type | Description |
|---|---|---|---|
| **has-nossl** | | boolean optional | If true, the protocol SSL is not supported. |
| **hostname** | | string optional | The resolved hostname of the IP address. |
| **ip-address** | | string optional | The IP address in canonical form. |
| **is-broken** | | boolean optional | If true, the address is not responding. |
| **is-multihomed** | | boolean optional | If true, the address is a multi-homed server. |
| **is-primary** | | boolean optional | If true, the address is a primary server. |

## Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

## Element definition: **anonymous-restriction-level**

[top]

Classification of the CIFS null user restriction. Possible values:

- "no_restriction" - No Access Restriction for Anonymous User.,
- "no_enumeration" - Only Enumeration Is Restricted.,
- "no_access" - Access Restricted for Anonymous User.

[none]

## Element definition: **auth-mechanism**

[top]

The list of possible known authentication mechanisms supported by the CIFS server. Possible values:

- "None" - None
- "NTLMv1" - NTLMv1
- "NTLMv2" - NTLMv2
- "Kerberos" - Kerberos
- "Anonymous" - Anonymous

[none]

## Element definition: **cifs-access-perms**

[top]

access rights Possible values:

- "no_access" - No access,
- "read" - Read,
- "change" - Change,
- "full_control" - Full Control,
- "custom" - Custom

[none]

## Element definition: **cifs-auth-style**

[top]

domain|workgroup|realm Possible values:

- "domain" - DOMAIN,
- "workgroup" - WORKGROUP,
- "realm" - KERBEROS REALM

[none]

## Element definition: **cifs-bc-version-control** [top]

Versions of CIFS BranchCache that are currently supported.

[none]

## Element definition: **cifs-ca-protection** [top]

The list of possible protection levels. Open files are "Continuously Available" if they are opened from an SMB 3 client through a share with the "continuously_available" property set. These open files are capable of non-disruptively recovering from takeover and giveback as well as general aggregate relocation between partners in a high-availability relationship. This is in addition to the traditional SMB 2 capability allowing clients to recover from LIF migration and other brief network interruptions. Note: The CA protection levels depicts the continuous availability at the connection level so it might not be accurate for a session if the connection has multiple sessions. Streams opened through a continuously available share are permitted, but are not currently made continuously available. Directories may be opened through a continuously available share, but will not appear continuously available as clients do not open them that way by design. These protection levels are applicable to the sessions/files on read/write volumes on SFO aggregates. Possible values:

- "No" - The open file is not continuously available. For sessions, it contains one or more open files but none of them are continuously available.
- "Yes" - The open file is continuously available. For sessions, it contains one or more open files and all of them are continuously available.
- "Partial" - This value is used for sessions only. It contains at least one continuously available open file but other open files that are not.

[none]

## Element definition: **cifs-dialects** [top]

The list of possible known dialects Dialects negotiated by CIFS servers. Possible values:

- "SMB1" - SMB 1.0
- "SMB2" - SMB 2.0
- "SMB2_1" - SMB 2.1
- "SMB3" - SMB 3.0

[none]

## Element definition: **cifs-domain-discovered-server-funclvl** [top]

win2000|unknown|win2003|win2008|win2008r2|win2012|win2012r2|win2016|winthreshold Possible values:

- "win2000" - WIN2000,
- "unknown" - The DC functionality level is unknown,
- "win2003" - WIN2003,
- "win2008" - WIN2008,
- "win2008r2" - WIN2008R2,
- "win2012" - WIN2012,
- "win2012r2" - WIN2012R2,
- "win2016" - WIN2016,
- "winthreshold" - WINTHRESHOLD

[none]

## Element definition: **cifs-domain-discovered-server-status**

[top]

Classification of server based on the status of the connection. Possible values:

- "ok" - The connection to this server is usable.,
- "unavailable" - This server is currently unavailable for use.,
- "slow" - The connection to this server is usable but slow.,
- "expired" - The connection to this server has expired.,
- "undetermined" - A connection to this server has not been attempted.,
- "unreachable" - This server is currently unreachable.

[none]

## Element definition: **cifs-domain-discovered-server-type**

[top]

The classification of servers based on service provided. Possible values:

- "unknown" - The server type is not known,
- "kerberos" - Kerberos server,
- "ms_ldap" - Microsoft Lightweight Directory Access Protocol (LDAP) server,
- "ms_dc" - Microsoft Domain Controller,
- "ldap" - Lightweight Directory Access Protocol (LDAP) server

[none]

## Element definition: **cifs-domain-server-discovery-mode**

[top]

The mode of server discovery. Possible values:

- "all" - Discover all the servers in the domain.,
- "site" - Discover the servers local to the site.,

"none" - Discover nothing. Expect admins to configure pref-dcs.

[none]

## Element definition: **cifs-domain-server-prefer-type**

[top]

The preference level of the server either set due to configuration or due to the site membership determined by server discovery. Possible values:

- "unknown" - The preference level of this server is unknown.,
- "preferred" - This server was administratively marked as a preferred server due to its presence in the list of preferred servers.,
- "favored" - This server was marked as favored by the server discovery process by virtue of site membership.,
- "adequate" - This server was discovered by the server discovery process and can be used, but has no preference associated with it.

[none]

## Element definition: **cifs-file-type**

[top]

The list of possible types of files opened through CIFS servers. Possible values:

- "Regular" - Regular file
- "Symlink" - Symlink file
- "Stream" - Stream file
- "Directory" - Directory

[none]

## Element definition: **cifs-filesystem-sector-size**

[top]

CIFS File System Sector sizes reported to SMB Clients (in bytes). Possible values:

- "512" - Reported file system sector size to SMB clients is 512 bytes,
- "4096" - Reported file system sector size to SMB clients is 4096 bytes

[none]

## Element definition: **cifs-name**

[top]

[none]

## Element definition: **cifs-open-mode** [top]

The list of possible modes used when opening files over CIFS servers. Possible values:

- "R" - The file opened for read operation.
- "W" - The file opened for write operation.
- "D" - The file opened for delete operation.

[none]

## Element definition: **cifs-share-name** [top]

The name of the CIFS share. The CIFS share name is a Unicode string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:|<>+=;,?

[none]

## Element definition: **domain-name** [top]

The domain name is an identification label that defines a realm based on Domain Name Service (DNS).

[none]

## Element definition: **elapsed-time-ext** [top]

The difference between the two points in time.

[none]

## Element definition: **volumes-list-info** [top]

Information about a single volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume. |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **vserverid**

[top]

Vserver Id

[none]

# Element definition: **wins-entry-info**

[top]

Windows Internet Name Server (WINS) information

| Name | Range | Type | Description |
|---|---|---|---|
| **wins-address** | | ip-address optional | Windows Internet Name Service (WINS) Server address. Attributes: non-creatable, non-modifiable |
| **wins-state** | | string optional | WINS Server State. Possible values: 'active', 'inactive'. Attributes: non-creatable, non-modifiable |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# APIs in Category: **clock**


clock-get-clock
clock-get-timezone
clock-set-clock
clock-set-timezone


These APIs allow for manipulation of timezone and date on the filer. Timezone and date can be set on the filer as well as we can get the current date, timezone and compliance clock time on the filer.

## clock-get-clock

[top]

gets current date and time from filer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-compliance-clock** | | boolean optional | If true, then local-time and utc-time are values for the compliance clock, otherwise they are values for the local clock. Default is false. Note: This field is deprecated in Data ONTAP 8.1 and later. If true, the operation will fail with error EOPNOTSUPPORTED. Clients should use the API snaplock-get-system-compliance-clock or snaplock-get-volume-compliance-clock as applicable to get the compliance clock time. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **local-time** | **[-43200..2^31-1]** | integer | Local date and time of the filer in seconds since Midnight, 1/1/1970. Depending on the time zone and clock settings, this might be negative by up to 12 hours. |
| **utc-time** | **[0..2^31-1]** | integer | Current date and time of the filer in seconds since Midnight, 1/1/1970. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |

## clock-get-timezone

[top]

Gets current timezone and timezone file version.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **timezone** | | string | Current timezone name where the storage system is operating. A timezone can have one of the two formats:<br>1. "Using a location string specified in Arthur David Olsen's public domain time zone database. For example, "Americas/New_York" represents most of the Eastern Time Zone.";<br>2. "A traditional time zone abbreviation incorporating default rules for daylight savings time. For example, "EST5EDT" for the US Eastern |

| | | | |
|---|---|---|---|
| | | | Time Zone.";<br> |
| **timezone-UTC** | | string | Current timezone of the storage system in UTC +/-hhmm format. This indicates that the local time zone is hh hours and mm minutes ahead or behind UTC. For example, Central European Time(CET) is +0100 and U.S./Canadian Eastern Standard Time(EST) is -0500. |
| **timezone-version** | | string | Version of the time zone database. "YYYY" is the year the data base was released and "v" is the version within that year. "YYYY" will be four decimal digits and "v" will be an ASCII letter starting with "a" and increasing with each version. For example, the second 2007 version is "2007b". |

| Errno | Description |
|---|---|
| **ENOTIMEZONESET** | |
| **ENOTIMEZONEVERSION** | |

# clock-set-clock

[top]

Set current date and time to the specified date and time.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-utc-clock** | | boolean | If this is true, then clock is given in UTC (universal time) instead of local time. |
| **time** | **[-43200..2^31-1]** | integer | Actual value of the date and time which has to be set as the current date and time on filer. Value will be seconds since Midnight, 1/1/1970. Depending on the time zone and clock settings, this might be negative by up to 12 hours. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **ETAKENOVER** | |
| **EDATENOTSETONPARTNER** | |

# clock-set-timezone

[top]

Set current timezone to the specified timezone.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **timezone** | | string | Name of the timezone value which has to be set as current timezone value. A timezone can have one of the two formats:<br>1. "Using a location string specified in Arthur David Olsen's public domain time zone database. For example, "Americas/New_York" represents most of the Eastern Time Zone.";<br>2. "A traditional time zone abbreviation incorporating default rules for daylight savings time. For example, "EST5EDT" for the US Eastern Time Zone."; |

| Errno | Description |
| --- | --- |
| **EINVALIDTIMEZONE** | |
| **EINTERNALERROR** | |
| **ETIMEZONEDIFFERENTINRC** | |

# APIs in Category: **clone**


clone-autodelete
clone-autodelete-status
clone-create
clone-deletion-add-extension
clone-deletion-get-iter
clone-deletion-minimum-size
clone-deletion-remove-extension
clone-split-enable
clone-split-load-get-iter
clone-split-status
clone-start
clone-token-create
clone-token-delete
clone-token-get
clone-token-get-iter
clone-token-modify-expiry-limit


The cloning feature is based on constant time sis cloning storage (SIS) implementation and is the the block sharing infrastructure provided by Data ONTAP. The feature allows for the cloning from a file, LUN or NVMe namespace. Also the user can clone the entire file, LUN, or NVMe namespace (full range) or a portion of the file, LUN, or NVMe namespace (sub range). In case of full range cloning, a new file/LUN/NVMe namespace will always be created in the same volume where the source file/LUN/NVMe namespace exists. In case of sub range cloning, the destination file can either be same as the source file/LUN/NVMe namespace or can be a different file/LUN/NVMe namespace within the same volume where the source file/LUN/NVMe namespace exists. In case of sub range cloning, the LBA block size of a LUN or NVMe namespace is derived from the LUN or NVMe namespace's block size. Sub range cloning is supported only between LUNs or NVMe namespaces with equal block sizes and is supported from source LUN to destination NVMe namespace and from source NVMe namespace to destination LUN. Constant time SIS cloning supersedes the implementation of cloning in versions older than Data ONTAP 8.1. In Data ONTAP 8.0 the cloning implementation is an asynchronous operation. The clone-start API is used to start a clone operation. It returns an clone-id which is used for polling to get the status of the clone operation using the clone-list-status API. If this API returns success, the user can consider that clone operation has completed; if it returns failure, the user should clear the status of clone operation using clone-clear API. A clone operation in progress can be aborted using the clone-stop API. In Data ONTAP 8.1 the cloning implementation is a synchronous operation. The APIs to manage ongoing synchronous operations are deprecated, but retained for backwards compatibility.

## clone-autodelete

[top]

Enable autodelete on a file, LUN, or NVMe namespace clone. This command is only supported for flexible volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **clone-path** | | string | Path of the file, LUN, or NVMe namespace inside the volume. It's relative if the volume name is specified; otherwise it's absolute. |
| **enable** | | boolean | If this field is true, autodelete will be allowed to delete the clone in try/disrupt mode. and if it is false, autodelete will not be allowed to delete the clone in try/disrupt mode. Note that this will be done only if the clone entry is already present in the clone auto delete metafile. |
| **force** | | boolean optional | If this field is true, autodelete will be enabled on specified file, LUN, or NVMe namespace by adding an entry in the clone auto delete metafile if it is not there, even if the specified file, LUN, or NVMe namespace is not a clone. By default value is false. |
| **volume** | | string optional | Name of the volume where the clone file, LUN, or NVMe namespace resides. |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |
| EVOLUMEDOESNOTEXIST | |
| EVOLUMENOTONLINE | |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |
| EFILENOTFOUND | |
| EVOLUMEBUSY | |
| EVOLUMEOFFLINE | |
| EONTAPI_EPERM | |
| EONTAPI_EVOLOPNOTSUPP | |

# clone-autodelete-status

[top]

Get the information about file or LUN clone autodeletion

| Input Name | Range | Type | Description |
|---|---|---|---|
| clone-path | | string | Path of the file or LUN clone. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| clone-autodelete-info | | clone-autodelete-info | Information about file or LUN clone autodeletion. |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |
| EVOLUMEDOESNOTEXIST | |
| EFILENOTFOUND | |
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |

# clone-create

[top]

Create a file/sub file, LUN/sub LUN, or NVMe namespace/sub NVMe namespace clone. This command is only supported for flexible volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| autodelete | | boolean optional | Mark file, LUN, or NVMe namespace clones for auto deletion. When set to true, file, LUN, or NVMe namespace clones will be autodeleted to reclaim space when the volume runs out of space. By default value is false. |
| | | | List of block ranges for sub-file/sub-LUN/sub-NVMe namespace cloning. For sub-LUN or sub-NVMe namespace cloning the block range specified will be considered as LBA range. If only one block range is supplied, the source and destination range must not overlap and both ranges must not extend past the end of the file. If multiple block ranges are specified in one operation, the user must ensure all source and destination ranges do not overlap, otherwise the result is undefined. In case of sub-LUN cloning, the API will copy data in case the LBAs are not block aligned. In |

| | | | |
|---|---|---|---|
| **block-ranges** | | block-range[] optional | case of sub-LUN/sub-NVMe namespace cloning, the LBA block size of a LUN or NVMe namespace is derived from the LUN or NVMe namespace's block size. Sub range cloning is supported only between LUNs or NVMe namespaces with equal block sizes, and the API returns an error if the block sizes do not match. Sub range cloning is supported from source LUN to destination NVMe namespace and from source NVMe namespace to destination LUN. If the user provides LBAs such that actual number of blocks to be cloned is zero, then API will return error. The API will fail if the source range overlaps with the destination range or if the source and the destination ranges overlap amongst themselves. If block range is not provided then the file/LUN/NVMe namespace is fully cloned. |
| **destination-exists** | | boolean optional | Allow clone creation if the destination exists. By default value is false. |
| **destination-path** | | string optional | Full path of the destination file, LUN, or NVMe namespace relative to the volume. The destination file must be in same volume as "source-path". If not specified, a sub-range clone of the source file, LUN, or NVMe namespace will be performed on itself. Either "destination-path" or "block-ranges" must be specified. For sub-file clone operation from snapshot copy, "destination-path" is mandatory. |
| **destination-volume** | | string optional | Name of the volume where the destination file resides. This option is supported only for Metawafl volumes, where the source and destination volumes for the clone operation can be different. |
| **ignore-locks** | | boolean optional | Clone even if (advisory/mandatory) byte_range locks or share_mode locks exist on the source or destination. By default value is false. |
| **ignore-streams** | | boolean optional | Clone only the base file and ignore streams on source or destination. By default value is false so streams are also cloned from source and existing destination streams are deleted. |
| **is-backup** | | boolean optional | This option is only to be used with full-file clone creates for backups, where source file gets periodically modified and clone file is not modified. By default, value is false. |
| **qos-adaptive-policy-group-name** | | string optional | QoS adaptive policy group defines measurable Service Level Objectives (SLOs) that adjust based on the flexclone file's allocated space or used space. This field is available in Data ONTAP 9.4 and later |
| **qos-policy-group-name** | | string optional | QoS policy group defines measurable Service Level Objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a flexclone file, the system will not monitor and control the traffic to it. This field is available in Data ONTAP 8.2 and later |
| **snapshot-name** | | string optional | Snapshot name from which to clone the source file, LUN, or NVMe namespace. If not specified, the contents of the active filesystem will be used. |
| **source-path** | | string | Relative path of the source file, LUN, or NVMe namespace inside the volume. |
| **space-reserve** | | boolean optional | Set the space reservation of the destination clone. By default space reservation is inherited from source. The API errors out if used in conjunction with block range arguments, since space reservations cannot be set for a block range. |
| **token-uuid** | | string optional | Use the split load reserved by the token to create file, LUN, or NVMe namespace clones. This will guarantee clone create requests from not getting throttled. If this option is not specified, available split load in the node will be used for clone creation. |
| **volume** | | string | Name of the volume where the source and destination files, LUNs, or NVMe namespaces reside. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **ESIS_CLONE_LICENSE_EXPIRED** | |
| **ESIS_CLONE_CLONE_INVALID_SPC_RSRV** | |
| **ESIS_CLONE_STALE_INODE** | |
| **ESIS_CLONE_DECOMP_ACTIVE** | |
| **ESIS_CLONE_SPLIT_MAP** | |
| **ESIS_CLONE_SOURCE_TOO_SMALL** | |
| **EDENSE_CLONE_NOT_LICENSED** | |
| **EONTAPI_EBUSY** | |
| **EONTAPI_ESTALE** | |
| **EONTAPI_EDQUOT** | |
| **EONTAPI_EACCES** | |
| **EONTAPI_ENOSPC** | |
| **ESIS_CLONE_DOWNGRADE** | |
| **EINTERNALERROR** | |
| **E_QOS_OBJECT_OVERLAP_ERROR** | |
| **E_QOS_NO_SUCH_PG** | |
| **E_QOS_GENERAL_OP_ERROR** | |
| **E_QOS_TOO_MANY_USER_WIDS** | |
| **E_QOS_VSERVERIZATION_VIOLATION** | |
| **E_QOS_CLONE_WITH_RANGE_PROHIBITED** | |
| **EVDISK_ERROR_7MODE_LUN** | |
| **EONTAPI_ENOMEM** | |
| **EVDISK_ERROR_TOO_MANY_LUNS** | |
| **ESIS_CLONE_BKPR_ENOSPC** | |
| **ESIS_CLONE_BKPR_TOKEN_EXPIRED** | |
| **ESIS_CLONE_CC_MISMATCH** | |
| **ESIS_CLONE_CC_SETFAIL** | |
| **EOP_DISALLOWED_FILE_FENCED** | |
| **ESIS_CLONE_SRC_VDISK_NOTSUP** | |
| **ESIS_CLONE_SRC_VDISK_INCONSISTENT** | |
| **ESIS_CLONE_MW_SUB_FILE_NOTSUP** | |
| **ESIS_CLONE_MW_X_VOL_CLONE_FAILURE** | |
| **EVDISK_INVALID_SECTOR_SIZE** | |
| **EVDISK_LUN_CROSS_NVME_NS** | |
| **EVDISK_NVME_NS_CROSS_LUN** | |

# clone-deletion-add-extension

[top]

Add new supported file extensions for file(s) and lun(s) on the specified volume to be deleted with clone-delete. This command is only supported for flexible volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **extensions** | | string | Add new supported file extensions for file(s) and lun(s) on the specified volume to be deleted with clone-delete |
| **volume** | | volume-name | Volume Name |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |

# clone-deletion-get-iter

[top]

List the clone deletion info

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | clone-deletion-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 10 |
| query | | clone-deletion-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the clone object. All clone objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | clone-deletion-info[] optional | The list of attributes of clone objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more clone objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# clone-deletion-minimum-size

[top]

Required minimum size of the file(s) and lun(s) on the specified volume to be deleted with clone-delete.

| Input Name | Range | Type | Description |
|---|---|---|---|
| minimum-size | | string | Minimum size of the file(s) to be deleted using the clone-delete. The format to use is: < number > k\|m\|g\|t. Where 'k' means kilobytes, 'm' means mega bytes, 'g' means gigabytes and 't' mean terabytes. If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes |
| | | volume- | |

| | | | |
|---|---|---|---|
| **volume** | | name | Volume Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

| License |
|---|
| **FlexClone** |

# clone-deletion-remove-extension

[top]

Remove the no longer supported file extensions for file(s) and lun(s) on the specified volume to be deleted with clone-delete. This command is only supported for flexible volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **extensions** | | string optional | Existing file extension that is no longer supported for clone-delete. If this value is not specified, then it will remove all the existing file extensions |
| **volume** | | volume-name | Volume Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# clone-split-enable

[top]

Enable clone split on split disabled entry

| Input Name | Range | Type | Description |
|---|---|---|---|
| **clone-path** | | string | Name of the clone file. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENOTONLINE** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EFILENOTFOUND** | |
| **EAPIMISSINGARGUMENT** | |

| License |
|---|
| **FlexClone** |

# clone-split-load-get-iter

[top]

Gets information about load on all nodes due to file or LUN clone split operations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | clone-split-load-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 10 |
| **query** | | clone-split-load-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the clone object. All clone objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | clone-split-load-info[] optional | The list of attributes of clone objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more clone objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **ENODENOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# clone-split-status

[top]

Get the information about unsplit file or LUN clones in a volume

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string | Name of the volume where the file or LUN clone resides. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **clone-split-info** | | clone-split-info | Information about unsplit file or LUN clones. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# clone-start

[top]

In Data ONTAP 8.0 and earlier this API starts a file/LUN/NVMe namespace or sub-file/sub-LUN/sub-NVMe namespace clone operation asynchronously. If clone operation starts successfully, a unique clone-id is returned. User is supposed to poll clone-list-status specifying clone-id to get the status of the clone operation. When clone-list-status returns status as completed, user can consider that the clone operation has been completed successfully. If user gets status as failed, user is responsible for doing clone-clear which will clean the status of the clone operation. In Data ONTAP 8.1 and later, this API performs a file/LUN/NVMe namespace or sub-file/sub-LUN/sub-NVMe namespace clone operation synchronously. When this API returns successfully, the destination file is ready for use.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **autodelete** | | boolean optional | Mark file, LUN, or NVMe namespace clones for auto deletion. When set to true, file, LUN, or NVMe namespace clones will be autodeleted to reclaim space when the volume runs out of space. By default value is false. |
| **block-ranges** | | block-range[] optional | List of block ranges for sub-file/sub-LUN/sub-NVMe namespace cloning. The number of block ranges is limited to 32. For sub-LUN/sub-NVMe namespace cloning the block range specified will be considered as LBA range. If only one block range is supplied, the source and destination range must not overlap and both ranges must not extend past the end of the file If multiple block ranges are specified in one operation, the user must ensure all source and destination ranges do not overlap, otherwise the result is undefined. In case of sub-LUN/sub-NVMe namespace cloning, the API will copy data in case the LBAs are not block aligned. If the user provides LBAs such that actual number of blocks to be cloned is zero, then API will return error. If the source and destination block sizes do not match for sub-LUN/sub-NVMe namespace cloning, then API will return error. The API will fail if the source range overlaps with the destination range or if the source and the destination ranges overlap amongst themselves. If block range is not provided then the file/LUN/NVMe namespace is fully cloned. |
| **change-log** | | boolean optional | If this option is "true", fingerprints of data blocks of the destination file/block ranges created will be change logged to the change log file if A-SIS is enabled on the volume. With change logging clone operation will be slow, as to get fingerprints all the data blocks will be read. Without change logging clone operation deals with only indirect blocks without reading data blocks. Without change logging, fingerprints of the clone blocks are not recorded. The clone blocks are shared with the source blocks, but as later the source blocks are modified, corresponding clone blocks will no longer be shared. If change logging option is not used, clone blocks, which could be involved in sharing with rest of the file system, can not be shared in next sis operation. The only option, in case user had not used change logging while creating clone, will be to start sis from beginning using "sis start -s" to gather fingerprints of clone blocks. In Data ONTAP 8.1 and later, this field is accepted for backwards compatibility and is ignored. |
| **destination-** | | boolean | Allow clone creation if the destination exists. By default value is false. |

| | | | |
|---|---|---|---|
| **exists** | | optional | |
| **destination-path** | | string optional | Full path of the Destination file, LUN, or NVMe namespace in //file-path format. Destination path should be in same flexible volume as "source-path". If not specified, a sub-range clone of the source file, LUN, or NVMe namespace will be performed on itself. Either "destination-path" or "block-ranges" must be specified. For sub-file/sub-LUN/sub-NVMe namespace clone operation from snapshot copy, "destination-path" is mandatory. |
| **destination-volume** | | string optional | Name of the volume where the destination files resides. This option is supported only for Metawafl volumes, where the source and destination volumes for the clone operation can be different. |
| **ignore-locks** | | boolean optional | Clone even if (advisory/mandatory) byte_range locks or share_mode locks exist on the source or destination. By default value is false. |
| **ignore-streams** | | boolean optional | Clone only the base file and ignore streams on source or destination. By default value is false so streams are also cloned from source and existing destination streams are deleted. |
| **is-backup** | | boolean optional | This option is only to be used with full-file clone creates for backups, where source file gets periodically modified, and clone file is not modified. By default, value is false. |
| **no-snap** | | boolean optional | If no-snap is FALSE or unspecified, then a temporary snapshot will be taken and source file locked in snapshot will be considered for cloning. So that the clone operation does not get affected by writes to the source file in parallel to the clone operation. User will get atomic point in time copy of the source. Irrespective of clone operation completes successfully or unsuccessfully, any temporary snapshot taken for cloning will be deleted automatically. If no-snap is "true", then the source file in AFS will be used for cloning. In this case user may get random data in clone if source file is modified while clone operation is in progress. This option should only be used when user is assured that the source file will remain consistent during the clone operation. Destination file is not protected against any modification while clone operation is in progress. User should use the destination file or destination block ranges after clone operation is finished. In Data ONTAP 8.1 and later, this field is accepted for backwards compatibility and is ignored. |
| **snapshot-name** | | string optional | Snapshot name from which to clone the source file, LUN, or NVMe namespace. If not specified, the contents of in the active filesystem will be used. This field is available in Data ONTAP 8.1 or later |
| **source-path** | | string | Full path of the source file, LUN, or NVMe namespace in //file-path format. |
| **space-reserve** | | boolean optional | Set the space reservation of the destination clone. By default space reservation is inherited from source. The API errors out if used in conjunction with block range arguments, since space reservations cannot be set for a block range. |
| **token-uuid** | | string optional | Use the split load reserved by the token to create file, LUN, or NVMe namespace clones. This will guarantee clone create requests from not getting throttled. If this option is not specified, available split load in the node will be used for clone creation. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **clone-id** | | clone-id-info | Unique ID information for the clone operation returned if clone operation starts successfully. This field is deprecated in Data ONTAP 8.1 and later, the returned value is guaranteed to be a completed clone operation if supplied to clone-list-info. |

| Errno | Description |
|---|---|
| **ESIS_CLONE_CLONE_INVALID_SPC_RSRV** | |
| | |

| | |
|---|---|
| **ESIS_CLONE_NLCSR_INPROG** | |
| **ESIS_CLONE_VOL_NONEXIST** | |
| **ESIS_CLONE_VOL_OFFLINE** | |
| **ESIS_CLONE_VOL_NOTSUP** | |
| **ESIS_CLONE_VOL_RDONLY** | |
| **ESIS_CLONE_VOL_TRANSITING** | |
| **ESIS_CLONE_STALE_INODE** | |
| **ESIS_CLONE_STALE_DINODE** | |
| **ESIS_CLONE_STALE_RINODE** | |
| **ESIS_CLONE_SHUTDOWN** | |
| **ESIS_CLONE_FAILOVER** | |
| **ESIS_CLONE_CLONE_EXIST** | |
| **ESIS_CLONE_CLONE_SFILE_NONEXIST** | |
| **ESIS_CLONE_CLONE_CFILE_NONEXIST** | |
| **ESIS_CLONE_CLONE_DIFF_VOLUME** | |
| **ESIS_CLONE_CLONE_SFILE_ATTR** | |
| **ESIS_CLONE_CLONE_CFILE_ATTR** | |
| **ESIS_CLONE_CLONE_FH** | |
| **ESIS_CLONE_CLONE_SOURCE_FH** | |
| **ESIS_CLONE_CLONE_TYPE_SUPP** | |
| **ESIS_CLONE_CLONE_OVERLAP_RANGE** | |
| **ESIS_CLONE_CLONE_INVALID_RANGE** | |
| **ESIS_CLONE_CLONE_INVALID_SOURCE** | |
| **ESIS_CLONE_CLONE_INVALID_CLONE** | |
| **ESIS_CLONE_CLONE_INVALID_DIR** | |
| **ESIS_CLONE_CLONE_WORM_VOL** | |
| **ESIS_CLONE_VDISK_INVALID_NAME** | |
| **ESIS_CLONE_LICENSE_EXPIRED** | |
| **ESIS_CLONE_NOT_LICENSED** | |
| **ESIS_CLONE_LICENSE_EXPIRED** | |
| **ESIS_CLONE_NOT_LICENSED** | |
| **ESIS_CLONE_DECOMP_ACTIVE** | |
| **ESIS_CLONE_SPLIT_MAP** | |
| **ESIS_CLONE_SOURCE_TOO_SMALL** | |
| **EONTAPI_EBUSY** | |
| **EONTAPI_ESTALE** | |
| **EONTAPI_EDQUOT** | |
| **EONTAPI_EACCES** | |
| **EONTAPI_ENOSPC** | |
| **ESIS_CLONE_DOWNGRADE** | |
| **ESIS_CLONE_VFILER_ACCESS** | |
| **ESIS_CLONE_MAX_RANGES** | |
| **ESIS_CLONE_MAX_BLKS** | |
| **ESIS_CLONE_MAX_BLKS_EXT** | |
| **ESIS_CLONE_SRC_DST_CIFS_MISMATCH** | |
| **EINTERNALERROR** | |
| **ESIS_CLONE_MAX_DENSE_LIMIT_REACHED** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |
| | |

| | |
|---|---|
| **EOP_DISALLOWED_FILE_FENCED** | |
| **EONTAPI_ENAMETOOLONG** | |
| **ESIS_CLONE_NOSPLIT_NOT_ALLOWED** | |
| **ESIS_CLONE_MW_SUB_FILE_NOTSUP** | |
| **ESIS_CLONE_MW_X_VOL_CLONE_FAILURE** | |
| **EVDISK_INVALID_SECTOR_SIZE** | |
| **EVDISK_LUN_CROSS_NVME_NS** | |
| **EVDISK_NVME_NS_CROSS_LUN** | |

# clone-token-create

[top]

Create a token to reserve available split load on a node. This token can be used with clone-create api to use up the reserved split load. This will to allow clone creates from getting throttled.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **expiry-limit** | | integer optional | The duration (in seconds) for which the reserved token is valid. |
| **node** | | node-name | Node name on which split load is reserved. |
| **reserve-size** | | size | Available reserve in split load reserved by token where split load is the number of bytes reserved for creation of clones. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **token-uuid** | | string | Token UUID for which the split load is reserved. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# clone-token-delete

[top]

Delete token(s) to increase the allowed split load by a node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node name on which split load is reserved. |
| **token-uuid** | | string optional | Token UUID for which the split load is reserved. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# clone-token-get

[top]

Get the information about a specified token.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node name on which split load is reserved. |
| **token-uuid** | | string | Token UUID for which the split load is reserved. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **clone-token-info** | | clone-token-info | Information about token reserved for file or LUN clone creates. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# clone-token-get-iter

[top]

Get the information about all reserved tokens.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | clone-token-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **node** | | node-name | Node name on which split load is reserved. |
| **query** | | clone-token-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the clone object. All clone objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | clone-token-info[] optional | The list of attributes of clone objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more clone objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

## clone-token-modify-expiry-limit

[top]

Modify the allowed expiry limit for token(s).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node name on which split load is reserved. |
| **reservation-duration-limit** | **[0..2^64-1]** | integer | The duration (in seconds) for which the reserved token is valid. |
| **token-uuid** | | string optional | Token UUID for which the split load is reserved. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

## Element definition: **block-range**

[top]

Structure containing source and destination block range for sub-file/sub-LUN/sub-NVMe namespace cloning.

| Name | Range | Type | Description |
|---|---|---|---|
| **block-count** | **[1..2^27]** | integer | Number of blocks to be cloned. |
| **destination-block-number** | **[0..2^63-1]** | integer | Starting file block number of destination block range. |
| **source-block-number** | **[0..2^63-1]** | integer | Starting file block number of source block range. Block size is 4096 bytes. |

## Element definition: **clone-autodelete-info**

[top]

Information about file or LUN clone autodeletion. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-autodelete-enabled** | | boolean optional | If this field is true, autodelete will delete the clone in try/disrupt mode. If it is false, autodelete will delete the clone only in destroy mode. Attributes: non-creatable, non-modifiable |

# Element definition: **clone-deletion-info**

[top]

Structure containing the clone deletion information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **extension-info-list** | | extension-info[] optional | List of file extensions that needs to be added/removed for clone-delete |
| **minimum-size** | | string optional | Minimum size of the file(s) to be deleted using the clone-delete. The format to use is: < number > k\|m\|g\|t. Where 'k' means kilobytes, 'm' means mega bytes, 'g' means gigabytes and 't' mean terabytes. If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes Attributes: non-creatable, modifiable |
| **volume** | | volume-name optional | Volume Name Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **clone-id-info**

[top]

Structure containing clone ID information.

| Name | Range | Type | Description |
|---|---|---|---|
| **clone-op-id** | **[0..2^63-1]** | integer | ID of the clone operation. |
| **volume-uuid** | | string | uuid of the volume. |

# Element definition: **clone-split-info**

[top]

Information about unsplit file or LUN clones. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of

desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **unsplit-clone-count** | **[0..2^32-1]** | integer optional | Number of file clones or LUN clones present in the the volume that are not split. Attributes: non-creatable, non-modifiable |
| **unsplit-size** | | size optional | Total size (in bytes) of file or LUN clones in the volume that are not split. Attributes: non-creatable, non-modifiable |

# Element definition: **clone-split-load-info**

[top]

Information about load on the node due to file or LUN clone split operations. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **available-split-load** | | size optional | Remaining allowable load on the node. Load is specified in number of bytes. Attributes: non-creatable, non-modifiable |
| **current-split-load** | | size optional | Current clone split load on the node. Load is specified in number of bytes. Attributes: non-creatable, non-modifiable |
| **max-split-load** | | size optional | Maximum clone split load allowed on the node. Load is specified in number of bytes. Attributes: non-creatable, modifiable |
| **node** | | node-name optional | Node name for which the clone split load is required. Attributes: key, non-creatable, non-modifiable |
| **token-reserved-load** | | size optional | Load reserved by tokens on the node for clone creation. Load is specified in number of bytes. Attributes: non-creatable, non-modifiable |

# Element definition: **clone-token-info**

[top]

Information about token reserved for file or LUN clone creates. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **expiry-limit** | **[0..2^64-1]** | integer optional | The duration (in seconds) for which the reserved token is valid. Attributes: optional-for-create, modifiable |
| **node** | | node-name optional | Node name on which split load is reserved. Attributes: key, required-for-create, non-modifiable |
| **reserve-size** | | size optional | Available reserve in split load reserved by token where split load is the number of bytes reserved for creation of clones. Attributes: required-for-create, non-modifiable |
| **time-left** | **[0..2^64-1]** | integer optional | The remaining duration (in seconds) for which the reserved token is valid. Attributes: non-creatable, non-modifiable |
| **token-uuid** | | string optional | Token UUID for which the split load is reserved. Attributes: key, required-for-create, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **extension-info**

[top]

File extensions for clone-delete

| Name | Range | Type | Description |
|---|---|---|---|
| **extensions** | | string optional | Supported file extensions for clone-delete Attributes: non-creatable, non-modifiable |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **cluster**


cluster-add-node
cluster-add-node-status-get-iter
cluster-contact-get
cluster-contact-modify
cluster-create
cluster-create-join-progress-get
cluster-identity-get
cluster-identity-modify
cluster-join
cluster-log-forward-create
cluster-log-forward-destroy
cluster-log-forward-get
cluster-log-forward-get-iter
cluster-log-forward-modify
cluster-log-forward-statistics-get
cluster-log-forward-statistics-get-iter
cluster-node-get
cluster-node-get-iter
cluster-node-modify
cluster-remove-node
cluster-zoneinfo-get
cluster-zoneinfo-load-from-uri


This set of APIs allows managing the cluster and its attributes.

## cluster-add-node

[top]

Use this API to add new nodes to cluster. Provide only one of node-count, node-ip, or cluster-ips. To watch the progress use cluster-add-node-status-get-iter API. A job will be spawned to operate on the cluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-ips** | | ip-address[] optional | Use this option to add a set of nodes based on their cluster IP addresses. |
| **discovery-timeout** | | integer optional | Max Time to Discover Nodes to Be Added (in Secs) |
| **node-count** | | integer optional | Use this option to discover and add new nodes. It is only supported on non-shared architecture platforms. This parameter has been deprecated in Data ONTAP 9.4. |

| | | | |
|---|---|---|---|
| **node-ip** | | ip-address optional | Use this option to add a specific node based on its cluster IP address. This parameter has been deprecated in Data ONTAP 9.4. |
| **node-names** | | string[] optional | Use this option to specify the names to use for the nodes added using the cluster-ips argument. |
| **node-uuids** | | uuid[] optional | List of Node UUIDs |
| **retry** | | boolean optional | Retry a failed cluster add-node operation |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | | integer optional | Job ID of Node Add |
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **E_UNSUPPORTED_PLATFORM** | |

# cluster-add-node-status-get-iter

[top]

Get Progress of Cluster Create or Node Add Operation

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-create-add-node-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-create-add-node-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster object. All cluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-** | | cluster-create-add-node- | |

| | | | |
|---|---|---|---|
| **list** | | status-info[] optional | The list of attributes of cluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cluster objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cluster-contact-get

[top]

Returns the contact information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-contact optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-contact | The attributes of the cluster-contact. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-contact-modify

[top]

Modifies the contact information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | string optional | Business Address |
| **business-name** | | string optional | Business Name |
| **city** | | string optional | City Where Business Resides |
| | | | 2-Character Country Code Possible values:<br>• "99" - Unknown,<br>• "ad" - Andorra,<br>• "ae" - United Arab Emirates,<br>• "af" - Afghanistan,<br>• "ag" - Antigua and Barbuda,<br>• "ai" - Anguilla, |

| | | | |
|---|---|---|---|
| | | | • "al" - Albania,<br>• "am" - Armenia,<br>• "an" - Netherlands Antilles,<br>• "ao" - Angola,<br>• "aq" - Antarctia,<br>• "ar" - Argentina,<br>• "as" - American Samoa,<br>• "at" - Austria,<br>• "au" - Australia,<br>• "aw" - Aruba,<br>• "az" - Azerbaijan,<br>• "ba" - Bosnia and Herzegovina,<br>• "bb" - Barbados,<br>• "bd" - Bangladesh,<br>• "be" - Belgium,<br>• "bf" - Burkina Faso,<br>• "bg" - Bulgaria,<br>• "bh" - Bahrain,<br>• "bi" - Burundi,<br>• "bj" - Benin,<br>• "bm" - Bermuda,<br>• "bn" - Brunei Darussalem,<br>• "bo" - Bolivia,<br>• "br" - Brazil,<br>• "bs" - Bahamas,<br>• "bt" - Bhutan,<br>• "bv" - Bouvet Island,<br>• "bw" - Botswana,<br>• "by" - Belarus,<br>• "bz" - Belize,<br>• "ca" - Canada,<br>• "cc" - Cocos (Keeling) Islands,<br>• "cd" - Congo, The Democratic Republic of the,<br>• "cf" - Central African Republic,<br>• "cg" - Congo,<br>• "ch" - Switzerland,<br>• "ci" - Cote d'Ivoire,<br>• "ck" - Cook Islands,<br>• "cl" - Chile,<br>• "cm" - Cameroon,<br>• "cn" - China,<br>• "co" - Colombia,<br>• "cr" - Costa Rica,<br>• "cu" - Cuba,<br>• "cv" - Cape Verde,<br>• "cx" - Christmas Island,<br>• "cy" - Cyprus,<br>• "cz" - Czech Republic,<br>• "de" - Germany,<br>• "dj" - Djibouti,<br>• "dk" - Denmark,<br>• "dm" - Dominica,<br>• "do" - Dominican Republic,<br>• "dz" - Algeria,<br>• "ec" - Ecuador,<br>• "ee" - Estonia,<br>• "eg" - Egypt,<br>• "eh" - Western Sahara,<br>• "er" - Eritrea,<br>• "es" - Spain, |

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|---|---|---|---|
| **country** | | country-code optional | "et" - Ethiopia,<br>• "fi" - Finland,<br>• "fj" - Fiji,<br>• "fk" - Falkland Islands (Malvinas),<br>• "fm" - Micronesia, Federated States of,<br>• "fo" - Faroe Islands,<br>• "fr" - France,<br>• "fx" - France Metropolitan,<br>• "ga" - Gabon,<br>• "gb" - United Kingdom,<br>• "gd" - Grenada,<br>• "ge" - Georgia,<br>• "gf" - French Guiana,<br>• "gh" - Ghana,<br>• "gi" - Gibraltar,<br>• "gl" - Greenland,<br>• "gm" - Gambia,<br>• "gn" - Guinea,<br>• "gp" - Guadaloupe,<br>• "gq" - Equatorial Guinea,<br>• "gr" - Greece,<br>• "gs" - South Georgia and the South Sandwich Islands,<br>• "gt" - Guatemla,<br>• "gu" - Guam,<br>• "gw" - Guinea-Bissau,<br>• "gy" - Guyana,<br>• "hk" - China (Hong Kong S.A.R.),<br>• "hm" - Heard and McDonald Islands,<br>• "hn" - Honduras,<br>• "hr" - Croatia,<br>• "ht" - Haiti,<br>• "hu" - Hungary,<br>• "id" - Indonesia,<br>• "ie" - Ireland,<br>• "il" - Israel,<br>• "in" - India,<br>• "io" - British Indian Ocean Territory,<br>• "iq" - Iraq,<br>• "ir" - Iran,<br>• "is" - Iceland,<br>• "it" - Italy,<br>• "jm" - Jamaica,<br>• "jo" - Jordan,<br>• "jp" - Japan,<br>• "ke" - Kenya,<br>• "kg" - Kyrgyzstan,<br>• "kh" - Khmer Rep Cambodia,<br>• "ki" - Kiribati,<br>• "km" - Comoros,<br>• "kn" - Saint Kitts and Nevis,<br>• "kp" - Korea, Democratic People's Republic of (North Korea),<br>• "kr" - Korea, Republic of (South Korea),<br>• "kw" - Kuwait,<br>• "ky" - Cayman Islands,<br>• "kz" - Kazakhstan,<br>• "la" - Lao People's Democratic Republic (Laos),<br>• "lb" - Lebanon,<br>• "lc" - Saint Lucia,<br>• "li" - Liechtenstein, |

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|---|---|---|---|
| | | | "lk" - Sri Lanka,<br>• "lr" - Liberia,<br>• "ls" - Lesotho,<br>• "lt" - Lithuania,<br>• "lu" - Luxembourg,<br>• "lv" - Latvia,<br>• "ly" - Libyan Arab Jamahiriya (Lybia),<br>• "ma" - Morocco,<br>• "mc" - Monaco,<br>• "md" - Moldavia,<br>• "mg" - Madagascar,<br>• "mh" - Marshall Islands,<br>• "mk" - Macedonia,<br>• "ml" - Mali,<br>• "mm" - Myanmar,<br>• "mn" - Mongolia,<br>• "mo" - China (Macau S.A.R.),<br>• "mp" - Northern Mariana Islands,<br>• "mq" - Martinique,<br>• "mr" - Mauritania,<br>• "ms" - Montserrat,<br>• "mt" - Malta,<br>• "mu" - Mauritius,<br>• "mv" - Maldives,<br>• "mw" - Malawi,<br>• "mx" - Mexico,<br>• "my" - Malaysia,<br>• "mz" - Mozambique,<br>• "na" - Namibia,<br>• "nc" - New Caledonia,<br>• "ne" - Niger,<br>• "nf" - Norfolk Island,<br>• "ng" - Nigeria,<br>• "ni" - Nicaragua,<br>• "nl" - Netherlands,<br>• "no" - Norway,<br>• "np" - Nepal,<br>• "nr" - Nauru,<br>• "nu" - Niue,<br>• "nz" - New Zealand,<br>• "om" - Oman,<br>• "pa" - Panama,<br>• "pe" - Peru,<br>• "pf" - French Polynesia,<br>• "pg" - Papua New Guinea,<br>• "ph" - Philippines,<br>• "pk" - Pakistan,<br>• "pl" - Poland,<br>• "pm" - St. Pierre and Miquelon,<br>• "pn" - Pitcairn,<br>• "pr" - Puerto Rico,<br>• "pt" - Portugal,<br>• "pw" - Palau,<br>• "py" - Paraguay,<br>• "qa" - Qatar,<br>• "re" - Reunion,<br>• "ro" - Romania,<br>• "ru" - Russia,<br>• "rw" - Rwanda,<br>• "sa" - Saudi Arabia, |

| | | | |
|---|---|---|---|
| | | | "sb" - Solomon Islands,<br>• "sc" - Seychelles,<br>• "sd" - Sudan,<br>• "se" - Sweden,<br>• "sg" - Singapore,<br>• "sh" - St. Helena,<br>• "si" - Slovenia,<br>• "sj" - Svalbard and Jan Mayen Islands,<br>• "sk" - Slovakia,<br>• "sl" - Sierra Leone,<br>• "sm" - San Marino,<br>• "sn" - Senegal,<br>• "so" - Somalia,<br>• "sr" - Suriname,<br>• "st" - Sao Tome and Principe,<br>• "sv" - El Salvador,<br>• "sy" - Syrian Arab Republic (Syria),<br>• "sz" - Swaziland,<br>• "t9" - Service Agent Test Systems T9 XX,<br>• "tc" - Turks and Caicos Islands,<br>• "td" - Chad,<br>• "tf" - French Southern Territories,<br>• "tg" - Togo,<br>• "th" - Thailand,<br>• "tj" - Tajikistan,<br>• "tk" - Tokelau,<br>• "tl" - East Timor,<br>• "tm" - Turkmenistan,<br>• "tn" - Tunisia,<br>• "to" - Tonga,<br>• "tr" - Turkey,<br>• "tt" - Trinidad And Tobago,<br>• "tv" - Tuvalu,<br>• "tw" - Taiwan,<br>• "tz" - Tanzania,<br>• "ua" - Ukraine,<br>• "ug" - Uganda,<br>• "um" - United States Minor Outlying Islands,<br>• "us" - United States,<br>• "uy" - Uruguay,<br>• "uz" - Uzbekistan,<br>• "va" - Vatican City State (Holy See),<br>• "vc" - Saint Vincent and the Grenadines,<br>• "ve" - Venezuela,<br>• "vg" - British Virgin Islands,<br>• "vi" - Virgin Islands (U.S.),<br>• "vn" - Vietnam,<br>• "vu" - Vanuatu,<br>• "wf" - Wallis and Futuna Islands,<br>• "ws" - Samoa (Western),<br>• "ye" - Yemen,<br>• "yt" - Mayotte,<br>• "yu" - Serbia,<br>• "za" - South Africa,<br>• "zm" - Zambia,<br>• "zw" - Zimbabwe |
| **primary-alt-phone** | | string<br>optional | Alternate Phone Number of Primary Contact |
| **primary-email** | | string | Email Address or User ID of Primary Contact |

| | | | |
|---|---|---|---|
| | | optional | |
| **primary-name** | | string optional | Name of Primary Contact |
| **primary-phone** | | string optional | Phone Number of Primary Contact |
| **secondary-alt-phone** | | string optional | Alternate Phone Number of Secondary Contact |
| **secondary-email** | | string optional | Email Address or User ID of Secondary Contact |
| **secondary-name** | | string optional | Name of Secondary Contact |
| **secondary-phone** | | string optional | Phone Number of Secondary Contact |
| **state** | | string optional | State Where Business Resides |
| **zip-code** | | string optional | Postal Code Where Business Resides |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-create

[top]

Start the process to create a cluster using this node. Use cluster-add-node-status-get-iter to track the status of the operation. A job will be spawned to operate on the cluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-ips** | | ip-address[] optional | Use this option to specify the nodes in the cluster based on their cluster IP addresses. |
| **cluster-name** | | string | Use this parameter to specify the name of the cluster you are creating. The cluster name must begin with a letter and cannot be more than 44 characters in length. |
| **discovery-timeout** | | integer optional | Max Time to Discover Nodes to Be Added (in Secs) |
| **keep-precluster-cert** | | boolean optional | Keep Precluster Certificate |
| **license** | | license-code-v2 optional | The base cluster license obtain with the hardware or from NetApp professional services. This parameter has been deprecated in Data ONTAP 9.2. |
| **node-count** | | integer optional | Use this parameter to specify the number of nodes in the cluster you are creating. It is only supported on non-shared architecture platforms. This parameter has been deprecated in Data ONTAP 9.4. |
| **node-names** | | string[] optional | Use this option to specify the names to use for the nodes specified using the cluster-ips argument. |
| **node-uuids** | | uuid[] optional | List of Node UUIDs |

| | | | |
|---|---|---|---|
| **retry** | | boolean optional | Retry a failed cluster create operation |
| **single-node-cluster** | | boolean optional | The Cluster Is a Single Node Cluster |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINVALIDACCESS** | |
| **E_NODE_ALREADY_IN_CLUSTER** | |
| **E_CLUSTER_CREATE_JOIN_FAILED** | |

# cluster-create-join-progress-get

[top]

Once the cluster create or cluster join operation has been started on this node, use this ZAPI to get the current status of the operation. During cluster join, there is a 1 to 5 second window where the network connection will be unavailable while web services restart. The caller will have to periodically retry until this ZAPI becomes available.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-create-join-progress-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-create-join-progress-info | The attributes of the cluster. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-identity-get

[top]

Returns the cluster identity information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-identity-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-identity-info | The attributes of the cluster. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-identity-modify

[top]

Modifies the cluster identity information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-contact** | | string optional | The contact information for the cluster |
| **cluster-location** | | string optional | The location of the cluster |
| **cluster-name** | | cluster-name-simple optional | The textual name of the cluster |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-join

[top]

Start the process of joining this node to a cluster. Join can be done by Cluster IP Address. Only one join operation is supported at a time. Use cluster-create-join-progress-get to track the status of the operation. This API is deprecated as of Data ONTAP 9.2, and the cluster-add-node API should be used instead.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-ip-address** | | ip-address optional | IP Address of a Cluster Interface from a Node in the Cluster |
| **cluster-name** | | string optional | (DEPRECATED)-Cluster Name of the Cluster to Join |

| Errno | Description |
|---|---|

| | |
|---|---|
| **E_INVALID_OPERATION** | |
| **E_NODE_ALREADY_IN_CLUSTER** | |
| **E_CLUSTER_INTERFACE_REQUIRED** | |
| **EAPIMISSINGARGUMENT** | |
| **E_MULTIPLE_CLUSTERS_OF_SAME_NAME_EXIST** | |
| **E_CLUSTER_CREATE_JOIN_FAILED** | |

# cluster-log-forward-create

[top]

Create a log forwarding configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination** | | remote-inet-address | Destination address that the log messages will be forwarded to. Can be a hostname or IP address. |
| **facility** | | syslog-facility optional | Facility code used to indicate the type of software that generated the message. Possible values:<br>• "kern" - kernel messages,<br>• "user" - user-level messages,<br>• "local0" - local use 0,<br>• "local1" - local use 1,<br>• "local2" - local use 2,<br>• "local3" - local use 3,<br>• "local4" - local use 4,<br>• "local5" - local use 5,<br>• "local6" - local use 6,<br>• "local7" - local use 7 |
| **force** | | boolean optional | Skip the Connectivity Test |
| **ipspace** | | string optional | The IP space of the destination to forward the message. |
| **port** | **[1..65535]** | integer optional | The destination port used to forward the message. |
| **protocol** | | log-fwd-proto optional | Log Forwarding Protocol Possible values:<br>• "udp_unencrypted" - UDP unencrypted,<br>• "tcp_unencrypted" - TCP unencrypted,<br>• "tcp_encrypted" - TCP encrypted |
| **return-record** | | boolean optional | If set to true, returns the log forwarding info on successful creation. Default: false |
| **verify-server** | | boolean optional | Verify Destination Server Identity |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | cluster-log-forward-info optional | The log forwarding info created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

| | |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-log-forward-destroy

[top]

Delete a log forwarding configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination** | | remote-inet-address | Destination address that the log messages will be forwarded to. Can be a hostname or IP address. |
| **port** | **[1..65535]** | integer | The destination port used to forward the message. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-log-forward-get

[top]

Get information about log forwarding

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-log-forward-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination** | | remote-inet-address | Destination address that the log messages will be forwarded to. Can be a hostname or IP address. |
| **port** | **[1..65535]** | integer | The destination port used to forward the message. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-log-forward-info | The attributes of the log forwarding info. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-log-forward-get-iter

[top]

Get information about log forwarding

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-log-forward-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-log-forward-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the log forwarding info object. All log forwarding info objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-log-forward-info[] optional | The list of attributes of log forwarding info objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more log forwarding info objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-log-forward-modify

[top]

Modify the log forwarding configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination** | | remote-inet-address | Destination address that the log messages will be forwarded to. Can be a hostname or IP address. |
| **facility** | | syslog-facility optional | Facility code used to indicate the type of software that generated the message. Possible values:<br>• "kern" - kernel messages,<br>• "user" - user-level messages,<br>• "local0" - local use 0,<br>• "local1" - local use 1,<br>• "local2" - local use 2,<br>• "local3" - local use 3, |

| | | | |
|---|---|---|---|
| | | | "local4" - local use 4,<br>• "local5" - local use 5,<br>• "local6" - local use 6,<br>• "local7" - local use 7 |
| **ipspace** | | string<br>optional | The IP space of the destination to forward the message. |
| **port** | **[1..65535]** | integer | The destination port used to forward the message. |
| **verify-server** | | boolean<br>optional | Verify Destination Server Identity |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-log-forward-statistics-get

[top]

Get information about log forwarding statistics

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-log-forward-statistics<br>optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination** | | remote-inet-address | Destination Host |
| **index** | **[0..2^32-1]** | integer | Destination Index |
| **log** | | string | Log Name |
| **node** | | node-name | Node |
| **port** | **[1..65535]** | integer | Destination Port |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-log-forward-statistics | The attributes of the log forwarding statistics. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-log-forward-statistics-get-iter

[top]

Get information about log forwarding statistics

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-log-forward-statistics optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-log-forward-statistics optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the log forwarding statistics object. All log forwarding statistics objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-log-forward-statistics[] optional | The list of attributes of log forwarding statistics objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more log forwarding statistics objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-node-get

[top]

Returns information about a node in a cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-node-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The textual name of a node. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-node- | The attributes of the cluster. |

| | | | |
|---|---|---|---|
| | | info | |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# cluster-node-get-iter

[top]

Returns information about nodes in a cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | cluster-node-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | cluster-node-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster object. All cluster objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | cluster-node-info[] optional | The list of attributes of cluster objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more cluster objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# cluster-node-modify

[top]

Modifies state of a node in a cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| is-node-eligible | | boolean optional | This parameter states nodes that are eligible to participate in the cluster. A boolean value of true means the node is eligible. |
| is-node-epsilon | | boolean optional | You can designate a node as epsilon to add weight to its voting in a cluster with an even number of nodes. In a cluster, only one node can be designated as epsilon at any given time. A boolean value of true means |

| | | | |
|---|---|---|---|
| | | | the node is epsilon. |
| **node-name** | | node-name | The textual name of a node. |
| **skip-quorum-check-before-eligible** | | boolean optional | Skip quorum checks when setting a node eligible. When setting a node to eligible, the operation will continue even if there is a possible data outage due to a quorum issue. |
| **skip-quorum-check-before-ineligible** | | boolean optional | Skip quorum checks when setting a node ineligible. When setting a node to ineligible, the operation will continue even if there is a possible data outage due to a quorum issue. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-remove-node

[top]

Removes a node from the cluster. A job will be spawned to operate on the cluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-ip** | | ip-address optional | IP Address of a Cluster Interface of Node to Unjoin |
| **force** | | boolean optional | Force Node to Unjoin |
| **node** | | filer-id optional | Node to Unjoin |
| **node-uuid** | | uuid optional | Node UUID to Unjoin |
| **skip-epsilon-transition-before-unjoin** | | boolean optional | Skip Epsilon Transition Prior to Unjoin |
| **skip-last-low-version-node-check** | | boolean optional | Skip the Check That Prevents Unjoining the Last Low Versioned Node |
| **skip-quorum-check-before-unjoin** | | boolean optional | Skip quorum checks when removing a node. The operation will continue even if there is a possible data outage due to a quorum issue. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", |

| | | | |
|---|---|---|---|
| | | | "in_progress", "failed". |

| Errno | Description |
|---|---|
| **E_CLUSTER_CREATE_JOIN_UNJOIN_NODE_NOT_IN_CLUSTER** | |
| **E_CLUSTER_CREATE_JOIN_UNJOIN_SINGLE_NODE_CLUSTER** | |
| **E_CLUSTER_CREATE_JOIN_UNJOIN_ON_SAME_NODE** | |
| **E_UNJOIN_JOB_UPGRADE_PREVENT_UNJOIN** | |
| **E_CLUSTER_CREATE_JOIN_NODE_OFFLINE** | |
| **E_JOB_UNJOIN_JOB_ERROR** | |
| **E_CLUSTER_WARNING_FOR_GOING_TO_NO_QUORUM** | |

# cluster-zoneinfo-get

[top]

Get zoneinfo information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | zoneinfo-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | zoneinfo-info | The attributes of the Zoneinfo info. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-zoneinfo-load-from-uri

[top]

This commands loads a new set of timezone zoneinfo data to replace the version installed in the cluster.

Releases of Data ONTAP software contain the timezone data that is current at the time of release. If a change is made to the timezone between Data ONTAP releases, then an update can be made to the installed data.

For instance, if a change is made to when daylight saving time is observed for a country then an update to cluster zoneinfo data may be required.

Only zoneinfo files provided for use in Data ONTAP should be used with this command.

To update the zoneinfo database do the following:

- Download the required zoneinfo file from the support website.
- Place the file on a local web server accessible without password from the cluster.
- Execute this command, passing the Universal Resource Identifier (URI) of the file as parameter.

The command need only be executed once for the cluster. The data will be distributed to each node of

the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **uri** | | uri | Universal Resource Identifier (URI) of the zoneinfo data to load. HTTP and FTP schemes are supported. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **E_ZONEINFO_DOWNLOAD_FAILED** | |
| **E_ZONEINFO_UNSUPPORTED_FILE_TYPE** | |
| **E_ZONEINFO_UNZIP_FAILED** | |
| **E_ZONEINFO_UNTAR_FAILED** | |
| **E_ZONEINFO_INVALID_FILE** | |
| **E_ZONEINFO_FILESYSTEM_ERROR** | |

# Element definition: **cluster-contact**

[top]

Administrator contact information for the cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | string optional | Business Address Attributes: non-creatable, modifiable |
| **business-name** | | string optional | Business Name Attributes: non-creatable, modifiable |
| **city** | | string optional | City Where Business Resides Attributes: non-creatable, modifiable |
| | | | 2-Character Country Code Attributes: non-creatable, modifiable<br>Possible values:<br>• "99" - Unknown,<br>• "ad" - Andorra,<br>• "ae" - United Arab Emirates,<br>• "af" - Afghanistan,<br>• "ag" - Antigua and Barbuda,<br>• "ai" - Anguilla,<br>• "al" - Albania,<br>• "am" - Armenia,<br>• "an" - Netherlands Antilles,<br>• "ao" - Angola,<br>• "aq" - Antarctia,<br>• "ar" - Argentina,<br>• "as" - American Samoa,<br>• "at" - Austria,<br>• "au" - Australia, |

| | | | |
|---|---|---|---|
| | | | • "aw" - Aruba,<br>• "az" - Azerbaijan,<br>• "ba" - Bosnia and Herzegovina,<br>• "bb" - Barbados,<br>• "bd" - Bangladesh,<br>• "be" - Belgium,<br>• "bf" - Burkina Faso,<br>• "bg" - Bulgaria,<br>• "bh" - Bahrain,<br>• "bi" - Burundi,<br>• "bj" - Benin,<br>• "bm" - Bermuda,<br>• "bn" - Brunei Darussalem,<br>• "bo" - Bolivia,<br>• "br" - Brazil,<br>• "bs" - Bahamas,<br>• "bt" - Bhutan,<br>• "bv" - Bouvet Island,<br>• "bw" - Botswana,<br>• "by" - Belarus,<br>• "bz" - Belize,<br>• "ca" - Canada,<br>• "cc" - Cocos (Keeling) Islands,<br>• "cd" - Congo, The Democratic Republic of the,<br>• "cf" - Central African Republic,<br>• "cg" - Congo,<br>• "ch" - Switzerland,<br>• "ci" - Cote d'Ivoire,<br>• "ck" - Cook Islands,<br>• "cl" - Chile,<br>• "cm" - Cameroon,<br>• "cn" - China,<br>• "co" - Colombia,<br>• "cr" - Costa Rica,<br>• "cu" - Cuba,<br>• "cv" - Cape Verde,<br>• "cx" - Christmas Island,<br>• "cy" - Cyprus,<br>• "cz" - Czech Republic,<br>• "de" - Germany,<br>• "dj" - Djibouti,<br>• "dk" - Denmark,<br>• "dm" - Dominica,<br>• "do" - Dominican Republic,<br>• "dz" - Algeria,<br>• "ec" - Ecuador,<br>• "ee" - Estonia,<br>• "eg" - Egypt,<br>• "eh" - Western Sahara,<br>• "er" - Eritrea,<br>• "es" - Spain,<br>• "et" - Ethiopia,<br>• "fi" - Finland,<br>• "fj" - Fiji,<br>• "fk" - Falkland Islands (Malvinas),<br>• "fm" - Micronesia, Federated States of,<br>• "fo" - Faroe Islands,<br>• "fr" - France,<br>• "fx" - France Metropolitan,<br>• "ga" - Gabon, |

| | | | |
|---|---|---|---|
| **country** | | country-code optional | "gb" - United Kingdom,<br>• "gd" - Grenada,<br>• "ge" - Georgia,<br>• "gf" - French Guiana,<br>• "gh" - Ghana,<br>• "gi" - Gibraltar,<br>• "gl" - Greenland,<br>• "gm" - Gambia,<br>• "gn" - Guinea,<br>• "gp" - Guadaloupe,<br>• "gq" - Equatorial Guinea,<br>• "gr" - Greece,<br>• "gs" - South Georgia and the South Sandwich Islands,<br>• "gt" - Guatemla,<br>• "gu" - Guam,<br>• "gw" - Guinea-Bissau,<br>• "gy" - Guyana,<br>• "hk" - China (Hong Kong S.A.R.),<br>• "hm" - Heard and McDonald Islands,<br>• "hn" - Honduras,<br>• "hr" - Croatia,<br>• "ht" - Haiti,<br>• "hu" - Hungary,<br>• "id" - Indonesia,<br>• "ie" - Ireland,<br>• "il" - Israel,<br>• "in" - India,<br>• "io" - British Indian Ocean Territory,<br>• "iq" - Iraq,<br>• "ir" - Iran,<br>• "is" - Iceland,<br>• "it" - Italy,<br>• "jm" - Jamaica,<br>• "jo" - Jordan,<br>• "jp" - Japan,<br>• "ke" - Kenya,<br>• "kg" - Kyrgyzstan,<br>• "kh" - Khmer Rep Cambodia,<br>• "ki" - Kiribati,<br>• "km" - Comoros,<br>• "kn" - Saint Kitts and Nevis,<br>• "kp" - Korea, Democratic People's Republic of (North Korea),<br>• "kr" - Korea, Republic of (South Korea),<br>• "kw" - Kuwait,<br>• "ky" - Cayman Islands,<br>• "kz" - Kazakhstan,<br>• "la" - Lao People's Democratic Republic (Laos),<br>• "lb" - Lebanon,<br>• "lc" - Saint Lucia,<br>• "li" - Liechtenstein,<br>• "lk" - Sri Lanka,<br>• "lr" - Liberia,<br>• "ls" - Lesotho,<br>• "lt" - Lithuania,<br>• "lu" - Luxembourg,<br>• "lv" - Latvia,<br>• "ly" - Libyan Arab Jamahiriya (Lybia),<br>• "ma" - Morocco,<br>• "mc" - Monaco, |

"md" - Moldavia,
- "mg" - Madagascar,
- "mh" - Marshall Islands,
- "mk" - Macedonia,
- "ml" - Mali,
- "mm" - Myanmar,
- "mn" - Mongolia,
- "mo" - China (Macau S.A.R.),
- "mp" - Northern Mariana Islands,
- "mq" - Martinique,
- "mr" - Mauritania,
- "ms" - Montserrat,
- "mt" - Malta,
- "mu" - Mauritius,
- "mv" - Maldives,
- "mw" - Malawi,
- "mx" - Mexico,
- "my" - Malaysia,
- "mz" - Mozambique,
- "na" - Namibia,
- "nc" - New Caledonia,
- "ne" - Niger,
- "nf" - Norfolk Island,
- "ng" - Nigeria,
- "ni" - Nicaragua,
- "nl" - Netherlands,
- "no" - Norway,
- "np" - Nepal,
- "nr" - Nauru,
- "nu" - Niue,
- "nz" - New Zealand,
- "om" - Oman,
- "pa" - Panama,
- "pe" - Peru,
- "pf" - French Polynesia,
- "pg" - Papua New Guinea,
- "ph" - Philippines,
- "pk" - Pakistan,
- "pl" - Poland,
- "pm" - St. Pierre and Miquelon,
- "pn" - Pitcairn,
- "pr" - Puerto Rico,
- "pt" - Portugal,
- "pw" - Palau,
- "py" - Paraguay,
- "qa" - Qatar,
- "re" - Reunion,
- "ro" - Romania,
- "ru" - Russia,
- "rw" - Rwanda,
- "sa" - Saudi Arabia,
- "sb" - Solomon Islands,
- "sc" - Seychelles,
- "sd" - Sudan,
- "se" - Sweden,
- "sg" - Singapore,
- "sh" - St. Helena,
- "si" - Slovenia,
- "sj" - Svalbard and Jan Mayen Islands,
- "sk" - Slovakia,

| | | | |
|---|---|---|---|
| | | | "sl" - Sierra Leone,<br>• "sm" - San Marino,<br>• "sn" - Senegal,<br>• "so" - Somalia,<br>• "sr" - Suriname,<br>• "st" - Sao Tome and Principe,<br>• "sv" - El Salvador,<br>• "sy" - Syrian Arab Republic (Syria),<br>• "sz" - Swaziland,<br>• "t9" - Service Agent Test Systems T9 XX,<br>• "tc" - Turks and Caicos Islands,<br>• "td" - Chad,<br>• "tf" - French Southern Territories,<br>• "tg" - Togo,<br>• "th" - Thailand,<br>• "tj" - Tajikistan,<br>• "tk" - Tokelau,<br>• "tl" - East Timor,<br>• "tm" - Turkmenistan,<br>• "tn" - Tunisia,<br>• "to" - Tonga,<br>• "tr" - Turkey,<br>• "tt" - Trinidad And Tobago,<br>• "tv" - Tuvalu,<br>• "tw" - Taiwan,<br>• "tz" - Tanzania,<br>• "ua" - Ukraine,<br>• "ug" - Uganda,<br>• "um" - United States Minor Outlying Islands,<br>• "us" - United States,<br>• "uy" - Uruguay,<br>• "uz" - Uzbekistan,<br>• "va" - Vatican City State (Holy See),<br>• "vc" - Saint Vincent and the Grenadines,<br>• "ve" - Venezuela,<br>• "vg" - British Virgin Islands,<br>• "vi" - Virgin Islands (U.S.),<br>• "vn" - Vietnam,<br>• "vu" - Vanuatu,<br>• "wf" - Wallis and Futuna Islands,<br>• "ws" - Samoa (Western),<br>• "ye" - Yemen,<br>• "yt" - Mayotte,<br>• "yu" - Serbia,<br>• "za" - South Africa,<br>• "zm" - Zambia,<br>• "zw" - Zimbabwe |
| **primary-alt-phone** | | string optional | Alternate Phone Number of Primary Contact Attributes: non-creatable, modifiable |
| **primary-email** | | string optional | Email Address or User ID of Primary Contact Attributes: non-creatable, modifiable |
| **primary-name** | | string optional | Name of Primary Contact Attributes: non-creatable, modifiable |
| **primary-phone** | | string optional | Phone Number of Primary Contact Attributes: non-creatable, modifiable |
| **secondary-alt-phone** | | string optional | Alternate Phone Number of Secondary Contact Attributes: non-creatable, modifiable |
| **secondary-** | | string | Email Address or User ID of Secondary Contact Attributes: non- |

| | | | |
|---|---|---|---|
| **email** | | optional | creatable, modifiable |
| **secondary-name** | | string optional | Name of Secondary Contact Attributes: non-creatable, modifiable |
| **secondary-phone** | | string optional | Phone Number of Secondary Contact Attributes: non-creatable, modifiable |
| **state** | | string optional | State Where Business Resides Attributes: non-creatable, modifiable |
| **zip-code** | | string optional | Postal Code Where Business Resides Attributes: non-creatable, modifiable |

# Element definition: **cluster-create-add-node-status-info**

[top]

Information that identifies the state of a cluster create or node add operation When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster-ip** | | ip-address optional | IP Address of a Cluster Interface of Node Attributes: non-creatable, non-modifiable |
| **failure-msg** | | string optional | Error Reason Attributes: non-creatable, non-modifiable |
| **job-id** | **[0..2^64-1]** | integer optional | Job ID of Join Job Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Node Name Attributes: key, non-creatable, non-modifiable |
| **node-uuid** | | uuid optional | Node UUID Attributes: key, non-creatable, non-modifiable |
| **status** | | cluster-op-status optional | The Status of Current Task Being Performed Attributes: non-creatable, non-modifiable Possible values:<br>• "none" - None,<br>• "starting_job" - Starting Add-Node Job,<br>• "node_discovery" - Node Discovery,<br>• "remote_join_started" - Job Started Remote Join Op,<br>• "node_initialization" - Node Initialization,<br>• "joining_cluster" - Joining Cluster,<br>• "service_startup" - Service Startup,<br>• "post_cluster_setup" - Post Cluster Setup,<br>• "success" - Task Completed,<br>• "failure" - Task Failed |

# Element definition: **cluster-create-join-progress-info**

[top]

Information that identifies the state or a create or join operation When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **current-status-message** | | string optional | The current status of the create or join operation being performed. Attributes: non-creatable, non-modifiable |
| **is-complete** | | boolean optional | If this is true, it means that the operation has been successfully completed. If it is false, the state of the operation is determined by the status field Attributes: non-creatable, non-modifiable |
| **status** | | cluster-op-enum-result optional | This field helps to determine the state of the operation when 'complete' is false. When complete is false and the status is success it indicates the operation hasn't started yet. Attributes: non-creatable, non-modifiable Possible values:<br>• "failed" - Operation failed,<br>• "success" - Operation was successful,<br>• "ongoing" - Operation is active |

# Element definition: **cluster-identity-info**

[top]

Information that identifies a given cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster-contact** | | string optional | The contact information for the cluster Attributes: non-creatable, modifiable |
| **cluster-location** | | string optional | The location of the cluster Attributes: non-creatable, modifiable |
| **cluster-name** | | cluster-name-simple optional | The textual name of the cluster Attributes: non-creatable, modifiable |
| **cluster-serial-number** | | cluster-serial-number optional | Serial number of the cluster in the form x-xx-xxxxxx Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **cluster-uuid** | | uuid optional | The 128-bit universally-unique identifier, that designates the cluster forever, assigned during cluster creation Attributes: non-creatable, non-modifiable |
| **rdb-uuid** | | uuid optional | The 128-bit universally-unique identifier for the RDB Attributes: non-creatable, non-modifiable |

# Element definition: **cluster-log-forward-info**

[top]

Log file forwarding configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **destination** | | remote-inet-address optional | Destination address that the log messages will be forwarded to. Can be a hostname or IP address. Attributes: key, required-for-create, non-modifiable |
| **facility** | | syslog-facility optional | Facility code used to indicate the type of software that generated the message. Attributes: optional-for-create, modifiable Possible values:<br>• "kern" - kernel messages,<br>• "user" - user-level messages,<br>• "local0" - local use 0,<br>• "local1" - local use 1,<br>• "local2" - local use 2,<br>• "local3" - local use 3,<br>• "local4" - local use 4,<br>• "local5" - local use 5,<br>• "local6" - local use 6,<br>• "local7" - local use 7 |
| **force** | | boolean optional | Skip the Connectivity Test Attributes: optional-for-create, non-modifiable |
| **ipspace** | | string optional | The IP space of the destination to forward the message. Attributes: optional-for-create, modifiable |
| **port** | **[1..65535]** | integer optional | The destination port used to forward the message. Attributes: key, optional-for-create, non-modifiable |
| **protocol** | | log-fwd-proto optional | Log Forwarding Protocol Attributes: optional-for-create, non-modifiable Possible values:<br>• "udp_unencrypted" - UDP unencrypted,<br>• "tcp_unencrypted" - TCP unencrypted,<br>• "tcp_encrypted" - TCP encrypted |
| **verify-server** | | boolean optional | Verify Destination Server Identity Attributes: optional-for-create, modifiable |

# Element definition: **cluster-log-forward-statistics**

[top]

Log file forwarding statistics When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **destination** | | remote-inet-address optional | Destination Host Attributes: key, non-creatable, non-modifiable |
| **dropped-count** | **[0..2^64-1]** | integer optional | Count of Dropped Messages Attributes: non-creatable, non-modifiable |
| **facility** | | syslog-facility optional | Syslog Facility Attributes: non-creatable, non-modifiable Possible values:<br>• "kern" - kernel messages,<br>• "user" - user-level messages,<br>• "local0" - local use 0,<br>• "local1" - local use 1,<br>• "local2" - local use 2,<br>• "local3" - local use 3,<br>• "local4" - local use 4,<br>• "local5" - local use 5,<br>• "local6" - local use 6,<br>• "local7" - local use 7 |
| **failure-count** | **[0..2^64-1]** | integer optional | Count of Forwarding Failures Attributes: non-creatable, non-modifiable |
| **index** | **[0..2^32-1]** | integer optional | Destination Index Attributes: key, non-creatable, non-modifiable |
| **last-error** | | string optional | Last Failure Reason Attributes: non-creatable, non-modifiable |
| **last-success-time** | | datetimewithtz optional | Time of Last Message Forwarded Attributes: non-creatable, non-modifiable |
| **log** | | string optional | Log Name Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **port** | **[1..65535]** | integer optional | Destination Port Attributes: key, non-creatable, non-modifiable |
| **queue-size** | **[0..2^64-1]** | integer optional | Number of Messages in the Queue Attributes: non-creatable, non-modifiable |
| **success-count** | **[0..2^64-1]** | integer optional | Count of Forwarding Successes Attributes: non-creatable, non-modifiable |
| **total-tx-failures** | **[0..2^64-1]** | integer optional | Total Transmission Failures Attributes: non-creatable, non-modifiable |

# Element definition: **cluster-name-simple**

[top]

Name of the Cluster

[none]

# Element definition: **cluster-node-info**

[top]

Information that identifies state of nodes in a cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-node-eligible** | | boolean optional | This parameter states nodes that are eligible to participate in the cluster. A boolean value of true means the node is eligible. Attributes: non-creatable, modifiable |
| **is-node-epsilon** | | boolean optional | You can designate a node as epsilon to add weight to its voting in a cluster with an even number of nodes. In a cluster, only one node can be designated as epsilon at any given time. A boolean value of true means the node is epsilon. Attributes: non-creatable, modifiable |
| **is-node-healthy** | | boolean optional | This parameter is used to determine health of a node in a cluster. A boolean value of true means the node is healthy. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The textual name of a node. Attributes: key, non-creatable, non-modifiable |
| **node-uuid** | | node-uuid optional | The 128-bit universally-unique identifier, that designates a node forever, assigned during node creation. Attributes: non-creatable, non-modifiable |

# Element definition: **country-code**

[top]

Country Code Possible values:

- "99" - Unknown,
- "ad" - Andorra,
- "ae" - United Arab Emirates,
- "af" - Afghanistan,
- "ag" - Antigua and Barbuda,
- "ai" - Anguilla,
- "al" - Albania,

- "am" - Armenia,
- "an" - Netherlands Antilles,
- "ao" - Angola,
- "aq" - Antarctia,
- "ar" - Argentina,
- "as" - American Samoa,
- "at" - Austria,
- "au" - Australia,
- "aw" - Aruba,
- "az" - Azerbaijan,
- "ba" - Bosnia and Herzegovina,
- "bb" - Barbados,
- "bd" - Bangladesh,
- "be" - Belgium,
- "bf" - Burkina Faso,
- "bg" - Bulgaria,
- "bh" - Bahrain,
- "bi" - Burundi,
- "bj" - Benin,
- "bm" - Bermuda,
- "bn" - Brunei Darussalem,
- "bo" - Bolivia,
- "br" - Brazil,
- "bs" - Bahamas,
- "bt" - Bhutan,
- "bv" - Bouvet Island,
- "bw" - Botswana,
- "by" - Belarus,
- "bz" - Belize,
- "ca" - Canada,
- "cc" - Cocos (Keeling) Islands,
- "cd" - Congo, The Democratic Republic of the,
- "cf" - Central African Republic,
- "cg" - Congo,
- "ch" - Switzerland,
- "ci" - Cote d'Ivoire,
- "ck" - Cook Islands,
- "cl" - Chile,
- "cm" - Cameroon,
- "cn" - China,
- "co" - Colombia,
- "cr" - Costa Rica,
- "cu" - Cuba,
- "cv" - Cape Verde,
- "cx" - Christmas Island,
- "cy" - Cyprus,
- "cz" - Czech Republic,
- "de" - Germany,
- "dj" - Djibouti,
- "dk" - Denmark,
- "dm" - Dominica,
- "do" - Dominican Republic,
- "dz" - Algeria,
- "ec" - Ecuador,
- "ee" - Estonia,
- "eg" - Egypt,
- "eh" - Western Sahara,
- "er" - Eritrea,
- "es" - Spain,
- "et" - Ethiopia,

"fi" - Finland,
- "fj" - Fiji,
- "fk" - Falkland Islands (Malvinas),
- "fm" - Micronesia, Federated States of,
- "fo" - Faroe Islands,
- "fr" - France,
- "fx" - France Metropolitan,
- "ga" - Gabon,
- "gb" - United Kingdom,
- "gd" - Grenada,
- "ge" - Georgia,
- "gf" - French Guiana,
- "gh" - Ghana,
- "gi" - Gibraltar,
- "gl" - Greenland,
- "gm" - Gambia,
- "gn" - Guinea,
- "gp" - Guadaloupe,
- "gq" - Equatorial Guinea,
- "gr" - Greece,
- "gs" - South Georgia and the South Sandwich Islands,
- "gt" - Guatemla,
- "gu" - Guam,
- "gw" - Guinea-Bissau,
- "gy" - Guyana,
- "hk" - China (Hong Kong S.A.R.),
- "hm" - Heard and McDonald Islands,
- "hn" - Honduras,
- "hr" - Croatia,
- "ht" - Haiti,
- "hu" - Hungary,
- "id" - Indonesia,
- "ie" - Ireland,
- "il" - Israel,
- "in" - India,
- "io" - British Indian Ocean Territory,
- "iq" - Iraq,
- "ir" - Iran,
- "is" - Iceland,
- "it" - Italy,
- "jm" - Jamaica,
- "jo" - Jordan,
- "jp" - Japan,
- "ke" - Kenya,
- "kg" - Kyrgyzstan,
- "kh" - Khmer Rep Cambodia,
- "ki" - Kiribati,
- "km" - Comoros,
- "kn" - Saint Kitts and Nevis,
- "kp" - Korea, Democratic People's Republic of (North Korea),
- "kr" - Korea, Republic of (South Korea),
- "kw" - Kuwait,
- "ky" - Cayman Islands,
- "kz" - Kazakhstan,
- "la" - Lao People's Democratic Republic (Laos),
- "lb" - Lebanon,
- "lc" - Saint Lucia,
- "li" - Liechtenstein,
- "lk" - Sri Lanka,
- "lr" - Liberia,

"ls" - Lesotho,
- "lt" - Lithuania,
- "lu" - Luxembourg,
- "lv" - Latvia,
- "ly" - Libyan Arab Jamahiriya (Lybia),
- "ma" - Morocco,
- "mc" - Monaco,
- "md" - Moldavia,
- "mg" - Madagascar,
- "mh" - Marshall Islands,
- "mk" - Macedonia,
- "ml" - Mali,
- "mm" - Myanmar,
- "mn" - Mongolia,
- "mo" - China (Macau S.A.R.),
- "mp" - Northern Mariana Islands,
- "mq" - Martinique,
- "mr" - Mauritania,
- "ms" - Montserrat,
- "mt" - Malta,
- "mu" - Mauritius,
- "mv" - Maldives,
- "mw" - Malawi,
- "mx" - Mexico,
- "my" - Malaysia,
- "mz" - Mozambique,
- "na" - Namibia,
- "nc" - New Caledonia,
- "ne" - Niger,
- "nf" - Norfolk Island,
- "ng" - Nigeria,
- "ni" - Nicaragua,
- "nl" - Netherlands,
- "no" - Norway,
- "np" - Nepal,
- "nr" - Nauru,
- "nu" - Niue,
- "nz" - New Zealand,
- "om" - Oman,
- "pa" - Panama,
- "pe" - Peru,
- "pf" - French Polynesia,
- "pg" - Papua New Guinea,
- "ph" - Philippines,
- "pk" - Pakistan,
- "pl" - Poland,
- "pm" - St. Pierre and Miquelon,
- "pn" - Pitcairn,
- "pr" - Puerto Rico,
- "pt" - Portugal,
- "pw" - Palau,
- "py" - Paraguay,
- "qa" - Qatar,
- "re" - Reunion,
- "ro" - Romania,
- "ru" - Russia,
- "rw" - Rwanda,
- "sa" - Saudi Arabia,
- "sb" - Solomon Islands,
- "sc" - Seychelles,

"sd" - Sudan,
- "se" - Sweden,
- "sg" - Singapore,
- "sh" - St. Helena,
- "si" - Slovenia,
- "sj" - Svalbard and Jan Mayen Islands,
- "sk" - Slovakia,
- "sl" - Sierra Leone,
- "sm" - San Marino,
- "sn" - Senegal,
- "so" - Somalia,
- "sr" - Suriname,
- "st" - Sao Tome and Principe,
- "sv" - El Salvador,
- "sy" - Syrian Arab Republic (Syria),
- "sz" - Swaziland,
- "t9" - Service Agent Test Systems T9 XX,
- "tc" - Turks and Caicos Islands,
- "td" - Chad,
- "tf" - French Southern Territories,
- "tg" - Togo,
- "th" - Thailand,
- "tj" - Tajikistan,
- "tk" - Tokelau,
- "tl" - East Timor,
- "tm" - Turkmenistan,
- "tn" - Tunisia,
- "to" - Tonga,
- "tr" - Turkey,
- "tt" - Trinidad And Tobago,
- "tv" - Tuvalu,
- "tw" - Taiwan,
- "tz" - Tanzania,
- "ua" - Ukraine,
- "ug" - Uganda,
- "um" - United States Minor Outlying Islands,
- "us" - United States,
- "uy" - Uruguay,
- "uz" - Uzbekistan,
- "va" - Vatican City State (Holy See),
- "vc" - Saint Vincent and the Grenadines,
- "ve" - Venezuela,
- "vg" - British Virgin Islands,
- "vi" - Virgin Islands (U.S.),
- "vn" - Vietnam,
- "vu" - Vanuatu,
- "wf" - Wallis and Futuna Islands,
- "ws" - Samoa (Western),
- "ye" - Yemen,
- "yt" - Mayotte,
- "yu" - Serbia,
- "za" - South Africa,
- "zm" - Zambia,
- "zw" - Zimbabwe

[none]

# Element definition: **filer-id**

[top]

Filer UUID

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **license-code-v2**

[top]

License Code V2

[none]

# Element definition: **log-fwd-proto**

[top]

udp-unencrypted|tcp-unencrypted|tcp-encrypted Possible values:

- "udp_unencrypted" - UDP unencrypted,
- "tcp_unencrypted" - TCP unencrypted,
- "tcp_encrypted" - TCP encrypted

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **remote-inet-address**

[top]

IPv4 Address, IPv6 Address or Host Name

[none]

# Element definition: **syslog-facility**

[top]

The syslog facility.

[none]

# Element definition: **uri**

[top]

[none]

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **zoneinfo-info**

[top]

Timezone Zoneinfo Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **version** | | string optional | Version of the timezone database in the form YYYYv. \"YYYY\" is the year the database was released and \"v\" is the version within that year. \"YYYY\" will be four decimal digits and \"v\" will be an ASCII letter starting with \"a\" and increasing with each version. For example, the second 2017 version is \"2017b\". Attributes: non-creatable, modifiable |

# Element definition: **cluster-op-enum-result**

[top]

cluster_op_enum_result Possible values:

- "failed" - Operation failed,
- "success" - Operation was successful,
- "ongoing" - Operation is active

[none]

# Element definition: **cluster-op-status**

[top]

Cluster Operation Status Possible values:

- "none" - None,
- "starting_job" - Starting Add-Node Job,
- "node_discovery" - Node Discovery,
- "remote_join_started" - Job Started Remote Join Op,
- "node_initialization" - Node Initialization,
- "joining_cluster" - Joining Cluster,
- "service_startup" - Service Startup,
- "post_cluster_setup" - Post Cluster Setup,
- "success" - Task Completed,
- "failure" - Task Failed

[none]

# Element definition: **cluster-serial-number**

[top]

Assigned Cluster serial-number during cluster create

[none]

# Element definition: **datetimewithtz**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **node-uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# APIs in Category: **cluster-image**


cluster-image-get
cluster-image-get-download-progress
cluster-image-get-iter
cluster-image-get-upgrade-plan
cluster-image-metrocluster-update-progress-info-get
cluster-image-node-update-progress-info
cluster-image-package-delete
cluster-image-package-download
cluster-image-package-download-abort
cluster-image-package-local-get
cluster-image-package-local-get-iter
cluster-image-update
cluster-image-update-cancel
cluster-image-update-history-get-iter
cluster-image-update-log-get-iter
cluster-image-update-pause
cluster-image-update-progress-get-iter
cluster-image-update-progress-info
cluster-image-update-resume
cluster-image-validate


This set of APIs enable automated nondisruptive update of a cluster.

## cluster-image-get

[top]

Get the attributes of the cluster-image.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-image-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-id** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-image-info | The attributes of the cluster-image. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## cluster-image-get-download-progress

[top]

Check the progress of current image download started by the cluster-image-package-download ZAPI.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-reason** | | string optional | Reason for download failure. This field is deprecated in Data ONTAP 9.0.0 and may be removed in a future release. |

| | | | |
|---|---|---|---|
| **progress-details** | | string optional | Download progress details |
| **progress-status** | | cluster-image-download-status | Download Progress Status |

| Errno | Description |
|---|---|
| **E_PRIMARY_STORE_UNAVAILABLE** | |
| **EINTERNALERROR** | |

## cluster-image-get-iter

[top]

Iterate over a list of cluster-image objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-image-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-image-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-image-info[] optional | The list of attributes of cluster-image objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cluster-image objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## cluster-image-get-upgrade-plan

[top]

The cluster-image-get-upgrade-plan API generates an Upgrade Plan and Backout Plan for the specified target image. The target package-version must be provided.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **package-version** | | string | Specifies the target package version. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **backout-phase-info-list** | | phase-info[] optional | List of revert or downgrade plan phases. |
| **backout-plan-head** | | string optional | Backout plan heading. |
| **upgrade-phase-info-list** | | phase-info[] optional | List of upgrade plan phases. |
| **upgrade-plan-head** | | string optional | Upgrade plan heading. |

| Errno | Description |
|---|---|
| E_CONF_NOT_SUPPORTED | |
| E_IMAGES_UNAVAILABLE | |
| E_RULES_XML_ERROR | |
| E_GET_PLAN_FAILED | |
| E_PACKAGE_IMAGE_COMPONENT_NOT_FOUND | |
| E_PACKAGE_STORE_IS_EMPTY | |
| E_UPGRADE_PLAN_WITH_REVERT_IMAGE | |

## cluster-image-metrocluster-update-progress-info-get

[top]

Get information on cluster image update progress for MetroCluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-ndu-progress-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | metrocluster-ndu-progress-info | The attributes of the cluster-image. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| E_UPDATE_NOT_IN_PROGRESS | |

## cluster-image-node-update-progress-info

[top]

Get information on a node's image update progress

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | node-update-progress-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | string | Node name. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | node-update-progress-info | The attributes of the cluster-image. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EAPIMISSINGARGUMENT | |

## cluster-image-package-delete

[top]

The cluster-image-package-delete API removes the given package from the cluster image package repository.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **package-version** | | string | The package version to be deleted. Example of package versions - 8.3 |

| Errno | Description |
|---|---|
| **E_VALIDATION_IN_PROGRESS** | |
| **E_UPDATE_IN_PROGRESS** | |
| **E_PACKAGE_SYNCH_IN_PROGRESS** | |
| **E_PACKAGE_IMAGE_COMPONENT_NOT_FOUND** | |
| **E_PACKAGE_STORE_IS_EMPTY** | |

## cluster-image-package-download

[top]

The cluster-image-package-download API downloads the specified package. This API is asynchronous and returns immediately after the download is started. The download progress can be monitored by calling cluster-image-get-download-progress ZAPI. The package-url string must be provided.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **package-url** | | string | Specifies the package URL. |

| Errno | Description |
|---|---|
| **E_CAPABILITY_NOT_CLUSTERWIDE** | |
| **E_CAPABILITY_CHECK_FAILED** | |
| **E_PACKAGE_EXISTS** | |
| **E_INVALID_URL** | |
| **E_PACKAGE_PROCESS_ERROR** | |
| **E_PRIMARY_STORE_UNAVAILABLE** | |
| **E_INSUFFICIENT_STORES** | |

## cluster-image-package-download-abort

[top]

Abort an ongoing package download operation.

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **E_PKG_DOWNLOAD_NOTRUNNING** | |

## cluster-image-package-local-get

[top]

The cluster-image-package-local-get API retrieves detailed information about a package located in the cluster image package repository.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-image-package-local-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **package-version** | | string | Package version. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **attributes** | | cluster-image-package-local-info | The attributes of the cluster-image. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## cluster-image-package-local-get-iter

[top]

Get multiple locally available package records

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-image-package-local-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-image-package-local-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-image-package-local-info[] optional | The list of attributes of cluster-image objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cluster-image objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## cluster-image-update

[top]

The cluster-image update API validates, installs prerequisite component updates, and installs Data ONTAP to all specified nodes within a cluster in a nondisruptive manner. Since validation, which is run as part of update, requires a minimum of 30 seconds, the API should be called with sufficient timeout value.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **estimate-only** | | boolean optional | Generates an estimate of the time required for the overall update operation for the specified package. No update is performed when this option is used. Default: false. |
| **force-rolling** | | boolean optional | Force a rolling upgrade on the cluster. This option is not applicable for a single-node cluster and for a two-node MetroCluster. Default: false. |
| **ignore-validation-warning** | | boolean optional | Allows the update to continue if warnings are encountered during the validation phase. Default: false. |
| **nodes** | | node-name[] optional | List of nodes to be updated, the nodes have to be a part of a HA Pair. |
| **package-version** | | string | Specifies the package version. |
| **pause-after** | | non-disruptive-update-pause-after optional | One or more pause options can be specified. Possible values: none, all. |

| | | | |
|---|---|---|---|
| **stabilize-minutes** | | integer optional | Number of minutes needed to stabilize node before update. This option is not applicable for single-node cluster. Default: 8. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **estimated-post-update-duration** | | integer optional | Estimated post-update checks duration, in seconds. Available only if estimate-only is true. |
| **estimated-pre-update-duration** | | integer optional | Estimated pre-update checks duration, in seconds. Available only if estimate-only is true. |
| **estimated-update-duration** | | integer optional | Estimated ontap updates duration, in seconds. Available only if estimate-only is true. |

| Errno | Description |
|---|---|
| **E_CAPABILITY_NOT_CLUSTERWIDE** | |
| **E_CAPABILITY_CHECK_FAILED** | |
| **E_UPDATE_IN_PROGRESS** | |
| **E_INVALID_HA_PAIR_LIST** | |
| **E_VALIDATION_CHECKS_FAILED_WITH_WARNING** | |
| **E_VALIDATION_CHECKS_FAILED_WITH_ERROR** | |
| **EINTERNALERROR** | |
| **E_DOUBLE_HOP_NODES_UNSUPPORTED** | |

## cluster-image-update-cancel

[top]

The cluster-image-update-cancel API cancels a package update that is currently in progress. The update will stop and be canceled at the end of the current logical operation. Logical operations are: - After the cluster validation, or prerequisite update phase - After the update of each HA pair - Immediately, if the update is currently paused After the successful completion of this command the update will be removed from the package update queue. The cancellation will be logged in the update history.

| Errno | Description |
|---|---|
| **E_UPDATE_NOT_IN_PROGRESS** | |
| **E_CANCEL_NOT_POSSIBLE** | |

## cluster-image-update-history-get-iter

[top]

Get multiple update history records.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-update-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-update-history-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-update-history-info[] optional | The list of attributes of cluster-image objects. |

| | | | |
|---|---|---|---|
| **next-tag** | | string<br>optional | Tag for the next call. Not present when there are no more cluster-image objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## cluster-image-update-log-get-iter

[top]

Get multiple update logs

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-update-transaction-log-info<br>optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer<br>optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-update-transaction-log-info<br>optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned. |
| **tag** | | string<br>optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-update-transaction-log-info[]<br>optional | The list of attributes of cluster-image objects. |
| **next-tag** | | string<br>optional | Tag for the next call. Not present when there are no more cluster-image objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## cluster-image-update-pause

[top]

The cluster-image-update-pause API pauses an update that is in progress. The update will pause at the end of the current logical operation. Logical operations include: - After the cluster validation, or prerequisite update phase - After the update of each node After the successful completion of this command the currently running update will be paused at the end of the current logical operation.

| Errno | Description |
|---|---|
| **E_UPDATE_NOT_IN_PROGRESS** | |
| **E_PAUSE_NOT_POSSIBLE** | |

## cluster-image-update-progress-get-iter

[top]

This API provides the status of all phases of update that is in progress.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-image-ndu-phase-list-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-image-ndu-phase-list-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-image object. All cluster-image objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-image-ndu-phase-list-info[] optional | The list of attributes of cluster-image objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cluster-image objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## cluster-image-update-progress-info

[top]

Get information on cluster image update progress

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ndu-progress-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ndu-progress-info | The attributes of the cluster-image. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## cluster-image-update-resume

[top]

The cluster-image-update-resume API resumes a package update that is currently paused. If the update is not in the paused state the API call will fail. After the successful completion of this command the current paused update will resume from the last successful operation completed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ignore-post-update-checks-failures** | | boolean optional | Ignore post-update-check phase failures, if any. Default: false. |
| **skip-firmware-update-checks** | | boolean optional | Skip Firmware Update Status Checks. Default: false. |

| Errno | Description |
|---|---|
| E_UPDATE_NOT_IN_PROGRESS | |
| E_RESUME_NOT_POSSIBLE | |
| E_PUC_NOT_IN_PROGRESS | |

## cluster-image-validate

[top]

The cluster-image-validate API validates the various logical and physical components of a cluster to ensure that a nondisruptive update can occur. Since validation requires a minimum of 30 seconds, the API should be called with sufficient timeout value.

| Input Name | Range | Type | Description |
|---|---|---|---|
| nodes | | node-name[] optional | Nodes |
| package-version | | string | Specifies the package version. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| cluster-image-validation-report-list | | cluster-image-validation-report-list-info[] optional | Lists the status and required actions for each NDU check involved in the update process. |

| Errno | Description |
|---|---|
| E_VERSION_NOT_SUPPORTED | |
| E_CAPABILITY_NOT_CLUSTERWIDE | |
| E_CAPABILITY_CHECK_FAILED | |
| E_VALIDATION_IN_PROGRESS | |
| E_PACKAGE_DELETE_IN_PROGRESS | |
| E_IMAGES_UNAVAILABLE | |
| E_MISSING_PARTNER_ERROR | |
| E_UPDATE_IN_PROGRESS | |

# Element definition: **cluster-image-download-status**

[top]

async_pkg_get_phase_failed|async_pkg_get_phase_running|async_pkg_get_phase_timedout|async_pkg_get_phase_notstarted|async_pkg_get_phase_complete|async_pkg_get_phase_aborted
Possible values:

- "async_pkg_get_phase_failed" - Download Failed,
- "async_pkg_get_phase_running" - Download in Progress,
- "async_pkg_get_phase_timedout" - Download Timedout,
- "async_pkg_get_phase_notstarted" - Download not started or no download in progress,
- "async_pkg_get_phase_complete" - Download Successful,
- "async_pkg_get_phase_aborted" - Download Aborted

[none]

# Element definition: **cluster-image-info**

[top]

Information to manage cluster images for Non disruptive-update. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with

no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **current-version** | | string optional | Current Version Attributes: non-creatable, non-modifiable |
| **date-installed** | | datetime optional | Date Installed Attributes: non-creatable, non-modifiable |
| **node-id** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |

## Element definition: **cluster-image-ndu-phase-list-info**

[top]

Status and required recovery action for each phase of update process When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **duration** | | string optional | The estimated duration for phases not completed and actual duration for those completed in seconds. Attributes: non-creatable, non-modifiable |
| **ndu-phase** | | non-disruptive-update-phase optional | Update phase Attributes: key, non-creatable, non-modifiable Possible values:<br>• "validation" - NDU validation phase,<br>• "prereq_updates" - NDU prerequisite phase,<br>• "ontap_updates" - Data ONTAP update phase,<br>• "package_management" - Package management operations phase,<br>• "default_phase" - Default Phase,<br>• "post_update_checks" - Post update checks phase |
| **phase-comments** | | string optional | If an error has occurred the required recovery action. If the phase is completed the duration of the phase will be provided. Attributes: non-creatable, non-modifiable |
| **phase-status** | | non-disruptive-update-status optional | Phase status Attributes: non-creatable, non-modifiable Possible values:<br>• "in_progress" - Upgrade phase is in progress,<br>• "waiting" - Upgrade phase is waiting,<br>• "paused_by_user" - Upgrade phase paused by user,<br>• "paused_on_error" - Upgrade phase paused due to error,<br>• "completed" - Upgrade phase completed,<br>• "canceled" - Upgrade phase canceled,<br>• "failed" - Upgrade phase failed,<br>• "pause_pending" - Upgrade phase pause pending,<br>• "cancel_pending" - Upgrade phase cancel pending |

## Element definition: **cluster-image-package-local-info**

[top]

Detailed information on the local package When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **package-build-time** | | datetime optional | Package build time. Attributes: non-creatable, non-modifiable |
| **package-details** | | package-details-info[] optional | Lists detailed on the local packages located in the cluster image package repository |
| **package-version** | | string optional | Package version. Attributes: key, non-creatable, non-modifiable |

## Element definition: **cluster-image-validation-report-list-info**

[top]

Lists the status and required actions for each NDU check involved in the update process. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ndu-check** | | string optional | Type of NDU check Attributes: key, non-creatable, non-modifiable |
| **ndu-status** | | string optional | Phase status Possible values: ok failed warning Attributes: non-creatable, non-modifiable |
| **required-action** | | required-action-info optional | If the NDU check failed or warned. Provides detailed information on how to recover from the infraction, or in case of a warning list side effects of performing update |

## Element definition: **cluster-update-history-info**

[top]

Detailed report for each update When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **completion-time** | | datetime optional | Date and time update completed. Attributes: non-creatable, non-modifiable |
| **component-id** | | string optional | Component ID Attributes: key, non-creatable, non-modifiable |
| **component-name** | | string optional | Component name Attributes: non-creatable, non-modifiable |
| **package-version** | | string optional | Installed package version. Attributes: non-creatable, non-modifiable |
| **previous-version** | | string optional | Previous version of firmware or software Attributes: non-creatable, non-modifiable |
| **start-time** | | datetime optional | Date and time update started. Attributes: key, non-creatable, non-modifiable |
| **update-status** | | non-disruptive-update-history-status optional | Update status. Attributes: non-creatable, non-modifiable Possible values:<br>• "successful" - Update completed successfully,<br>• "canceled" - Update was canceled,<br>• "back_out" - A back-out occurred do to a unrecoverable error |

| | | | |
|---|---|---|---|
| **updated-version** | | string<br>optional | Updated version of firmware or software Attributes: non-creatable, non-modifiable |

## Element definition: **cluster-update-transaction-log-info**

[top]

Detailed report for each update transaction When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **component-id** | | node-name<br>optional | Component ID. Attributes: key, non-creatable, non-modifiable |
| **detailed-transaction-status** | | string<br>optional | Includes sub-transaction name and detailed status Attributes: non-creatable, non-modifiable |
| **start-date-time** | | datetime<br>optional | Date and time update started Attributes: non-creatable, non-modifiable |
| **transaction-id** | [0..2^64-1] | integer<br>optional | Unique transaction ID. Attributes: key, non-creatable, non-modifiable |
| **transaction-name** | | non-disruptive-update-task-name<br>optional | Transaction name. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "initialize" - Initialization,<br>• "mount_image" - Mount an image,<br>• "restart_hm" - Restart Health Monitor,<br>• "get_health" - Obtain System Health,<br>• "run_scripts" - Run validation sctipts,<br>• "unmount_image" - Unmount image,<br>• "clear_alert" - Clear Alerts,<br>• "post_restart_hm" - Post validation restart Health Monitor,<br>• "cleanup_rdb" - Removes all rows for a given phase,<br>• "synch_image" - Synchronize Secondary Store with Primary,<br>• "process_package" - Process the package retrieved from external source,<br>• "cleanup_package" - Removes the packages not currently in the image table,<br>• "do_download_job" - Downloads the image to the boot device,<br>• "do_failover_job" - Do the takeover,<br>• "do_giveback_job" - Do the giveback,<br>• "check_progress" - Check the progress of any running tasks,<br>• "complete_validation" - Generate the final validation report,<br>• "invalid_task" - Used by state machine when a valid task cannot be found,<br>• "default_task" - Default Task,<br>• "do_postupdate_checks_job" - Do the post update checks,<br>• "do_disruptive_update_task" - Do disruptive update of node |
| **transaction-phase** | | non-disruptive-update-phase<br>optional | Transaction phase Attributes: key, non-creatable, non-modifiable Possible values:<br>• "validation" - NDU validation phase,<br>• "prereq_updates" - NDU prerequisite phase,<br>• "ontap_updates" - Data ONTAP update phase,<br>• "package_management" - Package management operations phase,<br>• "default_phase" - Default Phase,<br>• "post_update_checks" - Post update checks phase |
| **transaction-status** | | non-disruptive-update-log-status | Update status Attributes: non-creatable, non-modifiable Possible values:<br>• "waiting" - Transaction is waiting,<br>• "started" - Transaction was started,<br>• "completed" - Transaction has completed,<br>• "paused_on_error" - Transaction has been paused due to an error, |

| | | | |
|---|---|---|---|
| | | optional | • "paused_by_user" - Transaction has been paused by user,<br>• "pause_pending" - Transaction has a pending pause request,<br>• "cancel_pending" - Transaction has a pending cancel request,<br>• "canceled" - Transaction has been canceled by user,<br>• "failed" - Transaction has failed |

## Element definition: **metrocluster-ndu-progress-info**

[top]

Nondisruptive Update Progress Info of MetroCluster When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **completed-node-count** | **[0..2^32-1]** | integer<br>optional | Number of Completed Nodes Attributes: non-creatable, non-modifiable |
| **dr-validation-reports** | | dr-validation-report-info[]<br>optional | DR cluster Validation Report Info |
| **intermediate-version** | | string<br>optional | The intermediate-version for two-stage upgrade. Attributes: non-creatable, non-modifiable |
| **is-two-stage-upgrade** | | boolean<br>optional | If upgrade is two-stage. Attributes: non-creatable, non-modifiable |
| **is-validation-done-by-update** | | boolean<br>optional | Is the validation done as part of update operation. Attributes: non-creatable, non-modifiable |
| **metrocluster** | | cluster-image-metrocluster-info<br>optional | MetroCluster Information |
| **ndu-node-update-list** | | ndu-node-update-info[]<br>optional | Nondisruptive Update Progress Info of Node |
| **node-estimated-duration** | **[0..2^32-1]** | integer<br>optional | Estimated amount of time, in seconds, required for the update of a node. Attributes: non-creatable, non-modifiable |
| **overall-elapsed-duration** | **[0..2^32-1]** | integer<br>optional | Overall elapsed amount of time, in seconds, used for the update. Attributes: non-creatable, non-modifiable |
| **overall-estimated-duration** | **[0..2^32-1]** | integer<br>optional | Overall estimated amount of time, in seconds, required for the update. Attributes: non-creatable, non-modifiable |
| **overall-status** | | string<br>optional | Status of overall update. Attributes: non-creatable, non-modifiable Possible values:<br>• "in_progress" - Upgrade phase is in progress,<br>• "waiting" - Upgrade phase is waiting,<br>• "paused_by_user" - Upgrade phase paused by user,<br>• "paused_on_error" - Upgrade phase paused due to error,<br>• "completed" - Upgrade phase completed,<br>• "canceled" - Upgrade phase canceled,<br>• "failed" - Upgrade phase failed,<br>• "pause_pending" - Upgrade phase pause pending,<br>• "cancel_pending" - Upgrade phase cancel pending |
| **package-version** | | string<br>optional | The package version. Attributes: non-creatable, non-modifiable |
| **paused-node-count** | **[0..2^32-1]** | integer<br>optional | Number of Paused Nodes Attributes: non-creatable, non-modifiable |
| **phase-comments** | | phase-comment-info<br>optional | Overall comment info |
| | | string | |

| | | | |
|---|---|---|---|
| **progress-detail** | | optional | Failure details Attributes: non-creatable, non-modifiable |
| **progress-summary** | | string optional | Progress info Attributes: non-creatable, non-modifiable |
| **source-version** | | string optional | The source version for two-stage upgrade. Attributes: non-creatable, non-modifiable |
| **target-version** | | string optional | The target version for two-stage upgrade. Attributes: non-creatable, non-modifiable |
| **total-node-count** | **[0..2^32-1]** | integer optional | Number of Nodes Attributes: non-creatable, non-modifiable |
| **upgrade-stage** | **[1..2]** | integer optional | Stage of upgrade (1: First stage - source-version to intermediate-version, 2: Second stage - intermediate-version to target-version). Attributes: non-creatable, non-modifiable |
| **validation-reports** | | validation-report-info[] optional | Local cluster Validation Report Info |

## Element definition: **ndu-progress-info**

[top]

Nondisruptive Update Progress Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **completed-node-count** | **[0..2^32-1]** | integer optional | Number of nodes that have completed update. Attributes: non-creatable, non-modifiable |
| **intermediate-version** | | string optional | The intermediate-version for two-stage upgrade. Attributes: non-creatable, non-modifiable |
| **is-two-stage-upgrade** | | boolean optional | If upgrade is two-stage. Attributes: non-creatable, non-modifiable |
| **is-validation-done-by-update** | | boolean optional | Is the validation done as part of update operation. Attributes: non-creatable, non-modifiable |
| **ndu-node-update-list** | | ndu-node-update-info[] optional | Nondisruptive Update Progress Info of a Node |
| **node-estimated-duration** | **[0..2^32-1]** | integer optional | Estimated amount of time, in seconds, required for the update of a node. Attributes: non-creatable, non-modifiable |
| **overall-elapsed-duration** | **[0..2^32-1]** | integer optional | Overall elapsed amount of time, in seconds, used for the update. Attributes: non-creatable, non-modifiable |
| **overall-estimated-duration** | **[0..2^32-1]** | integer optional | Overall estimated amount of time, in seconds, required for the update. Attributes: non-creatable, non-modifiable |
| **overall-status** | | non-disruptive-update-status optional | Status of overall update. Attributes: non-creatable, non-modifiable Possible values:<br>• "in_progress" - Upgrade phase is in progress,<br>• "waiting" - Upgrade phase is waiting,<br>• "paused_by_user" - Upgrade phase paused by user,<br>• "paused_on_error" - Upgrade phase paused due to error,<br>• "completed" - Upgrade phase completed,<br>• "canceled" - Upgrade phase canceled,<br>• "failed" - Upgrade phase failed,<br>• "pause_pending" - Upgrade phase pause pending,<br>• "cancel_pending" - Upgrade phase cancel pending |
| **package-version** | | string optional | The package version. Attributes: non-creatable, non-modifiable |
| **paused-node-count** | **[0..2^32-1]** | integer optional | Number of nodes that have paused during update. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **phase-comments** | | phase-comment-info optional | Overall comment info |
| **source-version** | | string optional | The source version for two-stage upgrade. Attributes: non-creatable, non-modifiable |
| **target-version** | | string optional | The target version for two-stage upgrade. Attributes: non-creatable, non-modifiable |
| **total-node-count** | **[0..2^32-1]** | integer optional | Number of nodes participating in update operation. Attributes: non-creatable, non-modifiable |
| **upgrade-stage** | **[1..2]** | integer optional | Stage of upgrade (1: First stage - source-version to intermediate-version, 2: Second stage - intermediate-version to target-version). Attributes: non-creatable, non-modifiable |
| **validation-reports** | | validation-report-info[] optional | Validation Report Info |

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **node-update-progress-info**

[top]

Node Update progress details When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string optional | Node name. Attributes: key, non-creatable, non-modifiable |
| **node-update-task-info-list** | | node-update-task-info[] optional | Node task info |

## Element definition: **non-disruptive-update-pause-after**

[top]

none|takeover-giveback|all Possible values:

- "none" - Default: No pause,
- "takeover_giveback" - Pause after takeover or giveback tasks,
- "all" - Pause after all phases

[none]

## Element definition: **phase-info**

[top]

Upgrade or revert procedure can have planning, preparing, update and post-update phases. Each phase will have the phase details and list of steps.

| Name | Range | Type | Description |
|---|---|---|---|
| **phase-detail** | | string optional | Phase details. |
| **phase-head** | | string optional | Phase heading. |
| **phase-notes** | | string optional | Phase notes. |
| **step-info-list** | | step-info[] optional | List of steps in the respective phase. |

## Element definition: **cluster-image-metrocluster-info**

[top]

MetroCluster Configuration Information

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster-elapsed-duration** | **[0..2^32-1]** | integer optional | Elapsed amount of time, in seconds, used for the update in local cluster. Attributes: non-creatable, non-modifiable |
| **cluster-estimated-duration** | **[0..2^32-1]** | integer optional | Estimated amount of time, in seconds, required for the update in local cluster. Attributes: non-creatable, non-modifiable |
| **cluster-name** | | string optional | Name of the local cluster. Attributes: non-creatable, non-modifiable |
| **cluster-status** | | string optional | Status of the local cluster. Attributes: non-creatable, non-modifiable Possible values:<br>• "in_progress" - Upgrade phase is in progress,<br>• "waiting" - Upgrade phase is waiting,<br>• "paused_by_user" - Upgrade phase paused by user,<br>• "paused_on_error" - Upgrade phase paused due to error,<br>• "completed" - Upgrade phase completed,<br>• "canceled" - Upgrade phase canceled,<br>• "failed" - Upgrade phase failed,<br>• "pause_pending" - Upgrade phase pause pending,<br>• "cancel_pending" - Upgrade phase cancel pending |
| **dr-cluster-elapsed-duration** | **[0..2^32-1]** | integer optional | Elapsed amount of time, in seconds, used for the update in DR cluster. Attributes: non-creatable, non-modifiable |
| **dr-cluster-estimated-duration** | **[0..2^32-1]** | integer optional | Estimated amount of time, in seconds, required for the update in DR cluster. Attributes: non-creatable, non-modifiable |
| **dr-cluster-name** | | string optional | Name of the DR cluster. Attributes: non-creatable, non-modifiable |
| **dr-cluster-status** | | string optional | Status of the DR cluster. Attributes: non-creatable, non-modifiable Possible values:<br>• "in_progress" - Upgrade phase is in progress,<br>• "waiting" - Upgrade phase is waiting,<br>• "paused_by_user" - Upgrade phase paused by user,<br>• "paused_on_error" - Upgrade phase paused due to error,<br>• "completed" - Upgrade phase completed,<br>• "canceled" - Upgrade phase canceled,<br>• "failed" - Upgrade phase failed,<br>• "pause_pending" - Upgrade phase pause pending,<br>• "cancel_pending" - Upgrade phase cancel pending |

## Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

## Element definition: **dr-validation-report-info**

[top]

DR Validation Info

| Name | Range | Type | Description |
|---|---|---|---|
| **dr-update-check-action** | | string optional | DR cluster recovery action for error. Attributes: non-creatable, non-modifiable |
| **dr-update-check-advice** | | string optional | DR cluster advice for handling the error. Attributes: non-creatable, non-modifiable |
| **dr-update-check-error** | | string optional | DR cluster error details. Attributes: non-creatable, non-modifiable |
| **dr-update-check-name** | | string optional | DR cluster update check Attributes: non-creatable, non-modifiable |
| **dr-update-check-status** | | string optional | DR cluster update check status possible values: ok failed warning Attributes: non-creatable, non-modifiable |

## Element definition: **ndu-node-update-info**

[top]

Nondisruptive Update Progress Info of Node

| Name | Range | Type | Description |
|---|---|---|---|
| **dr-node-elapsed-duration** | | timeticks optional | Elapsed Update Duration of a DR Node Attributes: non-creatable, non-modifiable |
| **dr-node-name** | | node-name optional | DR Node Name Attributes: non-creatable, non-modifiable |
| **dr-node-status** | | non-disruptive-update-status optional | DR Node Status Attributes: non-creatable, non-modifiable Possible values:<br>• "in_progress" - Upgrade phase is in progress,<br>• "waiting" - Upgrade phase is waiting,<br>• "paused_by_user" - Upgrade phase paused by user,<br>• "paused_on_error" - Upgrade phase paused due to error,<br>• "completed" - Upgrade phase completed,<br>• "canceled" - Upgrade phase canceled,<br>• "failed" - Upgrade phase failed,<br>• "pause_pending" - Upgrade phase pause pending,<br>• "cancel_pending" - Upgrade phase cancel pending |
| **node-elapsed-duration** | | timeticks optional | Elapsed amount of time, in seconds, used for the update of a node. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | Node Name Attributes: non-creatable, non-modifiable |
| **node-status** | | non-disruptive-update-status optional | Node Status Attributes: non-creatable, non-modifiable Possible values:<br>• "in_progress" - Upgrade phase is in progress,<br>• "waiting" - Upgrade phase is waiting,<br>• "paused_by_user" - Upgrade phase paused by user,<br>• "paused_on_error" - Upgrade phase paused due to error,<br>• "completed" - Upgrade phase completed,<br>• "canceled" - Upgrade phase canceled,<br>• "failed" - Upgrade phase failed,<br>• "pause_pending" - Upgrade phase pause pending,<br>• "cancel_pending" - Upgrade phase cancel pending |

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **node-update-task-info**

[top]

Node task info

| Name | Range | Type | Description |
|---|---|---|---|
| **task-comments** | | string<br>optional | Summary of task operation. Attributes: non-creatable, non-modifiable |
| **task-end-time** | | datetime<br>optional | Time at which the task completed. This is expressed in seconds since the Epoch. Attributes: non-creatable, non-modifiable |
| **task-name** | | string<br>optional | Name of the task. Attributes: non-creatable, non-modifiable |
| **task-start-time** | | datetime<br>optional | Time at which the task started. This is expressed in seconds since the Epoch. Attributes: non-creatable, non-modifiable |
| **task-status** | | non-disruptive-update-task-status<br>optional | Status of the associated task-name. Attributes: non-creatable, non-modifiable Possible values:<br>• "created" - Task has been created,<br>• "ready_to_run" - Task ready to run,<br>• "running" - Task has started and is running,<br>• "completed" - Task is completed,<br>• "failed" - Task failed to complete,<br>• "pause_req" - Request for task to be paused,<br>• "paused" - Task is paused,<br>• "paused_error" - Task is paused because of an error,<br>• "cancel_req" - Request for task to be cancelled,<br>• "canceled" - Task is canceled,<br>• "resume_req" - Request for paused task to be resumed,<br>• "default_status" - Defaiult Status,<br>• "abort_req" - Request for task to be aborted |

## Element definition: **non-disruptive-update-history-status**

[top]

successful|canceled|back-out Possible values:

- "successful" - Update completed successfully,
- "canceled" - Update was canceled,
- "back_out" - A back-out occurred do to a unrecoverable error

[none]

## Element definition: **non-disruptive-update-log-status**

[top]

waiting|started|completed|paused-on-error|paused-by-user|pause-pending|cancel-pending|canceled|failed Possible values:

- "waiting" - Transaction is waiting,

- "started" - Transaction was started,
- "completed" - Transaction has completed,
- "paused_on_error" - Transaction has been paused due to an error,
- "paused_by_user" - Transaction has been paused by user,
- "pause_pending" - Transaction has a pending pause request,
- "cancel_pending" - Transaction has a pending cancel request,
- "canceled" - Transaction has been canceled by user,
- "failed" - Transaction has failed

[none]

## Element definition: **non-disruptive-update-phase**

[top]

validation|prereq-updates|ontap-updates|package-management|default-phase|post-update-checks Possible values:

- "validation" - NDU validation phase,
- "prereq_updates" - NDU prerequisite phase,
- "ontap_updates" - Data ONTAP update phase,
- "package_management" - Package management operations phase,
- "default_phase" - Default Phase,
- "post_update_checks" - Post update checks phase

[none]

## Element definition: **non-disruptive-update-status**

[top]

in-progress|waiting|paused-by-user|paused-on-error|completed|canceled|failed|pause-pending|cancel-pending Possible values:

- "in_progress" - Upgrade phase is in progress,
- "waiting" - Upgrade phase is waiting,
- "paused_by_user" - Upgrade phase paused by user,
- "paused_on_error" - Upgrade phase paused due to error,
- "completed" - Upgrade phase completed,
- "canceled" - Upgrade phase canceled,
- "failed" - Upgrade phase failed,
- "pause_pending" - Upgrade phase pause pending,
- "cancel_pending" - Upgrade phase cancel pending

[none]

## Element definition: **non-disruptive-update-task-name**

[top]

initialize|mount-image|restart-hm|get-health|run-scripts|unmount-image|clear-alert|post-restart-hm|cleanup-rd|synch-image|do-download-job|do-failover-job|do-giveback-job|check-progress|complete-validation|invalid-task|default-task|do-postupdate-checks-task Possible values:

- "initialize" - Initialization,
- "mount_image" - Mount an image,
- "restart_hm" - Restart Health Monitor,
- "get_health" - Obtain System Health,
- "run_scripts" - Run validation sctipts,
- "unmount_image" - Unmount image,
- "clear_alert" - Clear Alerts,
- "post_restart_hm" - Post validation restart Health Monitor,
- "cleanup_rdb" - Removes all rows for a given phase,

- "synch_image" - Synchronize Secondary Store with Primary,
- "process_package" - Process the package retrieved from external source,
- "cleanup_package" - Removes the packages not currently in the image table,
- "do_download_job" - Downloads the image to the boot device,
- "do_failover_job" - Do the takeover,
- "do_giveback_job" - Do the giveback,
- "check_progress" - Check the progress of any running tasks,
- "complete_validation" - Generate the final validation report,
- "invalid_task" - Used by state machine when a valid task cannot be found,
- "default_task" - Default Task,
- "do_postupdate_checks_job" - Do the post update checks,
- "do_disruptive_update_task" - Do disruptive update of node

[none]

## Element definition: **package-details-info**

[top]

Lists detailed on the local packages located in the cluster image package repository

| Name | Range | Type | Description |
|---|---|---|---|
| **component-name** | | string optional | Name of the given component. Attributes: non-creatable, non-modifiable |
| **component-version** | | string optional | The software version number of the given component. Attributes: non-creatable, non-modifiable |

## Element definition: **phase-comment-info**

[top]

Overall comment

| Name | Range | Type | Description |
|---|---|---|---|
| **post-update-checks-phase-comments** | | string optional | Post Update Check Phase Comments Attributes: non-creatable, non-modifiable |
| **update-phase-comments** | | string optional | Summary of update operation. Attributes: non-creatable, non-modifiable |
| **validation-phase-comments** | | string optional | Summary of validation operation. Attributes: non-creatable, non-modifiable |

## Element definition: **required-action-info**

[top]

If the NDU check failed or warned. Provides detailed information on how to recover from the infraction, or in case of a warning list side effects of performing update

| Name | Range | Type | Description |
|---|---|---|---|
| **action** | | string optional | Recovery action for error. Attributes: non-creatable, non-modifiable |
| **advice** | | string optional | Advice for handling the error. Attributes: non-creatable, non-modifiable |
| **error** | | string optional | Error description. Attributes: non-creatable, non-modifiable |

## Element definition: **step-info**

[top]

A prepare step, upgrade/revert step or post upgrade step based on the phase.

| Name | Range | Type | Description |
|---|---|---|---|
| **step-command** | | string optional | A CLI command associated with the step. |
| **step-detail** | | string optional | Step details. |
| **step-example** | | string optional | An example associated with the step. |
| **step-name** | | string optional | Step heading or name. |
| **step-notes** | | string optional | Any notes associated with the step. |

## Element definition: **validation-report-info**

[top]

Validation Info

| Name | Range | Type | Description |
|---|---|---|---|
| **update-check-action** | | string optional | Local cluster recovery action for error. Attributes: non-creatable, non-modifiable |
| **update-check-advice** | | string optional | Local cluster advice for handling the error. Attributes: non-creatable, non-modifiable |
| **update-check-error** | | string optional | Local cluster error details. Attributes: non-creatable, non-modifiable |
| **update-check-name** | | string optional | Local cluster update check Attributes: non-creatable, non-modifiable |
| **update-check-status** | | string optional | Local cluster update check status possible values: ok failed warning Attributes: non-creatable, non-modifiable |

## Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

## Element definition: **non-disruptive-update-task-status**

[top]

created|ready-to-run|running|completed|failed|pause_req|paused|paused-error|cancel_req|canceled|resume_req|default_status Possible values:

- "created" - Task has been created,
- "ready_to_run" - Task ready to run,
- "running" - Task has started and is running,
- "completed" - Task is completed,
- "failed" - Task failed to complete,
- "pause_req" - Request for task to be paused,
- "paused" - Task is paused,
- "paused_error" - Task is paused because of an error,
- "cancel_req" - Request for task to be cancelled,

"canceled" - Task is canceled,
- "resume_req" - Request for paused task to be resumed,
- "default_status" - Defaiult Status,
- "abort_req" - Request for task to be aborted

[none]

## Element definition: **timeticks**

[top]

Time, in seconds Range : [0..2^32-1].

[none]

# APIs in Category: **cluster-peer**


cluster-peer-authn-offer-cancel
cluster-peer-authn-offer-get
cluster-peer-authn-offer-get-iter
cluster-peer-authn-offer-modify
cluster-peer-connection-destroy
cluster-peer-connections-get
cluster-peer-connections-get-iter
cluster-peer-create
cluster-peer-delete
cluster-peer-get
cluster-peer-get-iter
cluster-peer-health-info-get
cluster-peer-health-info-get-iter
cluster-peer-modify
cluster-peer-modify-local-name
cluster-peer-ping-iter
cluster-peer-policy-get
cluster-peer-policy-modify


This set of ZAPIs allows management of cluster peer relationships. Cluster peer relationships are required to allow multiple Data ONTAP clusters to exchange data with other Data ONTAP clusters and request operations to be executed by other Data ONTAP clusters.

## cluster-peer-authn-offer-cancel

[top]

Cancel the outstanding offer to authenticate with a peer cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **peer-cluster-name** | | string | Peer Cluster Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

## cluster-peer-authn-offer-get

[top]

Return the specified peer cluster relationship authentication offer information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-peer-authn-offer optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **peer-cluster-name** | | string | Peer Cluster Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-peer-authn-offer | The attributes of the cluster-peer-authn-offer. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-peer-authn-offer-get-iter

[top]

Returns a list of cluster peer relationship authentication offers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-peer-authn-offer optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-peer-authn-offer optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer-authn-offer object. All cluster-peer-authn-offer objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-peer-authn-offer[] optional | The list of attributes of cluster-peer-authn-offer objects. |
| **next-tag** | | string | Tag for the next call. Not present when there are no more cluster- |

| | | | |
|---|---|---|---|
| | | optional | peer-authn-offer objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cluster-peer-authn-offer-modify

[top]

Modifies the cluster peer relationship authentication offer, as created by the cluster-peer-create or cluster-peer-modify APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initial-allowed-vserver-peers** | | vserver-name[] optional | Vservers Initially Allowed for Peering |
| **offer-expiration** | | expiration optional | The expiration time of the authentication offer. |
| **peer-cluster-name** | | string | The name of the peer cluster to modify. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-peer-connection-destroy

[top]

Terminate a current peering connection

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection-type** | | cluster-peer-connection-type | The type of connection for cluster peering. |
| **file-descriptor** | **[0..2^64-1]** | integer | The index value for the connection. |
| **node-name** | | node-name | The name of the node that has the connections involved. |
| **peer-cluster-name** | | string | The name of the peer cluster. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-peer-connections-get

[top]

Return information about the specified connection to the specified cluster peer

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection-type** | | cluster-peer-connection-type | The type of connection for cluster peering. |
| **desired-attributes** | | cluster-peer-connections optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **file-descriptor** | **[0..2^64-1]** | integer | The index value for the connection. |
| **node-name** | | node-name | The name of the node that has the connections involved. |
| **peer-cluster-name** | | string | The name of the peer cluster. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-peer-connections | The attributes of the cluster-peer-connections. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-peer-connections-get-iter

[top]

Returns a list of connections to cluster peers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-peer-connections optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-peer-connections optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer-connections object. All cluster-peer-connections objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-peer-connections[] optional | The list of attributes of cluster-peer-connections objects. |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cluster-peer-connections objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cluster-peer-create

[top]

Create a cluster peer relationship and, optionally, an offer to authenticate with a peer. Initiate an authenticated relationship, and an offer to authenticate with a peer, by including the passphrase parameter. Initiate an unauthenticated relationship by omitting the passphrase and, optionally, including a user-name and password.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address-family** | | cluster-peer-address-family optional | The address family (IPv4/IPv6) of the peer cluster connection. If not provided and ambiguity between IPv4 and IPv6 exists, the peer connection address family will default to IPv4. Default: ipv4 |
| **applications** | | vserver-peer-permission-application[] optional | List of peering applications for initial allowed vservers. |
| **encryption-protocol-proposed** | | cluster-peer-crypt optional | Encryption protocol to be used for inter-cluster communication. Default: tls-psk when authentication is used, otherwise none |
| **generate-passphrase** | | boolean optional | Use System-Generated passphrase |
| **initial-allowed-vserver-peers** | | vserver-name[] optional | Vservers allowed for auto peering |
| **ipspace-name** | | string optional | IPspace in which the LIFs for this relationship are to be found. Default: the Default IPspace |
| **local-name** | | cluster-name-simple optional | Local name for remote cluster. Default: Remote cluster name |
| **offer-expiration** | | expiration optional | If a passphrase is provided, the expiration time of the authentication offer. Should not be provided otherwise. Default: one hour into the future |
| **passphrase** | | string optional | The arbitrary passphrase that matches the one given to the peer cluster. |
| **password** | | string optional | The password required to authenticate with the peer cluster. This value is only used at peer creation time and not stored. |
| **peer-addresses** | | remote-inet-address[] optional | The remote intercluster addresses and hostnames of the peer cluster. |
| **rpc-connect-timeout** | | integer optional | The timeout for RPC Connect attempts to the peer cluster in seconds. Default: 10 |
| | | integer | The timeout for operations in the peer cluster in seconds. Default: |

| | | | |
|---|---|---|---|
| **timeout** | | optional | 15 |
| **update-ping-timeout** | | integer optional | The timeout used by ICMP pings while updating peer cluster information in seconds. Default: 5 |
| **user-name** | | string optional | The user name required to authenticate with the peer cluster. This value is only used at peer creation time and not stored. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **passphrase-info** | | cluster-peer-passphrase-info optional | Cluster Peer Create Passphrase Information |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAUTHENTICATION_REQUIRED_BY_POLICY** | |
| **EPEER_INTRO_FAILED** | |
| **EPEER_PROBE_FAILED** | |
| **EPEER_CONCUR_FAILED** | |
| **EPEER_INTRO_CONNECT_FAILED** | |
| **EPEER_PROBE_CONNECT_FAILED** | |
| **EPEER_CONCUR_CONNECT_FAILED** | |
| **EPEER_ADDR_MISMATCH_WITH_EXISTING** | |
| **EPEER_NO_LOCAL_VIF_FAMILY** | |
| **EPEER_CREATE_FAMILY_MISMATCH** | |
| **EPEER_PEER_ADDR_FAMILY_MISMATCH** | |
| **EPEER_VERSION_MISMATCH** | |
| **EPEER_DUPLICATE_PEER_NAME** | |
| **EPEER_INVALID_CREATE_ADDRESS_FAMILY_INTRO** | |
| **EPEER_INVALID_CREATE_ADDRESS_FAMILY** | |
| **EPEER_REMOTE_CREATE_FAMILY_MISMATCH** | |
| **EPEER_REMOTE_NO_LOCAL_VIF_FAMILY** | |
| **EPEER_INVALID_ADDRESS_FAMILY** | |
| **EPEER_REMOTE_SAME_CLUSTER_DIFFERENT_FAMILY** | |
| **EPEER_PASSPHRASE_USED_OR_EXPIRED** | |
| **EPEER_PASSPHRASE_AUTH_DELAY** | |
| **EPEER_PASSPHRASE_SUCCESS** | |
| **EPEER_MISSING_INPUT_PARAMETER** | |
| **EPEER_VSERVER_NOT_FOUND** | |
| **EPEER_EXPIRATION_EXCEEDED_MAX_LIMIT** | |
| **EPEER_PASSPHRASE_OFFER_LIMIT_MINIMUM** | |
| **EPEER_WITHOUT_IP_AND_AUTO_GEN_PASSPHRASE** | |
| **EPEER_PASSPHRASE_CAP_NOT_ENABLED** | |
| **EPEER_EXTRA_PASSPHRASE_WITH_AUTO_GENERATE_OPTION** | |
| **EPEER_PASSPHRASE_DUPLICATE_LOCAL_NAME** | |
| **EPEER_RMT_AUTO_RECIPROCAL_SUPPORT_NOT_AVAILABLE** | |
| **EPEER_ENCRYPTION_INCAPABLE_REMOTELY** | |
| **EPEER_ENCRYPTION_VETOED_REMOTELY** | |

| | |
|---|---|
| **EPEER_ENCRYPT_NOT_ENABLED_EVERYWHERE** | |
| **EPEER_NEED_AUTH_FOR_ENCR** | |
| **EPEER_POLICY_FORBIDS_UNAUTH** | |
| **EPEER_POLICY_REQUIRES_ENCRYPTION** | |

# cluster-peer-delete

[top]

Delete a cluster peer relationship as well as any an offer to authenticate with the peer cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-name** | | string | The name of the peer cluster. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-peer-get

[top]

Return the specified peer cluster relationship information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-name** | | string | The name of the peer cluster. Available in the local cluster. |
| **desired-attributes** | | cluster-peer-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-peer-info | The attributes of the cluster-peer. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-peer-get-iter

[top]

Returns a list of cluster peer relationships

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | cluster- | Specify the attributes that should be returned. If not present, all |

| | | | |
|---|---|---|---|
| **desired-attributes** | | peer-info optional | attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-peer-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer object. All cluster-peer objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-peer-info[] optional | The list of attributes of cluster-peer objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cluster-peer objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cluster-peer-health-info-get

[top]

Get the health of the specified peer node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-peer-health-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination-cluster** | | cluster-name | The name of the peer cluster. |
| **destination-node** | | peer-node-name | The name of the node in the peer cluster. |
| **originating-node** | | node-name | The name of the local node. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-peer-health-info | The attributes of the cluster-peer. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-peer-health-info-get-iter

[top]

Get the health of all local and peer nodes sequentially

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-peer-health-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-peer-health-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer object. All cluster-peer objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-peer-health-info[] optional | The list of attributes of cluster-peer objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cluster-peer objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cluster-peer-modify

[top]

Modifies a cluster peer relationship, optionally also creating an offer to authenticate with a peer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address-family** | | address-family optional | The address family of the peer-addresses of the relationship. If not specified, either the specified peer-address or the current peer-address is used to derive the address family. |
| | | cluster-peer- | |

| | | | |
|---|---|---|---|
| **auth-status-admin** | | auth-status-admin optional | The desired state of authentication for the relationship. If not specified, the desired state is not modified. |
| **cluster-name** | | string | The name of the peer cluster to modify. |
| **encryption-protocol-proposed** | | cluster-peer-crypt optional | Encryption protocol to be used for inter-cluster communication. If not specified, the encryption-protocol attribute is not modified. |
| **generate-passphrase** | | boolean optional | Use system-generated passphrase |
| **ipspace-name** | | string optional | IPspace in which the LIFs for this relationship exist. If not specified, the IPspace for the relationship is not modified. |
| **offer-expiration** | | expiration optional | For auth-status-admin 'use-authentication', the expiration time of the authentication offer. Should not be provided otherwise. |
| **passphrase** | | string optional | For auth-status-admin 'use-authentication', this must be provided as the arbitrary passphrase that matches the one given to the peer cluster. Should not be provided otherwise. |
| **peer-addresses** | | remote-inet-address[] optional | The Remote IP address or host name of the peer cluster. If not specified, the peer-addresses are not modified. |
| **rpc-connect-timeout** | | integer optional | The timeout for RPC Connect calls to the peer cluster in seconds. If not specified, the timeout is not modified. |
| **timeout** | | integer optional | The timeout for operations in the peer cluster in seconds. If not specified, the timeout is not modified. |
| **update-ping-timeout** | | integer optional | The timeout for pings to the peer cluster in seconds. If not specified, the timeout is not modified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **passphrase-info** | | cluster-peer-passphrase-info-modify optional | Cluster Peer Create Passphrase Information |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAUTHENTICATION_REQUIRED_BY_POLICY** | |
| **EPEER_INTRO_FAILED** | |
| **EPEER_PROBE_FAILED** | |
| **EPEER_CONCUR_FAILED** | |
| **EPEER_INTRO_CONNECT_FAILED** | |
| **EPEER_PROBE_CONNECT_FAILED** | |
| **EPEER_CONCUR_CONNECT_FAILED** | |
| **EPEER_MODIFY_FAMILY_MISMATCH** | |
| **EPEER_VERSION_MISMATCH** | |
| **EPEER_REMOTE_NO_LOCAL_VIF_FAMILY** | |
| **EPEER_IC_FAMILY_LIFS_NOT_FOUND** | |
| **EPEER_PASSPHRASE_MODIFY_NOT_ALLOWED** | |
| **EPEER_EXTRA_PASSPHRASE_WITH_AUTO_GENERATE_OPTION** | |
| **EPEER_ENCRYPTION_INCAPABLE_REMOTELY** | |
| **EPEER_ENCRYPTION_VETOED_REMOTELY** | |
| **EPEER_ENCRYPT_NOT_ENABLED_EVERYWHERE** | |

| | |
|---|---|
| **EPEER_NEED_AUTH_FOR_ENCR** | |
| **EPEER_POLICY_FORBIDS_UNAUTH** | |
| **EPEER_POLICY_REQUIRES_ENCRYPTION** | |
| **EPEER_CHANGING_ENCR_REQUIRES_CHANGING_AUTH** | |

# cluster-peer-modify-local-name

[top]

Modify the local name for a cluster peer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-name** | | string | The name of the peer cluster to modify. |
| **new-name** | | cluster-name-simple | The new local name for the peer cluster. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-peer-ping-iter

[top]

Ping the specified peer nodes. Ping operations take place between a node in a cluster and a node in a remote cluster. The originating node is the node which initiates the ping operation and the destination cluster and node specify the remote node which is the target of the ping.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-peer-ping-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-peer-ping-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the cluster-peer-ping object. All cluster-peer-ping objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-peer-ping-info[] optional | The list of attributes of cluster-peer-ping objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more cluster-peer-ping objects to return. |

| | | | |
|---|---|---|---|
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cluster-peer-policy-get

[top]

Return the cluster peering policy configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-peer-policy optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-peer-policy | The attributes of the cluster-peer-policy. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# cluster-peer-policy-modify

[top]

Modify the cluster peering policy configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-unauthenticated-access-permitted** | | boolean optional | Whether unauthenticated communication between cluster peers is permitted. If true, unauthenticated communication between cluster peers is permitted. |
| **is-unencrypted-access-permitted** | | boolean optional | Whether unencrypted communication between cluster peers is permitted. If true, unencrypted communication between cluster peers is permitted. |
| **passphrase-minlength** | | integer optional | Minimum length for a passphrase, integer in [0..1500]. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EPEER_POLICY_CANNOT_REQUIRE_ENCRYPTION** | |

## Element definition: **address-family** [top]

ipv4|ipv6|all Possible values:

- "ipv4" - Lookup for ipv4 addresses,
- "ipv6" - Lookup for ipv6 addresses,
- "all" - Lookup for both ipv4 and ipv6 addresses

[none]

## Element definition: **cluster-name** [top]

Name of the Peer Cluster

[none]

## Element definition: **cluster-name-simple** [top]

Name of the Cluster

[none]

## Element definition: **cluster-peer-address-family** [top]

The address family (IPv4/IPv6) of the cluster peer relationship. Possible values:

- "ipv4" ,
- "ipv6"

[none]

## Element definition: **cluster-peer-auth-status-admin** [top]

Cluster Peering Desired Authentication State

[none]

## Element definition: **cluster-peer-authn-offer** [top]

Authentication Offers to Cluster Peers. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **auth-status-admin** | | cluster-peer-auth-status-admin optional | Authentication Status Administrative Attributes: non-creatable, non-modifiable |
| **auth-status-operational** | | cluster-peer-auth-status-operational optional | Authentication Status Operational Attributes: non-creatable, non-modifiable |
| **encryption-protocol-proposed** | | cluster-peer-crypt optional | Encryption Protocol to Be Used For the Relationship Attributes: non-creatable, non-modifiable Possible values:<br>• "none" - Encryption Off,<br>• "tls_psk" - Use TLS With PSK |
| **initial-allowed-vserver-peers** | | vserver-name[] optional | Vservers Initially Allowed for Peering Attributes: non-creatable, modifiable |
| **offer-creation** | | datetime optional | Authentication Offer Creation Time Attributes: non-creatable, non-modifiable |
| **offer-expiration** | | expiration optional | Authentication Offer Expiration Time Attributes: non-creatable, modifiable |
| **peer-cluster-name** | | string optional | Peer Cluster Name Attributes: key, non-creatable, non-modifiable |
| **peer-cluster-uuid** | | uuid optional | Cluster UUID Attributes: non-creatable, non-modifiable |

# Element definition: **cluster-peer-connection-type**

[top]

Type of Connection for Cluster Peering

[none]

# Element definition: **cluster-peer-connections**

[top]

Connections Established to Cluster Peers. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | The remote network address for this connection. Attributes: non-creatable, non-modifiable |
| **auth-status-admin** | | cluster-peer-auth-status-admin optional | The desired status for the authentication of the peer relationship, according to this cluster. Attributes: non-creatable, non-modifiable |
| **auth-status-operational** | | cluster-peer-auth-status-operational optional | The actual status of the authentication interaction with the peer cluster. Attributes: non-creatable, non-modifiable |
| **authenticated** | | boolean optional | Whether the client has authenticated itself to the peer cluster on this connection. Attributes: non-creatable, non-modifiable |
| **connection-type** | | cluster-peer-connection-type optional | The type of connection for cluster peering. Attributes: key, non-creatable, non-modifiable |
| **file-descriptor** | **[0..2^64-1]** | integer optional | The index value for the connection. Attributes: key, non-creatable, non-modifiable |
| **idle-time** | | time-interval optional | The time since the most recent call, in seconds. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The name of the node that has the connections involved. Attributes: key, non-creatable, non-modifiable |
| **peer-cluster-name** | | string optional | The name of the peer cluster. Attributes: key, non-creatable, non-modifiable |
| **peer-cluster-uuid** | | uuid optional | The UUID of the peer cluster. Attributes: non-creatable, non-modifiable |
| **port** | **[0..2^32-1]** | integer optional | The Internet port to which this file descriptor provides service. Attributes: non-creatable, non-modifiable |
| **psk-algorithm** | | cluster-peer-keyalgo optional | Algorithm that produced the PSK. Attributes: non-creatable, non-modifiable Possible values:<br>• "akep2" - akep2,<br>• "jpake" - j-pake |
| **rpc-procedure** | **[0..2^32-1]** | integer optional | The number of the RPC procedure called most recently on this file descriptor. Attributes: non-creatable, non-modifiable |
| **rpc-program** | **[0..2^32-1]** | integer optional | The RPC program number to which this file descriptor provides service. Attributes: non-creatable, non-modifiable |
| **rpc-version** | **[0..2^32-1]** | integer optional | The version of the RPC program number to which this file descriptor provides service. Attributes: non-creatable, non-modifiable |
| **tls-type** | | conn-kind optional | The kind of TLS connection. Attributes: non-creatable, non-modifiable Possible values:<br>• "unk" - State unknown,<br>• "none" - No TLS,<br>• "psk" - TLS based on a Pre-Shared Key,<br>• "cert" - TLS based on a Certificate |
| **uniquifier** | **[0..2^64-1]** | integer optional | The uniquifier of the associated session. Attributes: non-creatable, non-modifiable |

# Element definition: **cluster-peer-crypt**

[top]

none|tls-psk Possible values:

- "none" - Encryption Off,
- "tls_psk" - Use TLS With PSK

[none]

# Element definition: **cluster-peer-health-info**

[top]

Cluster Peer Health Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **bypass-cache** | | boolean optional | When false, do not use cached results. Cached results may not be current, but they may be retrieved quickly. Attributes: non-creatable, non-modifiable |
| **data-ping** | | peer-ping-status optional | The status of the data ping operation. Possible values are (interface-reachable, unreachable). Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown_node" - Unknown Node,<br>• "internal_error" - Internal Error,<br>• "unreachable" - Unreachable,<br>• "session_reachable" - Session Reachable,<br>• "interface_reachable" - Interface Reachable,<br>• "address_family_mismatch" - Address Family Mismatch |
| **destination-cluster** | | cluster-name optional | The name of the peer cluster. Attributes: key, non-creatable, non-modifiable |
| **destination-cluster-uuid** | | string optional | The UUID of the peer cluster. Attributes: non-creatable, non-modifiable |
| **destination-node** | | peer-node-name optional | The name of the node in the peer cluster. Attributes: key, non-creatable, non-modifiable |
| | | peer- | The status of ICMP ping operation. Possible values are (interface-reachable, unreachable). Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown_node" - Unknown Node, |

| | | | |
|---|---|---|---|
| **icmp-ping** | | ping-status optional | • "internal_error" - Internal Error,<br>• "unreachable" - Unreachable,<br>• "session_reachable" - Session Reachable,<br>• "interface_reachable" - Interface Reachable,<br>• "address_family_mismatch" - Address Family Mismatch |
| **is-cluster-healthy** | | boolean optional | The status of peer cluster health. Attributes: non-creatable, non-modifiable |
| **is-destination-node-available** | | boolean optional | True implies that the destination node is available for intercluster communication. Attributes: non-creatable, non-modifiable |
| **is-node-healthy** | | boolean optional | The RDB health of the node. True means the node is in quorum. Attributes: non-creatable, non-modifiable |
| **last-updated** | | datetime optional | The date and time when the health information for this node was last updated. Attributes: non-creatable, non-modifiable |
| **originating-node** | | node-name optional | The name of the local node. Attributes: key, non-creatable, non-modifiable |

# Element definition: **cluster-peer-info**

[top]

Contains information about the cluster peer. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **active-addresses** | | remote-inet-address[] optional | The active IP addresses of the peer cluster. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable |
| **address-family** | | cluster-peer-address-family optional | The address family of the peer cluster connection. Attributes: non-creatable, non-modifiable Possible values:<br>• "ipv4" ,<br>• "ipv6" |
| **auth-status-admin** | | cluster-peer-auth-status-admin optional | The desired status for the authentication of the peer relationship, according to this cluster. Available in the local cluster. Attributes: non-creatable, non-modifiable |
| **auth-status-operational** | | cluster-peer-auth-status-operational optional | The actual status of the authentication interaction with the peer cluster. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **availability** | | cluster-peer-avail optional | The status of the peer cluster connection. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable Possible values:<br>• "unavailable" ,<br>• "available" ,<br>• "partial" ,<br>• "pending" ,<br>• "unidentified" |
| **cluster-name** | | string optional | The name of the peer cluster. Available in the local cluster. Attributes: key, non-creatable, non-modifiable |
| **cluster-uuid** | | string optional | The UUID of the peer cluster. Available in the local cluster. Attributes: non-creatable, non-modifiable |
| **encryption-protocol** | | cluster-peer-crypt optional | Encryption used in the communication for this relationship. Available in the local cluster. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" - Encryption Off,<br>• "tls_psk" - Use TLS With PSK |
| **encryption-protocol-proposed** | | cluster-peer-crypt optional | Proposed encryption for inter-cluster communication. Default: tls-psk if authentication is used, otherwise none Available in the local cluster. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" - Encryption Off,<br>• "tls_psk" - Use TLS With PSK |
| **ipspace-name** | | string optional | IPspace in which the LIFs for this relationship are to be found. Default: The Default IPspace Available in the local cluster. Attributes: non-creatable, non-modifiable |
| **is-cluster-healthy** | | boolean optional | The status of peer cluster health. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable |
| **last-updated** | | datetime optional | The last time that an attempt was made to contact this cluster and its status information was updated. Attributes: non-creatable, non-modifiable |
| **peer-addresses** | | remote-inet-address[] optional | The remote IP address or host name of the peer cluster. Available in the local cluster. Attributes: non-creatable, non-modifiable |
| **psk-algorithm** | | cluster-peer-keyalgo optional | Algorithm by which the pre-shared key was derived. Available in the local cluster. Attributes: non-creatable, non-modifiable Possible values:<br>• "akep2" - akep2,<br>• "jpake" - j-pake |
| **remote-cluster-name** | | string optional | The current name of the peer cluster. Fetched remotely. Generally, use the 'cluster' name instead. Attributes: non-creatable, non-modifiable |
| **remote-cluster-nodes** | | peer-node-name[] optional | The list of all the nodes in the peer cluster. Available in the local cluster. Attributes: non-creatable, non-modifiable |
| **rpc-connect-timeout** | **[5..30]** | integer optional | The timeout for RPC Connect calls to the peer cluster in seconds. Default: 10 Attributes: non-creatable, non-modifiable |
| **serial-number** | | cluster-serial-number | This is an assigned serial number of peer cluster. It is assigned at the time of cluster create. Available in the local cluster from a |

| | | | |
|---|---|---|---|
| | | optional | cache. Attributes: non-creatable, non-modifiable |
| **timeout** | **[25..180]** | integer optional | The timeout for operations in the peer cluster in seconds. Default: 15 Available in the local cluster. Attributes: non-creatable, non-modifiable |
| **unreachable-local-nodes** | | peer-node-name[] optional | List of local nodes not contactable from the node on which the command is executed. Available in the local cluster from a cache. Attributes: non-creatable, non-modifiable |
| **update-ping-timeout** | **[1..10]** | integer optional | The timeout for pings to the peer cluster in seconds. Default: 5 Attributes: non-creatable, non-modifiable |

# Element definition: **cluster-peer-passphrase-info**

[top]

Cluster Peer Create Passphrase Information

| Name | Range | Type | Description |
|---|---|---|---|
| **authentication** | | cluster-peer-auth-status-operational optional | Authentication Status Administrative Attributes: non-creatable, non-modifiable |
| **availability** | | cluster-peer-avail optional | Availability of the Remote Cluster Attributes: non-creatable, non-modifiable Possible values:<br>• "unavailable" ,<br>• "available" ,<br>• "partial" ,<br>• "pending" ,<br>• "unidentified" |
| **cluster** | | string optional | Peer Cluster Name Attributes: non-creatable, non-modifiable |
| **initial-allowed-vserver-peers** | | vserver-name[] optional | Vservers allowed for auto peering Attributes: optional-for-create, non-modifiable |
| **ip-address** | | remote-inet-address optional | Intercluster LIF IP Address Attributes: non-creatable, non-modifiable |
| **ipspace** | | string optional | IPspace in which the LIFs for this relationship are to be found. Default: the Default IPspace Attributes: optional-for-create, non-modifiable |
| **offer-expiration** | | expiration optional | If a passphrase is provided, the expiration time of the authentication offer. Should not be provided otherwise. Default: one hour into the future Attributes: optional-for-create, non-modifiable |
| **passphrase** | | string optional | The arbitrary passphrase that matches the one given to the peer cluster. Attributes: optional-for-create, non-modifiable |
| **reciprocal-status** | | cluster-peer-status | Reciprocal Peering Status Attributes: non-creatable, non-modifiable Possible values:<br>• "non_reciprocal" - Non reciprocal peer,<br>• "reciprocal_connect_success" - Reciprocal peer connection create success,<br>• "reciprocal_connect_failure" - Reciprocal peer connection |

| | | | |
|---|---|---|---|
| | | optional | create failure,<br>• "reciprocal_passphrase_success" - Reciprocal passphrase creation success,<br>• "reciprocal_passphrase_failure" - Reciprocal passphrase creation failure |

# Element definition: **cluster-peer-passphrase-info-modify**

[top]

Cluster Peer Create Passphrase Information

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | string optional | The name of the peer cluster. Available in the local cluster. Attributes: key, required-for-create, non-modifiable |
| **ip-address** | | remote-inet-address optional | Intercluster LIF IP Address Attributes: non-creatable, non-modifiable |
| **ipspace** | | string optional | IPspace in which the LIFs for this relationship are to be found. Default: The Default IPspace Available in the local cluster. Attributes: optional-for-create, non-modifiable |
| **offer-expiration** | | expiration optional | When the offer to match passphrases will expire. Default: one hour into the future Available in the local cluster. Attributes: optional-for-create, non-modifiable |
| **passphrase** | | string optional | Authentication Passphrase Attributes: optional-for-create, non-modifiable |

# Element definition: **cluster-peer-ping-info**

[top]

Cluster Peer Ping Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[1..255]** | integer optional | The total number of times to ping. Attributes: key, non-creatable, non-modifiable |
| **current-count** | **[0..2^32-1]** | integer optional | The current ping count. Attributes: key, non-creatable, non-modifiable |
| **destination-address** | | ip-address optional | The active IP address of the node. Attributes: key, non-creatable, non-modifiable |
| **destination-cluster** | | cluster-name | The name of the destination cluster. Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| | | optional | |
| **destination-cluster-uuid** | | string optional | The UUID of the destination cluster. Attributes: non-creatable, non-modifiable |
| **destination-node** | | string optional | The name of the destination node. Attributes: key, non-creatable, non-modifiable |
| **originating-node** | | node-name optional | The name of the originating node. Attributes: key, non-creatable, non-modifiable |
| **ping-status** | | peer-ping-status optional | The status of the ping operation. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown_node" - Unknown Node,<br>• "internal_error" - Internal Error,<br>• "unreachable" - Unreachable,<br>• "session_reachable" - Session Reachable,<br>• "interface_reachable" - Interface Reachable,<br>• "address_family_mismatch" - Address Family Mismatch |
| **round-trip** | **[0..2^64-1]** | integer optional | The roundtrip response time of ping operation in microseconds. Attributes: non-creatable, non-modifiable |
| **time-to-live** | **[0..2^32-1]** | integer optional | The time to live (remaining hops). Attributes: non-creatable, non-modifiable |
| **timeout** | **[0..2^32-1]** | integer optional | The timeout to use when pinging the peer cluster in seconds. Default: 15 Attributes: non-creatable, non-modifiable |
| **type** | | peer-ping-protocol optional | The network protocol to use when performing the ping operation. Attributes: non-creatable, non-modifiable Possible values:<br>• "data" - Data Ping,<br>• "icmp" - ICMP Ping |

# Element definition: **cluster-peer-policy**

[top]

Policy Configuration of the Cluster Peer Facility. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-unauthenticated-access-permitted** | | boolean optional | Whether unauthenticated communication between cluster peers is permitted. If true, unauthenticated communication between cluster peers is permitted. Default: false Attributes: non-creatable, modifiable |
| **is-unencrypted-access-permitted** | | boolean optional | Whether unencrypted communication between cluster peers is permitted. If true, unencrypted communication between cluster peers is permitted. Default: true Attributes: non-creatable, modifiable |
| **passphrase-** | **[0..1500]** | integer | Minimum required length for a passphrase. Default: 8 |

| | | | |
|---|---|---|---|
| **minimum-length** | | optional | Attributes: non-creatable, modifiable |

## Element definition: **expiration** [top]

Expiration in MM/DD/YYYY HH:MM:SS | {1..7}days | {1..168}hours | PnDTnHnMnS | PnW

[none]

## Element definition: **node-name** [top]

The node's name

[none]

## Element definition: **peer-node-name** [top]

The name of a node in a peer cluster

[none]

## Element definition: **remote-inet-address** [top]

IPv4 Address, IPv6 Address or Host Name

[none]

## Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

## Element definition: **vserver-peer-permission-application** [top]

Intercluster application for Vserver peer permission Possible values:

- "snapmirror" - SnapMirror,
- "flexcache" - FlexCache

[none]

## Element definition: **cluster-name** [top]

Name of the Peer Cluster

[none]

## Element definition: **cluster-peer-address-family** [top]

The address family (IPv4/IPv6) of the cluster peer relationship. Possible values:

- "ipv4" ,
- "ipv6"

[none]

## Element definition: **cluster-peer-auth-status-admin** [top]

Cluster Peering Desired Authentication State

[none]

## Element definition: **cluster-peer-auth-status-operational** [top]

Cluster Peering Operational Authenticated State

The following are the possible values for the operational authentication state and their meanings.

- 'ok' - The clusters have reached agreement on a shared secret and are using it in ongoing communication (both sides use-authentication, among other attributes),
- 'absent' - The clusters agree that neither side requires authentication of the other (both sides no-authentication),
- 'pending' - This cluster has an outstanding offer to authenticate with the other cluster, but agreement has not yet been reached,
- 'expired' - This cluster's offer to authenticate with the other cluster expired before agreement was reached,
- 'revoked' - This cluster has revoked any authentication agreement (this side revoked),
- 'declined' - The other cluster has revoked our communication attempts and is declining to peer with this cluster,
- 'refused' - The other cluster actively refuses our communication attempts; perhaps its part of the peering relationship has been deleted,
- 'ok_and_offer' - The clusters agree on a shared secret and are using it. In addition, this cluster

has an outstanding offer to re-authenticate with the other cluster,
- 'absent_but_offer' - The clusters currently agree that neither side requires authentication of the other, but this cluster has an outstanding offer to authenticate,
- 'revoked_but_offer' - The cluster has revoked any authentication agreement, but it has an outstanding offer to authenticate,
- 'intent_mismatch' - The two sides disagree on whether authentication is required,
- 'key_mismatch' - The two clusters both believe that they are authenticated, but one of the shared secrets has become corrupted,
- 'incapable' - The other cluster is no longer running a version of Data ONTAP that supports authenticated cluster peering.

[none]

# Element definition: **cluster-peer-avail**

[top]

The availability of the peer cluster. Possible values:

- "unavailable" ,
- "available" ,
- "partial" ,
- "pending" ,
- "unidentified"

[none]

# Element definition: **cluster-peer-connection-type**

[top]

Type of Connection for Cluster Peering

[none]

# Element definition: **cluster-peer-crypt**

[top]

none|tls-psk Possible values:

- "none" - Encryption Off,
- "tls_psk" - Use TLS With PSK

[none]

# Element definition: **cluster-peer-keyalgo**

[top]

akep2|jpake Possible values:

- "akep2" - akep2,
- "jpake" - j-pake

[none]

## Element definition: **cluster-peer-status**

[top]

non-reciprocal|reciprocal-status Possible values:

- "non_reciprocal" - Non reciprocal peer,
- "reciprocal_connect_success" - Reciprocal peer connection create success,
- "reciprocal_connect_failure" - Reciprocal peer connection create failure,
- "reciprocal_passphrase_success" - Reciprocal passphrase creation success,
- "reciprocal_passphrase_failure" - Reciprocal passphrase creation failure

[none]

## Element definition: **cluster-serial-number**

[top]

Assigned Cluster serial-number during cluster create

[none]

## Element definition: **conn-kind**

[top]

unknown|none|PSK|Cert Possible values:

- "unk" - State unknown,
- "none" - No TLS,
- "psk" - TLS based on a Pre-Shared Key,
- "cert" - TLS based on a Certificate

[none]

## Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **peer-ping-protocol**

[top]

The network protocol to use when performing the ping operation. Possible values:

- "data" - Data Ping,
- "icmp" - ICMP Ping

[none]

# Element definition: **peer-ping-status**

[top]

The status of the ping operation. Possible values:

- "unknown_node" - Unknown Node,
- "internal_error" - Internal Error,
- "unreachable" - Unreachable,
- "session_reachable" - Session Reachable,
- "interface_reachable" - Interface Reachable,
- "address_family_mismatch" - Address Family Mismatch

[none]

# Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# APIs in Category: **cluster-switch**


cluster-switch-configure-health-monitor
cluster-switch-create
cluster-switch-delete
cluster-switch-get-iter
cluster-switch-modify
cluster-switch-poll-get
cluster-switch-poll-modify


This interface is used to access information about the Ethernet switches in the cluster.

## cluster-switch-configure-health-monitor

[top]

Ethernet switch health monitor configuration file setup

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node |
| **package-url** | | string | Package URL |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## cluster-switch-create

[top]

Add information about an Ethernet switch (cluster, management or storage).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address | IP Address |
| **community-or-username** | | string<br>optional | Community String or SNMPv3 Username |
| **device** | | string | Device Name |
| **is-monitoring-enabled-admin** | | true-false<br>optional | Enable Switch Monitoring |
| **model** | | switch-model | Model Number |
| **snmp-version** | | sm-snmpversion<br>optional | SNMP Version |
| **type** | | switch-type | Switch Network |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## cluster-switch-delete

[top]

Delete information about an Ethernet switch (cluster, management or storage).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **device** | | string | Device Name |
| **force** | | boolean optional | Force Delete |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-switch-get-iter

[top]

(cluster-swt-get-iter is now deprecated. Use cluster-switch-get-iter instead.) Display the configuration for Ethernet switch (cluster, management or storage).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-switch-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cluster-switch-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Ethernet Switch Information object. All Ethernet Switch Information objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cluster-switch-info[] optional | The list of attributes of Ethernet Switch Information objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Ethernet Switch Information objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cluster-switch-modify

[top]

Modify information about an Ethernet switch's configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | ip-address | |

| | | | |
|---|---|---|---|
| **address** | | optional | IP Address |
| **community-or-username** | | string optional | Community String or SNMPv3 Username |
| **device** | | string | Device Name |
| **is-monitoring-enabled-admin** | | true-false optional | Enable Switch Monitoring |
| **model** | | switch-model optional | Model Number |
| **snmp-version** | | sm-snmpversion optional | SNMP Version |
| **type** | | switch-type optional | Switch Network |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-switch-poll-get

[top]

Return Ethernet switch polling interval information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cluster-switch-poll-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cluster-switch-poll-info | The attributes of the Ethernet switch polling interval information. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cluster-switch-poll-modify

[top]

Modify Ethernet switch polling interval information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **polling-interval** | **[2..120]** | integer | Polling interval for monitoring Ethernet switch health. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **cluster-switch-info**

[top]

Ethernet Switch Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | IP Address Attributes: required-for-create, modifiable |
| **device** | | string optional | Device Name Attributes: key, required-for-create, non-modifiable |
| **is-monitoring-enabled-operational** | | true-false optional | Is Monitored ? Attributes: non-creatable, non-modifiable |
| **model** | | switch-model optional | Model Number Attributes: required-for-create, non-modifiable Possible values:<br>• "nx5010" - N5K-C5010P-BF,<br>• "nx5020" - N5K-C5020P-BF,<br>• "cat2960" - cisco WS-C2960-24TT-L,<br>• "other" ,<br>• "nx5596" - N5K-C5596UP,<br>• "cn1610" - CN1610,<br>• "cn1601" - CN1601,<br>• "nx3132" - N3K-C3132Q-40GX,<br>• "nx5548" - N5K-C5548UP,<br>• "nx3132v" - N3K-C3132Q-V,<br>• "ot9332" ,<br>• "nx3132xl" - N3K-C3132Q-XL,<br>• "nx3232c" - N3K-C3232C |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **reason** | | string optional | Reason For Not Monitoring Attributes: non-creatable, non-modifiable |
| **serial-number** | | string optional | Serial Number of the Device Attributes: non-creatable, non-modifiable |
| **sw-version** | | string optional | Software Version Attributes: non-creatable, non-modifiable |
| **type** | | switch-type optional | Switch Network Attributes: required-for-create, modifiable Possible values:<br>• "cluster_network" ,<br>• "management_network" ,<br>• "storage_network" |
| **version-source** | | string optional | Source Of Switch Version Attributes: non-creatable, non-modifiable |

# Element definition: **cluster-switch-poll-info**

[top]

Ethernet Switch Polling Interval Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **polling-interval** | **[2..120]** | integer optional | Polling interval for monitoring Ethernet switch health. Attributes: non-creatable, modifiable |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **sm-snmpversion**

[top]

SNMPv1|SNMPv2c|SNMPv3 Possible values:

- "snmpv1" ,
- "snmpv2c" ,
- "snmpv3"

[none]

# Element definition: **switch-model**

[top]

NX5010|NX5020|CAT2960|OTHER|NX5596|CN1610|CN1601|NX3132|NX5548|NX3132V|OT9332|NX3132XL|NX3232C Possible values:

- "nx5010" - N5K-C5010P-BF,
- "nx5020" - N5K-C5020P-BF,
- "cat2960" - cisco WS-C2960-24TT-L,
- "other" ,
- "nx5596" - N5K-C5596UP,

- "cn1610" - CN1610,
- "cn1601" - CN1601,
- "nx3132" - N3K-C3132Q-40GX,
- "nx5548" - N5K-C5548UP,
- "nx3132v" - N3K-C3132Q-V,
- "ot9332" ,
- "nx3132xl" - N3K-C3132Q-XL,
- "nx3232c" - N3K-C3232C

[none]

## Element definition: **switch-type**

[top]

cluster-network|management-network|storage-network Possible values:

- "cluster_network" ,
- "management_network" ,
- "storage_network"

[none]

## Element definition: **true-false**

[top]

True/False

[none]

# APIs in Category: **config-backup**


config-backup-copy
config-backup-create
config-backup-delete
config-backup-download
config-backup-info-get
config-backup-info-get-iter
config-backup-rename
config-backup-settings-get
config-backup-settings-modify
config-backup-settings-password-set
config-backup-upload


This set of ZAPIs allow managing configuration backups. Configuration backups are automatically created based on three job schedules. These job schedules are '8hour', 'daily' and 'weekly'. These job schedules are pre-programmed to create 'scheduled backups'. Configuring different job schedules other than the programmed ones is not supported. Scheduled backups are uploaded to remote URL destination if it is configured. This set of ZAPIs support configuring the remote destination by specifying URL, username and password. Scheduled backups will be distributed to some nodes within the cluster and latest backups will be kept in the cluster. This set of ZAPIs allow configuring the number of latest backups to keep in the cluster per job schedule. Scheduled backups are of type 'cluster backup'. A cluster backup contains cluster-wide replicas in addition to 'node backup' of each node in the cluster. A 'node backup' contains only node-specific configuration such as configuration files on the root volume and the boot variables. Configuration backups can also be created 'on demand' by using this set of ZAPIs. These ZAPIs support creating node backups and cluster backups on demand. Backup management operations such as delete backup, copy backup to another node in cluster, rename backup, download backup from URL and upload backup to URL are supported by this set of ZAPIs. ZAPIs for delete, copy, rename, download and upload operations are applicable for any type of backups, i.e. scheduled backups and on demand backups, node backups and cluster backups.

## config-backup-copy

[top]

Copy a configuration backup. A job will be queued to copy the configuration backup. A job will be spawned to operate on the config-backup and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **backup-name** | | string | The name of the configuration backup. |
| **from-node** | | string | The source node to copy the configuration backup from. This is the node that has the backup file on its root volume. |
| **to-node** | | string | The destination node to copy the configuration backup to. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| | | | The operation status. Possible values: "succeeded", "in_progress", |

| | | | |
|---|---|---|---|
| **result-status** | | string | "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# config-backup-create

[top]

Create a configuration backup. A job will be queued to create the configuration backup in the background. Creation of configuration backup may take several minutes. This ZAPI creates an on demand backup. A job will be spawned to operate on the config-backup and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **backup-name** | | string optional | The name of the configuration backup. It must be a valid file name. An extension of .7z will be added if the given backup-name doesn't have that extension. If backup-name is not provided, software will generate the name for configuration backup. |
| **backup-type** | | backup-type optional | Indicates if the backup is a node or a cluster backup. A node backup contains only node-specific configuration of a particular node in the cluster. A cluster backup contains cluster-wide replicas in addition to node backup of each node in the cluster. Possible values:<br>• "node" - Node Backup,<br>• "cluster" - Cluster Backup |
| **node** | | string | The node to own the configuration backup. This is the node that will have the backup file on its root volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# config-backup-delete

[top]

Delete a configuration backup.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **backup-name** | | string | The name of the configuration backup. |
| **node** | | string | The node that owns the configuration backup. This is the node that has the backup file on its root volume. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# config-backup-download

[top]

Download a configuration backup from a URL.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **backup-name** | | string optional | The name of the configuration backup. It must be a valid file name. An extension of .7z will be added if the given backup-name doesn't have that extension. If backup-name is not provided, software will generate a name for configuration backup. |
| **node** | | string | The node to own the configuration backup. The backup file will be downloaded to the root volume of this node. |
| **source-url** | | string | The source URL. URL is specified following the syntax described in RFC 3986. Only 'ftp', 'http' and 'https' protocols are supported. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# config-backup-info-get

[top]

Return information about a specified configuration backup.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **backup-name** | | string | The name of the configuration backup. |
| **desired-attributes** | | config-backup-info-type optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | string | The node that owns the configuration backup. This is the node that has the backup file on its root volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | config-backup-info-type | The attributes of the config-backup-info. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# config-backup-info-get-iter

[top]

Return a list of configuration backups in the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | config-backup-info-type optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | config-backup-info-type optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the config-backup-info object. All config-backup-info objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | config-backup-info-type[] optional | The list of attributes of config-backup-info objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more config-backup-info objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# config-backup-rename

[top]

Rename a configuration backup. Renamed backup stays on the same node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| backup-name | | string | The name of the configuration backup. |
| new-backup- | | string | The new name for the configuration backup. It must be a valid file name. An extension of .7z will be added if the given new-name doesn't have that |

| | | | |
|---|---|---|---|
| **name** | | | extension. |
| **node** | | string | The node that owns the configuration backup. This is the node that has the backup file on its root volume. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# config-backup-settings-get

[top]

Return information about the configuration backup settings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | config-backup-settings-type optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | config-backup-settings-type | The attributes of the config-backup-settings. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# config-backup-settings-modify

[top]

Modify the settings for configuration backup operations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **backup-count1** | **[1..4]** | integer optional | The number of configuration backups to keep in the cluster for schedule 1. |
| **backup-count2** | **[1..4]** | integer optional | The number of configuration backups to keep in the cluster for schedule 2. |
| **backup-count3** | **[1..4]** | integer optional | The number of configuration backups to keep in the cluster for schedule 3. |
| **destination-url** | | string optional | The destination URL for uploading the configuration backups. URL is specified following the syntax described in RFC 3986. Only 'ftp', 'http' and 'https' protocols are supported. |
| **username-for-destination-url** | | string optional | The username for the destination URL. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

## config-backup-settings-password-set

[top]

Modify the password for destination URL.

| Input Name | Range | Type | Description |
|---|---|---|---|
| password-for-destination-url | | string optional | Password for the destination URL. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

## config-backup-upload

[top]

Upload a configuration backup to a URL.

| Input Name | Range | Type | Description |
|---|---|---|---|
| backup-name | | string | The name of the configuration backup. |
| destination-url | | string | The destination URL. URL is specified following the syntax described in RFC 3986. Only 'ftp', 'http' and 'https' protocols are supported. |
| node | | string | The node that owns the configuration backup. This is the node that has the backup file on its root volume. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# Element definition: **backup-type**

[top]

The type of a configuration backup. Possible values:

- "node" - Node Backup,
- "cluster" - Cluster Backup

[none]

# Element definition: **config-backup-info-type**

[top]

Configuration Backup Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **backup-creation-time** | **[0..2^31-1]** | integer optional | The time of the configuration backup creation. The time value is in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable |
| **backup-name** | | string optional | The name of the configuration backup. Attributes: key, required-for-create, non-modifiable |
| **backup-size** | **[0..2^63-1]** | integer optional | The size of configuration backup file in number of bytes. Attributes: non-creatable, non-modifiable |
| **backup-type** | | backup-type optional | Indicates if the backup is a node or a cluster backup. A node backup contains only node-specific configuration of a particular node in the cluster. A cluster backup contains cluster-wide replicas in addition to node backup of each node in the cluster. If backup-type is not provided, cluster backup is assumed by default. Attributes: non-creatable, non-modifiable Possible values:<br>• "node" - Node Backup,<br>• "cluster" - Cluster Backup |
| **cluster-name** | | string optional | The name of the cluster which the configuration backup was created for. This field is set only for cluster backups. For node backups, the nodes-in-backup field indicates the name of the node. Attributes: non-creatable, non-modifiable |
| **cluster-uuid** | | string optional | The UUID of the cluster which the configuration backup was created for. This field is set only for cluster backups. Attributes: non-creatable, non-modifiable |
| **is-auto** | | boolean optional | True indicates that configuration backup is a scheduled backup that was created automatically by a schedule. False indicates that configuration backup was created on demand. Attributes: non-creatable, non-modifiable |
| **node** | | string optional | The node that owns the configuration backup. This is the node that has the backup file on its root volume. Attributes: key, required-for-create, non-modifiable |
| **nodes-in-backup** | | string[] optional | The names of the nodes included in the configuration backup. Attributes: non-creatable, non-modifiable |
| **schedule** | | string optional | The name of the job schedule for scheduled backups. Possible values are: '8hour', 'daily', and 'weekly'. This field is not set for on demand backups created via management CLI or ZAPI. Attributes: non-creatable, non-modifiable |
| **version** | | string optional | The software version which the configuration backup was created with. Attributes: non-creatable, non-modifiable |

# Element definition: **config-backup-settings-type**

[top]

Configuration Backup Settings When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **backup-count1** | **[1..4]** | integer optional | The number of configuration backups to keep in the cluster for schedule 1. Attributes: non-creatable, modifiable |
| **backup-count2** | **[1..4]** | integer optional | The number of configuration backups to keep in the cluster for schedule 2. Attributes: non-creatable, modifiable |
| **backup-count3** | **[1..4]** | integer optional | The number of configuration backups to keep in the cluster for schedule 3. Attributes: non-creatable, modifiable |
| **destination-url** | | string optional | The destination URL for uploading the configuration backups. URL is specified following the syntax described in RFC 3986. Only 'ftp', 'http' and 'https' protocols are supported. Attributes: non-creatable, modifiable |
| **job-schedule1** | | string optional | The name of the first job schedule for generating configuration backups. It is pre-programmed to be '8hour'. Attributes: non-creatable, non-modifiable |
| **job-schedule2** | | string optional | The name of the second job schedule for generating configuration backups. It is pre-programmed to be 'daily'. Attributes: non-creatable, non-modifiable |
| **job-schedule3** | | string optional | The name of the third job schedule for generating configuration backups. It is pre-programmed to be 'weekly'. Attributes: non-creatable, non-modifiable |
| **username-for-destination-url** | | string optional | The username for the destination URL. Attributes: non-creatable, modifiable |

# Element definition: **backup-type**

[top]

The type of a configuration backup. Possible values:

- "node" - Node Backup,
- "cluster" - Cluster Backup

[none]

# APIs in Category: **coredump**


coredump-configure
coredump-list-cores-iter-next
coredump-list-cores-iter-start
coredump-list-info
coredump-remove
coredump-save
coredump-trigger


## coredump-configure

[top]

Setup some coredump options. If not invoked, the default settings are: sparsecore is true, minfree is zero, and dump-attempts is two.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **dump-attempts** | | integer | The number of times coredump should attempt to dump a core when faced with disk errors that prevent writes from completing. When set to zero, no cores will be dumped. Range : [0..10]. |
| **minfree** | | integer | The number of bytes that need to be left in the root filesystem after coredump has finished saving a core. If this amount of space will not be left, save attempts will be aborted. If a core is already being saved, this setting will not take affect until savecore starts saving another core. Range : [0..2^63-1]. |
| **save-attempts** | | integer | The number of times coredump should attempt to save a core before requiring the force flag to be set to true in the coredump-save interface. This is a safeguard built into coredump to prevent coredump from causing a panic loop. Range : [0..10]. |
| **sparsecore** | | boolean | Controls whether or not coredump should dump sparse cores. Sparse cores do not include wafl buffers that contain only user data. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## coredump-list-cores-iter-next

[top]

Obtain a list of cores on this system

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maximum** | | integer | Maximum number of directory entries to retrieve. |
| **tag** | | string | Tag from a previous 'coredump-list-cores-iter-start' or 'coredump-list-cores-iter-next'. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **core-details** | | core-detail-info[] | Information about every core on this system, both saved and unsaved. |
| **next-tag** | | string | The tag value to supply to the next invocation of 'coredump-list-cores-iter-next'. |
| **records** | | integer | The number of cores being returned by this call. When this value reaches zero, all cores have been retrieved. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ELOWMEMORY** | |
| **ECOREDUMPBUSY** | |

# coredump-list-cores-iter-start

[top]

Start an iteration through the core files on this system. This interface will return an error unless the state returned by coredump-list-info is idle, nocore, or waitdump.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **next-tag** | | string | Tag to be used in next call to 'coredump-list-cores-iter-next'. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ECOREDUMPNOTINITIALIZED** | |
| **ECOREDUMPBUSY** | |

# coredump-list-info

[top]

Gather info about state of coredump

| Output Name | Range | Type | Description |
|---|---|---|---|
| **config-details** | | config-detail-info optional | This provides information about the disks available to coredump. Information includes whether or not unsaved cores are on the disks, how many blocks are available to dump a core, and what kind of dump would be done, if the system were to panic right now. This is only returned if state is nocore, idle, or waitdump. |
| **fs-avail-bytes** | | integer optional | The number of free bytes available in the root filesystem for saving cores. This will only be returned if state is nocore, idle, or waitdump. -1 will be returned if errors occurred while determining the value. Range : [-1..2^63-1]. |
| **fs-bytes-needed** | | integer optional | The maximum number of free bytes needed in the root filesystem for saving all unsaved cores. This will only be returned if state is idle. Range : [0..2^63-1]. |
| **fs-minfree-bytes** | | integer optional | The minimum number of bytes that must be left free in the root filesystem when savecore has finished saving a core. Any core that has a chance to reduce free space below this amount will not be saved. This will only be returned if state is nocore, idle, or waitdump. -1 will be returned if errors occurred while determining the value. Range : |

| | | | |
|---|---|---|---|
| | | | [-1..2^63-1]. |
| **progress-details** | | progress-detail-info optional | Progress savecore has made saving the current core. This is only returned if state is saving. |
| **state** | | string | The current state of savecore. Possible values: nocore, idle, init, saving, mini, waitdump |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ENOTWHILEWAITINGFORGIVEBACK** | |
| **ENOTINMAINTMODE** | |
| **ENOTINREADONLYMODE** | |
| **ECOREDUMPNOTINITIALIZED** | |

# coredump-remove

[top]

Removes saved or unsaved cores from this system.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **coreid** | | integer optional | The id of the core that should be deleted. If not provided, all cores will be deleted. Range : [0..2^63-1]. |
| **remove-saved** | | boolean optional | Set to true if cores that have already been saved should be deleted. Otherwise, only unsaved cores will be deleted. Default: false |

| Errno | Description |
|---|---|
| **EBADCOREID** | |
| **EINTERNALERROR** | |
| **ENOTWHILEWAITINGFORGIVEBACK** | |
| **ENOTINMAINTMODE** | |
| **ENOTINREADONLYMODE** | |

# coredump-save

[top]

Start saving any unsaved cores

| Input Name | Range | Type | Description |
|---|---|---|---|
| **coreid** | | integer optional | The id of the core that should be saved. If not provided, all cores will be saved. Range : [0..2^63-1]. |
| **force** | | boolean optional | Set to true to allow savecore to save cores that have had too many failed save attempts in the past. Default: false |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ENOTWHILEWAITINGFORGIVEBACK** | |
| **ENOTINMAINTMODE** | |

| | |
|---|---|
| **ENOTINREADONLYMODE** | |

## coredump-trigger

[top]

Trigger a coredump via the Service Processor

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node whose core dump is required |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## Element definition: **config-detail-info**

[top]

Disk configuration information related to coredump

| Name | Range | Type | Description |
|---|---|---|---|
| **async-blocks** | | integer | The total number of 4KB blocks available to coredump on the disks that support the spraycore mode of coredump. Range : [0..2^31-1]. |
| **async-disks** | | integer | The number of unused disks available to coredump that support spraycore. Range : [0..2^31-1]. |
| **dumptype** | | string | This is the type of dump that will be done if the machine panics right now. Possible values: compressed, sprayed, spare |
| **needed-blocks** | | integer | The total number of 4KB disk blocks needed for coredump to spray a core if a panic were to happen right now. Range : [0..2^31-1]. |
| **needed-disks** | | integer | The minimum number of disks needed to spray a core. Range : [0..2^31-1]. |
| **no-spares** | | boolean | True if no spare disks are available. If no spares are available, and the dumptype is spare, no core can be dumped. |
| **partial-disks** | | integer | The number of disks that contain unsaved partial cores. Partial cores are missing one or more disks. Range : [0..2^31-1]. |
| **partial-dumps** | | integer | The number of unsaved partial cores. Partial cores are missing one or more disks. Range : [0..2^31-1]. |
| **supports-spraycore** | | boolean | True if this platform supports spraying cores, and false otherwise. |
| **total-disks** | | integer | The total number of disks available to coredump. Range : [0..2^31-1]. |
| **used-disks** | | integer | Number of disks that already contain portions of unsaved cores. This only includes cores that are not missing any disks. Range : [0..2^31-1]. |
| **used-dumps** | | integer | The number of unsaved cores that are not missing any disks. Range : [0..2^31-1]. |

## Element definition: **core-detail-info**

[top]

All important information about a single core in the system.

| Name | Range | Type | Description |
|---|---|---|---|
| **ancillary-segment-directory** | | string | The directory holding ancillary kernel core segments belonging to this panic. |
| **attempts** | | integer optional | The number of attempts that have been made to save an unsaved core. This is only returned if saved is false. Range : [0..2^31-1]. |
| **coreid** | | integer | A handle that can be used with coredump-remove or coredump-save to remove/save specific cores. Range : [0..2^63-1]. |
| **corename** | | string | The name of the core file. For unsaved cores, this is the name the core file will have once the core is saved. |
| **fs-bytes-needed** | | integer optional | The maximum number of bytes needed in the root filesystem to save this core. This is only returned if saved is false. Range : [0..2^63-1]. |
| **is-partial** | | boolean optional | True if the core is a partial core. Partial cores are missing disks. This is only returned if saved is false. |
| **is-saved** | | boolean | True if this core has already been saved. |
| **md5-data-chksum** | | string | The MD5 checksum of the compressed data of this core. |
| **os-version** | | string | The version of Data ONTAP that generated this core. |
| **panic-string** | | string | The panic string for the panic that generated this core. |
| **panic-time** | | integer | The time of the panic that generated this core. It is specified in seconds since the epoch. Range : [0..2^31-1]. |
| **size** | | integer optional | The size of core (bytes). Range : [0..2^63-1]. |
| **sysid** | | integer | The system id of the system that generated this core. Range : [0..2^31-1]. |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **progress-detail-info**

[top]

Savecore progress info

| Name | Range | Type | Description |
|---|---|---|---|
| **corename** | | string | Name of the core being saved |
| **saved-blocks** | | integer | Number of blocks that have already been saved in the core that is being saved |
| **total-blocks** | | integer | Total number of blocks of data in the core that is being saved. |

# APIs in Category: **dashboard**


dashboard-alarm-get
dashboard-alarm-get-iter
dashboard-alarm-get-total-records
dashboard-alarm-threshold-get
dashboard-alarm-threshold-get-iter
dashboard-alarm-threshold-get-total-records
dashboard-alarm-threshold-modify


Note: This command is removed starting from ONTAP 9.0.

This set of APIs provides visibility into the Alarm Dashboard feature of the system. The Alarm Dashboard allows the system administrator to proactively monitor the health of each node in the cluster by exposing various storage and performance metrics. The administrator may configure this dashboard to alert users in the event a performance metric crosses a predetermined threshold. The following metrics are monitored by the Alarm Dashboard:

- average client latency (performance of NFS and CIFS operations)
- CPU utilization
- data network health (ratio of packet errors over total packets)
- data port utilization
- storage space utilization

The APIs are divided into the following major features:

- Alarms: view storage and performance metrics
- Alarm Thresholds: manage warning / critical thresholds, polling intervals, and user notifications

## dashboard-alarm-get

[top]

This command is removed starting from ONTAP 9.0.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **dashboard-metric-type** | | dashboard-metric-type | The type of metric being monitored. Possible values:<br>• "cpu_busy" - CPU Utilization,<br>• "port_util" - Port Utilization,<br>• "op_latency" - Average Client Latency of NFS and CIFS operations,<br>• "aggregate_used" - Storage Aggregate Utilization,<br>• "port_problems" - Packet Error Ratio |
| **desired-attributes** | | dashboard-alarm-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | string | Name of the node associated with the alarm metrics. |
| **object-name** | | string | Name associated with the object being monitored. For example, the object-name is the name of the node if the dashboard-metric-type is cpu-busy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | dashboard- | |

| | | | |
|---|---|---|---|
| **attributes** | | alarm-info | The attributes of the dashboard-alarm. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |

# dashboard-alarm-get-iter

[top]

This command is removed starting from ONTAP 9.0.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | dashboard-alarm-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | dashboard-alarm-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the dashboard-alarm object. All dashboard-alarm objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | dashboard-alarm-info[] optional | The list of attributes of dashboard-alarm objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more dashboard-alarm objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |

# dashboard-alarm-get-total-records

[top]

This command is removed starting from ONTAP 9.0.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^64-1]** | integer | The total number of dashboard-alarm objects. |

# dashboard-alarm-threshold-get

[top]

This command is removed starting from ONTAP 9.0.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **dashboard-metric-type** | | dashboard-metric-type | The type of metric being monitored. Possible values:<br>• "cpu_busy" - CPU Utilization,<br>• "port_util" - Port Utilization,<br>• "op_latency" - Average Client Latency of NFS and CIFS operations,<br>• "aggregate_used" - Storage Aggregate Utilization,<br>• "port_problems" - Packet Error Ratio |
| **desired-attributes** | | dashboard-alarm-threshold-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | dashboard-alarm-threshold-info | The attributes of the dashboard-alarm-threshold. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |

# dashboard-alarm-threshold-get-iter

[top]

This command is removed starting from ONTAP 9.0.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | dashboard-alarm-threshold-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | dashboard-alarm-threshold-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the dashboard-alarm-threshold object. All dashboard-alarm-threshold objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **attributes-list** | | dashboard-alarm-threshold-info[] optional | The list of attributes of dashboard-alarm-threshold objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more dashboard-alarm-threshold objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |

# dashboard-alarm-threshold-get-total-records

[top]

This command is removed starting from ONTAP 9.0.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^64-1]** | integer | The total number of dashboard-alarm-threshold objects. |

# dashboard-alarm-threshold-modify

[top]

This command is removed starting from ONTAP 9.0.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **critical-threshold** | | string optional | The threshold value that must be reached to generate a critical alarm for this type of metric. Get request is returned with % sign for percent values and ms for milliseconds value. Example : 95%, 500ms |
| **dashboard-metric-type** | | dashboard-metric-type | The type of metric being monitored. Possible values:<br>• "cpu_busy" - CPU Utilization,<br>• "port_util" - Port Utilization,<br>• "op_latency" - Average Client Latency of NFS and CIFS operations,<br>• "aggregate_used" - Storage Aggregate Utilization,<br>• "port_problems" - Packet Error Ratio |
| **is-user-notification-enabled** | | boolean optional | Specifies whether user notifications are enabled. |
| **polling-interval** | **[60..6000]** | integer optional | The refresh interval for the alarm dashboard metrics (in seconds). |
| **threshold-units** | | threshold-unit optional | Threshold Units Possible values:<br>• "none" - none,<br>• "ms" - milliseconds,<br>• "percent" - percent |

| | | | |
|---|---|---|---|
| **warning-threshold** | | string optional | The threshold value that must be reached to generate a warning alarm for this type of metric. Get request is returned with % sign for percent values and ms for milliseconds value. Example : 85%, 200ms |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |

# Element definition: **dashboard-alarm-info**

[top]

Alarm monitoring data When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **dashboard-metric-type** | | dashboard-metric-type optional | The type of metric being monitored. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "cpu_busy" - CPU Utilization,<br>• "port_util" - Port Utilization,<br>• "op_latency" - Average Client Latency of NFS and CIFS operations,<br>• "aggregate_used" - Storage Aggregate Utilization,<br>• "port_problems" - Packet Error Ratio |
| **high-value** | | string optional | The highest value recorded so far for this metric. Attributes: non-creatable, non-modifiable |
| **last-value** | | string optional | The last value recorded for this metric. Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Name of the node associated with the alarm metrics. Attributes: key, non-creatable, non-modifiable |
| **object-name** | | string optional | Name associated with the object being monitored. For example, the object-name is the name of the node if the dashboard-metric-type is cpu-busy. Attributes: key, non-creatable, non-modifiable |
| **state** | | alarm-state optional | The current alarm state of the object being monitored. Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" ,<br>• "warning" ,<br>• "critical" |

# Element definition: **dashboard-alarm-threshold-info**

[top]

Alarm threshold configuration settings When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **critical-threshold** | | string optional | The threshold value that must be reached to generate a critical alarm for this type of metric. Get request is returned with % sign for percent values and ms for milliseconds value. Example : 95%, 500ms Attributes: optional-for-create, modifiable |
| **dashboard-metric-type** | | dashboard-metric-type optional | The type of metric being monitored. Attributes: key, required-for-create, non-modifiable Possible values:<br>• "cpu_busy" - CPU Utilization,<br>• "port_util" - Port Utilization,<br>• "op_latency" - Average Client Latency of NFS and CIFS operations,<br>• "aggregate_used" - Storage Aggregate Utilization,<br>• "port_problems" - Packet Error Ratio |
| **is-user-notification-enabled** | | boolean optional | Specifies whether user notifications are enabled. Attributes: required-for-create, modifiable |
| **polling-interval** | **[60..6000]** | integer optional | The refresh interval for the alarm dashboard metrics (in seconds). Attributes: required-for-create, modifiable |
| **threshold-units** | | threshold-unit optional | Threshold Units Attributes: optional-for-create, modifiable Possible values:<br>• "none" - none,<br>• "ms" - milliseconds,<br>• "percent" - percent |
| **warning-threshold** | | string optional | The threshold value that must be reached to generate a warning alarm for this type of metric. Get request is returned with % sign for percent values and ms for milliseconds value. Example : 85%, 200ms Attributes: required-for-create, modifiable |

# Element definition: **dashboard-metric-type**

[top]

Metric Type Possible values:

- "cpu_busy" - CPU Utilization,
- "port_util" - Port Utilization,
- "op_latency" - Average Client Latency of NFS and CIFS operations,
- "aggregate_used" - Storage Aggregate Utilization,
- "port_problems" - Packet Error Ratio

[none]

# Element definition: **threshold-unit**

[top]

Dashboard Threshold Units Possible values:

- "none" - none,
- "ms" - milliseconds,
- "percent" - percent

[none]

# Element definition: **alarm-state**

[top]

Alarm Monitoring State Possible values:

- "ok" ,
- "warning" ,
- "critical"

[none]

# APIs in Category: **diagnosis**


diagnosis-alert-definition-get
diagnosis-alert-definition-get-iter
diagnosis-alert-get
diagnosis-alert-get-iter
diagnosis-alert-modify
diagnosis-config-get
diagnosis-config-get-iter
diagnosis-delete-alert
diagnosis-policy-definition-get
diagnosis-policy-definition-get-iter
diagnosis-policy-modify
diagnosis-status-get
diagnosis-subsystem-config-get
diagnosis-subsystem-config-get-iter
diagnosis-subsystem-config-modify


This set of Zapis is used for monitoring and diagnosing system health.

## diagnosis-alert-definition-get

[top]

Return alert definition

| Input Name | Range | Type | Description |
|---|---|---|---|
| **alert-id** | | string | Alert identification. |
| **desired-attributes** | | diagnosis-alert-definition-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **monitor** | | hm-type | Type of health monitor (e.g. node_connect, system_connect, system). |
| **node** | | string | Node hosting this health monitor. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | diagnosis-alert-definition-info | The attributes of the Alert Definition. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# diagnosis-alert-definition-get-iter

[top]

Iterate over a list of Alert Definition objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | diagnosis-alert-definition-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | diagnosis-alert-definition-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Alert Definition object. All Alert Definition objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | diagnosis-alert-definition-info[] optional | The list of attributes of Alert Definition objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Alert Definition objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# diagnosis-alert-get

[top]

Return a subsystem alert

| Input Name | Range | Type | Description |
|---|---|---|---|
| **alert-id** | | string | Alert identification. |
| **alerting-resource** | | string | Unique name of resource that generated the alert. |
| **desired-attributes** | | diagnosis-alert-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **monitor** | | hm-type | Type of health monitor (e.g. node_connect, system_connect, system). |
| **node** | | string | Node hosting this health monitor. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | diagnosis-alert-info | The attributes of the Alert Information. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# diagnosis-alert-get-iter

[top]

Iterate over a list of Alert Information objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | diagnosis-alert-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | diagnosis-alert-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Alert Information object. All Alert Information objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | diagnosis-alert-info[] optional | The list of attributes of Alert Information objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Alert Information objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# diagnosis-alert-modify

[top]

Acknowledge/suppress an alert

| Input Name | Range | Type | Description |
|---|---|---|---|
| **acknowledge** | | boolean optional | Acknowledge the alert condition. |
| **acknowledger** | | string optional | Person who acknowledged this alert |
| **alert-id** | | string | Alert identification. |
| **alerting-resource** | | string | Unique name of resource that generated the alert. |
| **monitor** | | hm-type | Type of health monitor (e.g. node_connect, system_connect, system). |
| **node** | | string | Node hosting this health monitor. |
| **suppress** | | boolean optional | Suppress this alert. |
| **suppressor** | | string optional | Person who suppressed this alert |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# diagnosis-config-get

[top]

Return the system health framework configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | diagnosis-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **monitor** | | hm-type | Type of health monitor (e.g. node_connect, system_connect, system). |
| **node** | | string | Node hosting this health monitor. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | diagnosis-config-info | The attributes of the Health Monitor Configuration. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# diagnosis-config-get-iter

[top]

Iterate over a list of Health Monitor Configuration objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **desired-attributes** | | diagnosis-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | diagnosis-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Health Monitor Configuration object. All Health Monitor Configuration objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | diagnosis-config-info[] optional | The list of attributes of Health Monitor Configuration objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Health Monitor Configuration objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# diagnosis-delete-alert

[top]

Delete subsystem alert

| Input Name | Range | Type | Description |
|---|---|---|---|
| **alert-id** | | string | Alert identification. |
| **alerting-resource** | | string | Unique name of resource that generated the alert. |
| **monitor** | | hm-type | Type of health monitor (e.g. node_connect, system_connect, system). |
| **node** | | string | Node hosting this health monitor. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# diagnosis-policy-definition-get

[top]

Return policy definition

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | diagnosis-policy-definition-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **monitor** | | hm-type | Type of health monitor (e.g. node_connect, system_connect, system). |
| **node** | | string | Node hosting this health monitor. |
| **policy-id** | | string | Policy identifier. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | diagnosis-policy-definition-info | The attributes of the Policy Definition. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# diagnosis-policy-definition-get-iter

[top]

Iterate over a list of Policy Definition objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | diagnosis-policy-definition-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | diagnosis-policy-definition-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Policy Definition object. All Policy Definition objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | diagnosis-policy-definition-info[] optional | The list of attributes of Policy Definition objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Policy Definition objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# diagnosis-policy-modify

[top]

Enable/disable policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| enable | | boolean optional | Enable/disable this policy. |
| is-autosupport-enabled | | boolean optional | Enable AutoSupport for this alert. |
| monitor | | hm-type | Type of health monitor (e.g. node_connect, system_connect, system). |
| node | | string | Node hosting this health monitor. |
| policy-id | | string | Policy identifier. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# diagnosis-status-get

[top]

Return the overall system health

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | diagnosis-status optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | diagnosis-status | The attributes of the System Health Status. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# diagnosis-subsystem-config-get

[top]

Get the attributes of the Health Monitor Subsystem Status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | diagnosis-subsystem-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **subsystem** | | hm-subsystem | Type of subsystem being monitored<br><br>Possible values:<br>• 'sas_connect',<br>• 'ha_health', |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | diagnosis-subsystem-config-info | The attributes of the Health Monitor Subsystem Status. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# diagnosis-subsystem-config-get-iter

[top]

Iterate over a list of Health Monitor Subsystem Status objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | diagnosis-subsystem-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | diagnosis-subsystem-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Health Monitor Subsystem Status object. All Health Monitor Subsystem Status objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | diagnosis-subsystem-config-info[] optional | The list of attributes of Health Monitor Subsystem Status objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Health Monitor Subsystem Status objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## diagnosis-subsystem-config-modify

[top]

Modify system health subsystem

| Input Name | Range | Type | Description |
|---|---|---|---|
| **refresh-interval** | **[0..2^32-1]** | integer optional | Subsystem Refresh Interval in Minutes. |
| **subsystem** | | hm-subsystem | Type of subsystem being monitored<br><br>Possible values:<br>• 'sas_connect',<br>• 'ha_health', |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## Element definition: **diagnosis-alert-definition-info**

[top]

System Health Alert Definition When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-information** | | string optional | Additional information about the alert. Attributes: non-creatable, non-modifiable |
| **alert-id** | | string optional | Alert identification. Attributes: key, non-creatable, non-modifiable |
| **alert-type** | | hm-alert-type optional | Type of alert (other,communications,quality-of-service,processing-error,device,environmental,model-change,security). Attributes: non-creatable, non-modifiable |
| **corrective-actions** | | string optional | Recommended actions to correct the problem reported by alert. Attributes: non-creatable, non-modifiable |
| **monitor** | | hm-type optional | Type of health monitor (e.g. node_connect, system_connect, system). Attributes: key, non-creatable, non-modifiable |
| **node** | | string optional | Node hosting this health monitor. Attributes: key, non-creatable, non-modifiable |
| | | hm- | Severity of alert |

| | | | |
|---|---|---|---|
| **perceived-severity** | | perceived-sev optional | (Unknown,Other,Information,Degraded,Minor,Major,Critical,Fatal). Attributes: non-creatable, non-modifiable |
| **possible-effect** | | string optional | Detailed description of the possible effect of the condition. Attributes: non-creatable, non-modifiable |
| **probable-cause** | | hm-probable-cause optional | Probable cause for alert generation. Attributes: non-creatable, non-modifiable |
| **probable-cause-description** | | string optional | Detailed description of probable cause for alert generation. Attributes: non-creatable, non-modifiable |
| **subsystem** | | hm-subsystem optional | Type of subsystem being monitored (e.g. sas_connect). Attributes: non-creatable, non-modifiable |

# Element definition: **diagnosis-alert-info**

[top]

System Health Alert When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **acknowledge** | | boolean optional | Acknowledge the alert condition. Attributes: non-creatable, modifiable |
| **acknowledger** | | string optional | Person who acknowledged this alert Attributes: non-creatable, modifiable |
| **additional-info** | | string[] optional | Additional information from the resource that generated this alert Attributes: non-creatable, non-modifiable |
| **alert-id** | | string optional | Alert identification. Attributes: key, non-creatable, non-modifiable |
| **alerting-resource** | | string optional | Unique name of resource that generated the alert. Attributes: key, non-creatable, non-modifiable |
| **alerting-resource-name** | | string optional | Display name of resource that generated the alert. Attributes: non-creatable, non-modifiable |
| **corrective-actions** | | string optional | Recommended actions to correct the problem reported by alert. Attributes: non-creatable, non-modifiable |
| **indication-time** | | date optional | Time of alert generation. Attributes: non-creatable, non-modifiable |
| **monitor** | | hm-type optional | Type of health monitor (e.g. node_connect, system_connect, system). Attributes: key, non-creatable, non-modifiable |
| **node** | | string optional | Node hosting this health monitor. Attributes: key, non-creatable, non-modifiable |
| **perceived-severity** | | hm-perceived-sev optional | Severity of alert. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **policy** | | string optional | Policy rule responsible for creating this alert. Attributes: non-creatable, non-modifiable |
| **possible-effect** | | string optional | Possible effect seen due to this problem. Attributes: non-creatable, non-modifiable |
| **probable-cause** | | hm-probable-cause optional | Probable cause for alert generation. Attributes: non-creatable, non-modifiable |
| **probable-cause-description** | | string optional | Detailed description of probable cause for alert generation. Attributes: non-creatable, non-modifiable |
| **subsystem** | | hm-subsystem optional | Type of subsystem being monitored (e.g. sas_connect). Attributes: non-creatable, non-modifiable |
| **suppress** | | boolean optional | Suppress this alert. Attributes: non-creatable, modifiable |
| **suppressor** | | string optional | Person who suppressed this alert Attributes: non-creatable, modifiable |

# Element definition: **diagnosis-config-info**

[top]

System Health Config When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregator** | | hm-type optional | Aggregating health monitor that aggregates status from this health monitor. Attributes: non-creatable, non-modifiable Possible values:<br>• "node_connect" ... node scope health monitor ,<br>• "system_connect" ... cluster scope health monitor ,<br>• "system" ... aggregator of health monitor status , |
| **context** | | hm-scope optional | Scope of health monitor (node-context, cluster-context). Attributes: non-creatable, non-modifiable Possible values:<br>• "node_context" ,<br>• "cluster_context" |
| **health** | | hm-status optional | Status of health monitor (ok, ok-with-suppressed, degraded). Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" ,<br>• "ok_with_suppressed" ,<br>• "degraded" ,<br>• "unreachable" ,<br>• "unknown" |
| | | | Subsystem initialization state of health monitor Attributes: non- |

| | | | |
|---|---|---|---|
| **init-state** | | hm-subsystem-discovery-state optional | creatable, non-modifiable Possible values:<br>• "invalid" ,<br>• "initializing" ,<br>• "initialized" ,<br>• "start_discovery" ,<br>• "start_rediscovery" ,<br>• "discovered_partially" ,<br>• "discovery_done" ,<br>• "discovery_max" |
| **mon-version** | | string optional | Health Monitor version. Attributes: non-creatable, non-modifiable |
| **monitor** | | hm-type optional | Type of health monitor. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "node_connect" ,<br>• "system_connect" ,<br>• "system" |
| **node** | | string optional | Node hosting this health monitor. Attributes: key, non-creatable, non-modifiable |
| **pol-version** | | string optional | Policy file version. Attributes: non-creatable, non-modifiable |
| **resources** | | string[] optional | Resources monitored by this health monitor. Attributes: non-creatable, non-modifiable |
| **sub-pol-versions** | | string optional | Subordinate policy file versions. Attributes: non-creatable, non-modifiable |
| **subsystem** | | hm-subsystem[] optional | Type of subsystem being monitored (e.g. sas_connect). Attributes: non-creatable, non-modifiable Possible values:<br>• "sas_connect" ,<br>• "ha_health" , |

# Element definition: **diagnosis-policy-definition-info**

[top]

System Health Policy Definition When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **alert-count** | **[0..2^32-1]** | integer optional | Count of alerts created as a result of this policy. Attributes: non-creatable, non-modifiable |
| **alert-id** | | string optional | Alert identifier for alert to be generated on policy rule match. Attributes: non-creatable, non-modifiable |
| **creation-time** | | datetime optional | Time when the previous alert was created due to this policy. Attributes: non-creatable, non-modifiable |
| | | boolean | |

| | | | |
|---|---|---|---|
| **enable** | | optional | Enable/disable this policy. Attributes: non-creatable, modifiable |
| **is-autosupport-enabled** | | boolean optional | Enable AutoSupport for this alert. Attributes: non-creatable, modifiable |
| **monitor** | | hm-type optional | Type of health monitor (e.g. node_connect, system_connect, system). Attributes: key, non-creatable, non-modifiable |
| **node** | | string optional | Node hosting this health monitor. Attributes: key, non-creatable, non-modifiable |
| **policy-id** | | string optional | Policy identifier. Attributes: key, non-creatable, non-modifiable |
| **responsible-resource-info** | | string optional | The resource responsible for creating this alert Attributes: non-creatable, non-modifiable |
| **rule-expression** | | string optional | Arithmetic expression which defines alerts to be created as a result of this policy. Attributes: non-creatable, non-modifiable |
| **where** | | string optional | Where clause of Arithmetic expression. Attributes: non-creatable, non-modifiable |

# Element definition: **diagnosis-status**

[top]

System Health Status When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **status** | | hm-status optional | Overall system health (ok,ok-with-suppressed,degraded,unreachable) as determined by the diagnosis framework. Attributes: non-creatable, non-modifiable |

# Element definition: **diagnosis-subsystem-config-info**

[top]

System Health Subsystem Status When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | Health of Subsystem. Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **health** | | hm-status optional | • "ok" ,<br>• "ok_with_suppressed" ,<br>• "degraded" ,<br>• "unreachable" ,<br>• "unknown" |
| **init-state** | | hm-subsystem-discovery-state optional | Initialization State of Subsystem. Attributes: non-creatable, non-modifiable Possible values:<br><br>• "invalid" ,<br>• "initializing" ,<br>• "initialized" ,<br>• "start_discovery" ,<br>• "start_rediscovery" ,<br>• "discovered_partially" ,<br>• "discovery_done" ,<br>• "discovery_max" |
| **node** | | string[] optional | Node hosting this health monitor. Attributes: non-creatable, non-modifiable |
| **outstanding-alert-count** | **[0..2^32-1]** | integer optional | Number of outstanding alerts. Attributes: non-creatable, non-modifiable |
| **refresh-interval** | **[0..2^32-1]** | integer[] optional | Subsystem Refresh Interval in Minutes. Attributes: non-creatable, modifiable |
| **subsystem** | | hm-subsystem optional | Type of subsystem being monitored<br><br>Possible values:<br><br>• 'sas_connect',<br>• 'ha_health',<br><br>Attributes: key, non-creatable, non-modifiable |
| **suppressed-alert-count** | **[0..2^32-1]** | integer optional | Number of suppressed alerts. Attributes: non-creatable, non-modifiable |

# Element definition: **hm-subsystem**

[top]

Health Monitor Subsystem

[none]

# Element definition: **hm-type**

[top]

Type of Health Monitor

[none]

# Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

## Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

## Element definition: **hm-alert-type** [top]

Type of alert

[none]

## Element definition: **hm-perceived-sev** [top]

Alert severity

[none]

## Element definition: **hm-probable-cause** [top]

Probable cause for alert generation

[none]

## Element definition: **hm-scope** [top]

Node or Cluster context of Health Monitor Possible values:

- "node_context" ,
- "cluster_context"

[none]

[top]

# Element definition: **hm-status**

Health Monitor Status(ok, ok-with-suppressed, degraded, unknown) Possible values:

- "ok" ,
- "ok_with_suppressed" ,
- "degraded" ,
- "unreachable" ,
- "unknown"

[none]

# Element definition: **hm-subsystem-discovery-state**

[top]

Health Monitor Subsystem Initialization State(initailizing,starting_discovery,discovery_done_partially,discovery_done,initialized) Possible values:

- "invalid" ,
- "initializing" ,
- "initialized" ,
- "start_discovery" ,
- "start_rediscovery" ,
- "discovered_partially" ,
- "discovery_done" ,
- "discovery_max"

[none]

# APIs in Category: **disk**


disk-fail
disk-release-all-reservations
disk-remove
disk-replace-start
disk-replace-stop
disk-sanown-assign
disk-sanown-filer-list-info
disk-sanown-list-info
disk-sanown-reassign
disk-sanown-remove-ownership
disk-set-led
disk-unfail
disk-update-disk-fw
disk-zero-spares


## disk-fail

[top]

Fail a file system disk. Removes the specified file system disk from the RAID configuration, spinning the disk down when removal is complete. disk fail is used to remove a file system disk that may be logging excessive errors and requires replacement. Note that if optional input parameter 'is-immediate' is true, the specified disk will be immediately failed out, and the RAID group to which the disk belongs will enter degraded mode (meaning a disk is missing from the RAID group). If a spare disk at least as large as the disk being removed is available, the contents of the disk being removed will be reconstructed onto that spare disk. If 'is-immediate' options is false or not specified, system will prefail the disk and its content will be copied to a replacement disk if a suitable spare disk is available, and afterwards the prefailed disk will be failed out. This process can be observed by polling disk-list-info for this disk and tracking values of elements copy-destination and copy-percent. Same can be done using 'storage-disk-get-iter' when requested from Admin Vserver LIF. The disk being failed is marked as ``broken'', so that if it remains in the disk shelf, it will not be used by the filer as a spare disk. If the disk is moved to another filer, that filer will use it as a spare. This is not a recommended course of action, as the reason that the disk was failed may have been because it needed to be replaced. NOTE: Data ONTAP 7.0 and earlier releases don't indicate failure code properly.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk** | | string | Name of the disk. e.g. "1.1.3" or "NET-1.1" for a virtual disk. |
| **is-immediate** | | boolean optional | Specify 'true' if disk is to be failed out immediately. If disk is to be prefailed, specify 'false'. Default value is 'false'. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDISKNOTFOUND** | |
| **ESWAPINPROGRESS** | |
| **ENOTDISKOWNER** | |
| **EOPNOTSUPPORTED** | |
| **EDISKINRAIDZEROVOL** | |
| **ENOTSTARTED** | |

| | |
|---|---|
| **EDISKISSPARE** | |
| **ESAVECOREDISK** | |
| **E_GROUP_REPARITY** | |
| **E_MIRROR_RESYNC** | |
| **EOP_DISALLOWED_DURING_REVERT** | |
| **EBAD_DISK_LOGICAL_TYPE** | |
| **EDISKNOTSPARE** | |
| **EAPIMISSINGARGUMENT** | |
| **ENOTINSANITIZEMODE** | |
| **ENOTINMAINTMODE** | |
| **ERAIDGROUPDEGRADED** | |
| **EVOLUMEOFFLINE** | |
| **EALREADYSTARTED** | |

# disk-release-all-reservations

[top]

Release reservations on all reserved disks. When invoked from maintenance mode, all reservations are released on all disks until the system is rebooted. When not in maintenance mode, then the system will automatically re-issue reservations for disks it owns. In sanown environment the system will reserve its disks everu 30 seconds.

| Errno | Description |
|---|---|
| **ERESERVATIONSDISABLED** | |
| **EUNABLETORELEASE** | |

# disk-remove

[top]

Remove a spare disk. Removes the specified spare disk from the RAID configuration, spinning the disk down when removal is complete. You can use disk remove to remove a spare disk so that it can be used by another filer (as a replacement for a failed disk or to expand file system space). NOTE: Data ONTAP 7.0 and earlier releases don't indicate failure code properly.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk** | | string | Name of the disk to remove. e.g. "1.1.3" or "NET-1.1" for a virtual disk. |
| **force** | | boolean optional | Allow a container disk in a Dually carrier to be removed if the remove reason is "admin removed". This feature is currently disabled. |
| **remove-reason** | | string optional | The reason for failing the disk. Possible values are:<br>• "admin_removed" - Admin removed disk.<br>• "evacuation" - Disk is marked for evacuation.<br>The default value is "admin_removed". The failure disk will be recorded with "admin removed" as the failure reason by default. If the remove reason is "evacuation", the failure reason of the disk will be recorded as "evacuated". |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EINTERNALERROR** | |
| **EDISKNOTFOUND** | |
| **ENOTSTARTED** | |
| **EDISKNOTSPARE** | |
| **ESAVECOREDISK** | |
| **EOP_DISALLOWED_DURING_REVERT** | |

# disk-replace-start

[top]

Initiate replacing a file system disk with an appropriate spare disk. Uses Rapid RAID Recovery to copy data from the source file system disk to the destination spare disk. Roles of disks are reversed at the end of that process. The spare disk will replace the file system disk in the RAID group and the file system disk will become a spare. This interface returns as soon as possible while disk replace starts in the background. This process can be observed by polling disk-list-info for this disk and tracking values of elements copy-destination and copy-percent. Note: The operation performs limited error checking. Disk replace starts asynchronously in the background, and it can fail even if ZAPI reports success.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allow-same-carrier** | | boolean optional | Using two disks from one carrier that houses multiple disks in one RAID group is not desirable. If that happens, Data ONTAP initiates a series of disk copy operations to correct that situation. Sometimes, selection of available spare disks makes it impossible to avoid placing two disks from one carrier in one RAID group. Setting this option to true allows placing two disks from one carrier in one RAID group. |
| **disk** | | string | Name of the file system disk to replace. |
| **force** | | boolean optional | Allow replacement-disk to come from the opposite spare pool. Also allow replacement-disk not matching rotational speed of majority of disks in the aggregate. |
| **replace-reason** | | string optional | The reason for replacing the disk. Possible values are:<br>• "evacuation" - Disk is marked for evacuation.<br>• "layout_optimization" - Disk is marked for layout optimization.<br>• "shared_disk_replacement"- Disk is marked for replacement.<br>• "none"<br>The default value is "none". If the replace reason is "none" or "shared_disk_replacement", the replaced disk will become a non-zeroed spare after disk copy. If the replace reason is "evacuation", the replaced disk will be failed after disk copy, and the "evacuated" failure reason will be recorded for that disk. If the replace reason is "layout_optimization", the replaced disk will become zeroed spare. |
| **replacement-disk** | | string | Name of the spare disk to use as a replacement. |

| Errno | Description |
|---|---|
| **EDISKNOTFOUND** | |
| **ENOTDISKOWNER** | |
| **EDISKISSPARE** | |
| **EDISKNOTSPARE** | |
| **EDISKTOOSMALL** | |
| **EDISKINRAIDZEROVOL** | |
| **EALREADYSTARTED** | |

| | |
|---|---|
| **ERAIDGROUPDEGRADED** | |
| **EVOLUMEOFFLINE** | |
| **EINTERNALERROR** | |
| **EOP_DISALLOWED_DURING_REVERT** | |
| **ENOTFROMSAMESTORAGEPOOL** | |

# disk-replace-stop

[top]

Abort disk replace.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk** | | string | Name of the file system disk being replaced. |
| **replace-reason** | | string optional | The replace-reason of the operation to be aborted. Possible values are:<br>• "evacuation" - Disk is unmarked for evacuation.<br>• "layout_optimization" - Disk is unmarked for layout optimization.<br>• "shared_disk_replacement"- Disk is unmarked for replacement.<br>• "none" |

| Errno | Description |
|---|---|
| **EDISKNOTFOUND** | |
| **EDISKISSPARE** | |
| **ENOTSTARTED** | |
| **EINTERNALERROR** | |
| **EOP_DISALLOWED_DURING_REVERT** | |

# disk-sanown-assign

[top]

Assigns ownership of a disk. The normal usage is when the disk is unowned, or to assign a disk to a pool.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **all** | | boolean optional | Assign all unowned visible disks to the specified node-name. The node-name parameter is mandatory. Other than node-name and copy-owner-from is not allowed with this option. If copy-owner-from parameter is specified with parameter node-name node assign disk ownership based on copy-owner-from else it assign ownership of disks based on node-name. |
| **auto** | | boolean optional | Auto-assign unowned disks which are on loops where only 1 filer owns the disks and the pool information is the same, to the specified node. The node parameter is mandatory. No other parameter is allowed with this option. |
| **checksum** | | string | Assign checksum type to disk. Option may only be specified on a RAID array LUNs. Possible values are:<br>• "block" |

| | | | |
|---|---|---|---|
| | | optional | • "zoned"<br>• "advanced_zoned" |
| **copy-owner-from** | | string optional | Assign ownership of this disk to be the same as the owner of the disk specified |
| **disk** | | string optional | Name of disk to assign. Wildcarding for disk string is supported. Either of owner, owner-id or copy-owner-from is mandatory. The node parameter is not allowed with this option. |
| **disk-count** | | integer optional | Assign specified count of disks. Either of owner, owner-id or copy-owner-from is mandatory. The node parameter is not allowed with this option. |
| **disk-type** | | string optional | Assign specified type of disk(or set of disks). The disk-count parameter is mandatory. Type of disk: ATA, BSAS, FCAL, FSAS, LUN, MSATA, SAS, SSD, SSD_NVM, VMDISK, or unknown. |
| **disklist** | | disk-info[] optional | Names of disks |
| **force** | | boolean optional | Force flag need to be set to 'true' if assigning disks which are already owned a Filer. However, if that Filer is up and has put a reservation on the disk, even the force option won't work. |
| **is-data-partition** | | boolean optional | Used only with disk parameter. It specifies if the assign command must be executed on the data partition of a root-data partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data1-partition' and 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', or 'is-data2-partition' are specified or are all false, and disk is partitioned, then ownership of container disk is changed. The default value is false. |
| **is-data1-partition** | | boolean optional | Used only with disk parameter. It specifies if the assign command must be executed on the data1 partition of a root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data-partition' and 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', or 'is-data2-partition' are specified or are all false, and disk is partitioned, then ownership of container disk is changed. The default value is false. |
| **is-data2-partition** | | boolean optional | Used only with disk parameter. It specifies if the assign command must be executed on the data2 partition of a root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data-partition' and 'is-data1-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', or 'is-data2-partition' are specified or are all false, and disk is partitioned, then ownership of container disk is changed. The default value is false. |
| **is-root-partition** | | boolean optional | Used only with disk parameter. It specifies if the assign command must be executed on the root partition of the disk. This field is mutually exclusive with 'is-data-partition', 'is-data1-partition' and 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', or 'is-data2-partition' are specified or are all false, and disk is partitioned, then ownership of container disk is changed. The default value is false. |
| **is-spatial-disk-name-format** | | boolean optional | It specifies if the disk name is in spatial format. This parameter is used only by the CLI backend code to tell D-Blade ZAPI whether to select a disk name in spatial format while matching with a wild-card pattern. The default value is false. |
| **node-name** | | string optional | Used only with auto or all parameter. It specifies the node to which autoassignment or assignment of all unowned disks must be done. When this is specified with copy-owner-from option assignment of selected disk will happen based on disk ownership present for disk specified for copy-owner-from parameter. |
| | | string | Assign disk to specific owner (node name). Either of owner,owner-id or |

| | | | |
|---|---|---|---|
| **owner** | | optional | copy-owner-from is mandatory. |
| **owner-id** | | integer optional | Assign disk to specific owner ID (NVRAM ID or serial number). Either of owner,owner-id or copy-owner-from is mandatory Range : [0..2^32-1]. |
| **pool** | | integer optional | Assign disk to specific pool, e.g. '0' or '1'. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDISKNOTFOUND** | |
| **EINVALIDOWNER** | |
| **EINVALIDINPUTERROR** | |
| **E_SANOWN_AUTOASSIGN_DISABLED** | |
| **E_DISK_ASSIGN_WARN** | |

# disk-sanown-filer-list-info

[top]

Get sanown filer information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Node name for which info is requested |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **disk-sanown-filer-details** | | disk-sanown-filer-detail-info[] | List of filers and their information. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ESANOWNNOTENABLED** | |

# disk-sanown-list-info

[top]

Get sanown disk information. This API is not supported as of Data ONTAP 8.2. Use storage-disk-get-iter instead.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk** | | string optional | Get ownership status for given disk, if not supplied, get ownership for all disks or if onership-type is supplied, get ownership info for disks of specific type. '6a*' wildcarding is supported. |
| **node** | | string optional | Node name for which info is requested |
| **ownership-type** | | string optional | Possible values are 'all' which will list all disks. 'unowned' which will list all disks without owners. 'owned' which will list all disks with owners. 'visible' which will list all disks belonging to the local and partner filer. Default is 'all'. If specific disk is specified, ownership-type will be ignored. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **disk-sanown-details** | | disk-sanown-detail-info[] | List of disks and their sanown information. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDISKNOTFOUND** | |
| **EAPIUNSUPPORTEDVERSION** | |

# disk-sanown-reassign

[top]

Changes ownership on disks already belonging to an owner.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force flag need to be set to 'true' if reassigning disks which are owned by another Filer. However, if that Filer is up and has put a reservation on the disk, even the force option won't work. In this case reassign will need to be run on the Filer which owns the disks. |
| **new-owner-id** | | integer | ID of new owner. This form will assign all the disks belonging to the old owner to the specific owner ID. Range : [0..2^32-1]. |
| **old-owner-id** | | integer | ID of old owner. This form takes all disks currently belonging to the specific old owner ID, and reassign them to a new owner. Range : [0..2^32-1]. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDISKFAILED** | |

# disk-sanown-remove-ownership

[top]

Removes ownership information on a disks provided by disk-list.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk-list** | | disk-name[] optional | List of disks to remove ownership information from. e.g. "1.1.1 1.1.2" or "NET-1.1 NET-1.2" for virtual disks. |
| **force** | | boolean optional | If 'true' override the RAID checks. Eg: Disk is part of aggregate. Otherwise defaults to false. |
| **is-data-partition** | | boolean optional | Used only with disk parameter. It specifies if the remove-ownership command must be executed on the data partition of a root-data partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data1-partition', 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', 'is-data2-partition' are specified or are all false and disk is partitioned, then ownership of container disk is removed. The default value is false. |

| | | | |
|---|---|---|---|
| **is-data1-partition** | | boolean optional | Used only with disk parameter. It specifies if the remove-ownership command must be executed on the data1 partition of a root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data-partition', 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', 'is-data2-partition' are specified or are all false and disk is partitioned, then ownership of container disk is removed. The default value is false. |
| **is-data2-partition** | | boolean optional | Used only with disk parameter. It specifies if the remove-ownership command must be executed on the data2 partition of a root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-root-partition', 'is-data-partition', 'is-data1-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', 'is-data2-partition' are specified or are all false and disk is partitioned, then ownership of container disk is removed. The default value is false. |
| **is-root-partition** | | boolean optional | Used only with disk parameter. It specifies if the remove-ownership command must be executed on the root partition of a root-data or root-data1-data2 partitioned disk. This field is mutually exclusive with 'is-data-partition', 'is-data1-partition', 'is-data2-partition' fields. When none of 'is-root-partition', 'is-data-partition', 'is-data1-partition', 'is-data2-partition' are specified or are all false and disk is partitioned, then ownership of container disk is removed. The default value is false. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EDISKNOTFOUND** | |
| **EINVALIDOWNER** | |
| **EINVALIDRESERVATION** | |
| **ENODISKSFOUND** | |
| **EMUSTBEINMAINTMODE** | |
| **EINTERNALERROR** | |
| **EDISKFAILED** | |

# disk-set-led

[top]

Set the disk LED state

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk** | | string | Disk to set the LED state |
| **led-state** | | string | The LED state to set Possible values are 'evac-start', 'evac-end', 'led-on', 'led-off' |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDISKNOTFOUND** | |
| **EINVALIDINPUTERROR** | |

# disk-unfail

[top]

Unfail a disk in the broken pool, by clearing its FDR (Failed Disk Registry) entry and unfailing it at the Storage Layer, as necessary. If the "make-spare" option is set to B_TRUE, the disk is returned to the spare pool. Otherwise, label assimilation will bring the disk back according to its on-disk labels, with one of four possible outcomes. 1. Disk becomes a spare. This is the common case. The disk becomes a spare upon unfail, because its parent volume is complete and online. 2. Disk is assimilated into former volume. This is a recovery scenario. The disk is brought back into an existing volume, which may result in this volume coming back online. 3. Disk is assimilated into a new partial volume. This may occur in the rare case that the disk's former volume was destroyed or moved. 4. Disk returned to broken pool. This is the case if a fatal error occurs in process of unfailing the disk.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk** | | string | Name of the disk. e.g. "1.1.3" or "NET-1.1" for a virtual disk. |
| **make-spare** | | boolean optional | Specify 'true' to force the disk to become a spare upon unfail. Default value is 'false'. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDISKNOTFOUND** | |
| **EOP_DISALLOWED_DURING_REVERT** | |
| **ENOTSTARTED** | |
| **EDISKISSPARE** | |
| **ESAVECOREDISK** | |
| **E_GROUP_REPARITY** | |
| **E_MIRROR_RESYNC** | |
| **EOP_DISALLOWED_DURING_REVERT** | |
| **EDISKNOTSPARE** | |
| **EAPIMISSINGARGUMENT** | |
| **ENOTINSANITIZEMODE** | |
| **ENOTINMAINTMODE** | |
| **ERAIDGROUPDEGRADED** | |
| **EVOLUMEOFFLINE** | |
| **EALREADYSTARTED** | |

# disk-update-disk-fw

[top]

Start disk firmware download process to update firmware on disks. This operation is asynchronous, and therefore returns no errors that might occur during the download process. This operation will only update firmware on disks that do not have the latest firmware revision. The firmware revision on the disk can be monitored via the disk-list-info API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk-list** | | disk-name[] optional | List of disks to be updated. If not specified, all disks are updated. e.g. "1.1.1 1.1.2 1.1.3" or "NET-1.1 NET-1.2" for virtual disks. |
| **node-name** | | string | This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDISKNOTFOUND** | |

| | |
|---|---|
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# disk-zero-spares

[top]

Set up all non-zeroed spares owned by the filer to start zeroing. This operation is asynchronous, and therefore returns no errors that might occur when the zeroing operation actually starts, which could be several seconds after this API operation completes. Zeroing progress can be monitored via the disk-list-info API. Same can be done using 'storage-disk-get-iter' when requested from Admin Vserver LIF. The "zeroing-percent" element of disk-detail-info is returned if disk zeroing has started, and "is-zeroed" returns TRUE once the zeroing has completed (or, if zeroing wasn't necessary in the first place).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string optional | Name of the node on which spare disks to be zeroed When requested from Admin Vserver LIF and node name is not specified, spare disks from all nodes in the cluster will be zeroed. |
| **use-physical-zeroing** | | boolean optional | If set to true, the ZAPI will not use fast zeroing, even if the nodes(s) owning the disks have the feature enabled. This will usually lead to much longer completion times. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **disk-info**

[top]

Information for each disk in the plex.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of a member disk. |
| **vbn-end** | **[0..2^64-1].** | integer optional | VBN end value of a disk. |
| **vbn-start** | **[0..2^64-1].** | integer optional | VBN start value of a disk. |

# Element definition: **disk-name**

[top]

Disk path name

[none]

# Element definition: **disk-sanown-detail-info**

[top]

Disk sanown information.

| Name | Range | Type | Description |
|---|---|---|---|
| **checksum** | | string optional | Only returned on RAID array LUNs. The possible values:<br>• "advanced_zoned" - advanced_zoned checksum (azcs),<br>• "block" - block,<br>• "zoned" - zoned (this value is no longer supported). |
| **dr-home-id** | **[0..2^32-1].** | integer optional | ID (NVRAM ID) of home owner of a disk in switchover state when there is a disaster. Before disaster switchover, the value of this field is zero. At the time of switchover, it would be changed so as to keep track of whom to give the disks to, at the time of switchback. If the disk has no dr home id, this will not be returned. |
| **dr-home-owner** | | string optional | This is the name of home owner of a disk in switchover state when there is a disaster. Before disaster switchover, the value of this field is a NULL string. At the time of switchover, it would be changed so as to keep track of whom to give the disks to, at the time of switchback. If the disk has no dr home owner, this will not be returned. |
| **home** | | string optional | The home of the disk. On NG will be different than owner if the home node has been taken over. On Classic this will be the same as owner. If the disk has no owner, this will not be returned. |
| **home-id** | | integer optional | ID (NVRAM ID) of disk home. Range : [0..2^32-1]. |
| **is-failed** | | boolean | 'true' if the disk is failed, 'false' otherwise. |
| **name** | | string | Name of the disk, e.g. v1.1 Wildcarding for disk string is suuported, e.g. v1.* |
| **owner** | | string optional | Current owner of the disk. If disk has no owner, this will not be returned. |
| **owner-id** | | integer optional | ID (NVRAM ID) of owner if there is one. Range : [0..2^32-1]. |
| **pool** | | integer optional | Pool the disk belongs to, if it has a owner. |
| **reserved-by** | | integer | ID (NVRAM ID) of node with the reservation on this disk, 0 if there is none. Range : [0..2^32-1]. |
| **serial-no** | | string | Serial number of the disk. |
| **type** | | string optional | Indicates the type of disk or device being being reported. Values are one of following: "FCAL", "D_ATA", "LUN", "MSATA", "SSD", "UNKNOWN" |

# Element definition: **disk-sanown-filer-detail-info**

[top]

Disk sanown filer information.

| Name | Range | Type | Description |
|---|---|---|---|
| **filer-id** | | integer | ID (NVRAM ID) of owner. Range : [0..2^32-1]. |
| **filer-name** | | string optional | Name of the filer. If the filer name hasn't been written to the disks, this will not be returned. |

# APIs in Category: **disk-encrypt**


disk-encrypt-get
disk-encrypt-get-iter
disk-encrypt-modify
disk-encrypt-modify-iter
disk-encrypt-sanitize
disk-encrypt-sanitize-iter
disk-encrypt-status-get
disk-encrypt-status-get-iter


This set of disk-encrypt ZAPIs allows management of the encryption parameters of self-encrypting disks, either SEDs or FIPS drives, on systems that support them. When properly set, these controls protect data at rest on the disk media. For FIPS-certified devices, these controls place the drives into compliance with their FIPS PUB 140-2 level 2 ("FIPS") certification. The authentication keys (AKs) are passphrases that allow the system to manipulate these controls.

To provide the maximum protection of disk data, set the data AK (using its corresponding key ID) to a key other than the default AK. The default AK can be either the manufacture secure ID (MSID, key ID 0x0) or a null AK (key ID displayed as blank). When a nondefault value is set as the data AK, the system automatically enables power-cycle protection, so that if a drive is removed or power-cycled, the current data AK must be presented to the device before it will transfer any data.

For FIPS-certified drives, also set the FIPS AK to place the drives into FIPS-compliance mode. In SAS FIPS drives, setting a nondefault FIPS key automatically engages firmware download protection so that the FIPS AK must be presented to the SED at each firmware download. NVMe drives use a drive-validated secure signature to prove the firmware is valid rather than requiring the FIPS key.

## disk-encrypt-get

[top]

Return data key ID, FIPS key ID and protection mode of a self-encrypting disk.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | disk-encrypt-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **disk-name** | | string | Name of the self-encrypting disk. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | disk-encrypt-info | The attributes of the disk-encrypt. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# disk-encrypt-get-iter

[top]

Return data key ID, FIPS key ID and protection mode of one or more self-encrypting disks.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | disk-encrypt-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 2000 |
| **query** | | disk-encrypt-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the disk-encrypt object. All disk-encrypt objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | disk-encrypt-info[] optional | The list of attributes of disk-encrypt objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more disk-encrypt objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# disk-encrypt-modify

[top]

The disk-encrypt-modify API alters encryption parameters on a self-encrypting disk (SED or FIPS).

The API output <results status="passed"> indicates only that the operation has started. Monitor operation progress using the disk-encrypt-status-get or disk-encrypt-status-get-iter API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **data-key-id** | | string optional | Modify the data authentication key to the key that corresponds to this key ID |
| **disk-name** | | disk-name | The name specifier of the self-encrypting disks (SEDs). |
| **fips-key-id** | | string optional | Modify the FIPS-compliance authentication key to the key that corresponds to this key ID |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

| | |
|---|---|
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |

# disk-encrypt-modify-iter

[top]

The disk-encrypt-modify-iter API alters encryption parameters on one or more self-encrypting disks (SEDs).

The API output <results status="passed"> indicates only that the operation has started. Monitor operation progress using the disk-encrypt-status-get or disk-encrypt-status-get-iter API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple disk-encrypt objects match a given query. If set to true, the API will continue with the next matching disk-encrypt even when the operation fails for the disk-encrypt. If set to false, the API will return on the first failure. Default: false |
| **data-key-id** | | string optional | Key ID of the New Data Authentication Key |
| **fips-key-id** | | string optional | Key ID of the New Authentication Key for FIPS Compliance |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching disk-encrypt even when the operation on a previous matching disk-encrypt fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of disk-encrypt objects to be operated in this call. Default: 20 |
| **query** | | disk-encrypt-info | If operating on a specific disk-encrypt, this input element must specify all keys. If operating on disk-encrypt objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of disk-encrypt objects (just keys) that were not operated on due to some error. If set to false, the list of disk-encrypt objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of disk-encrypt objects (just keys) that were successfully operated on. If set to false, the list of disk-encrypt objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | disk-encrypt-modify-iter-info[] optional | Information about disk-encrypt objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching disk-encrypt objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of disk-encrypt objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of disk-encrypt objects that matched the query and were successfully processed. |
| **success-list** | | disk-encrypt-modify-iter-info[] optional | The disk-encrypt objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# disk-encrypt-sanitize

[top]

The disk-encrypt-sanitize API cryptographically erases a self-encrypting disk (SED) that is in the spare or broken state.

The API output <results status="passed"> indicates only that the operation has started. Monitor operation progress using the disk-encrypt-status-get or disk-encrypt-status-get-iter API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk-name** | | string | The name specifier of the self-encrypting disks (SEDs). |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |

# disk-encrypt-sanitize-iter

[top]

The disk-encrypt-sanitize-iter API cryptographically erases one or more self-encrypting disks that are in the spare or broken state.

The API output <results status="passed"> indicates only that the operation has started. Monitor operation progress using the disk-encrypt-status-get or disk-encrypt-status-get-iter API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple disk-encrypt objects match a given query. If set to true, the API will continue with the next matching disk-encrypt even when the operation fails for the disk-encrypt. If set to false, the API will return on the first failure. Default: false |
| | | | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed |

| | | | |
|---|---|---|---|
| **max-failure-count** | **[1..2^32-1]** | integer optional | operations before the server gives up and returns. If set, the API will continue with the next matching disk-encrypt even when the operation on a previous matching disk-encrypt fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of disk-encrypt objects to be operated in this call. Default: 20 |
| **query** | | disk-encrypt-info | If operating on a specific disk-encrypt, this input element must specify all keys. If operating on disk-encrypt objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of disk-encrypt objects (just keys) that were not operated on due to some error. If set to false, the list of disk-encrypt objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of disk-encrypt objects (just keys) that were successfully operated on. If set to false, the list of disk-encrypt objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | disk-encrypt-sanitize-iter-info[] optional | Information about disk-encrypt objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching disk-encrypt objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of disk-encrypt objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of disk-encrypt objects that matched the query and were successfully processed. |
| **success-list** | | disk-encrypt-sanitize-iter-info[] optional | The disk-encrypt objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# disk-encrypt-status-get

[top]

Return information about the latest self-encrypting disk command for a node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | disk- | |

| | | | |
|---|---|---|---|
| **desired-attributes** | | encrypt-show-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | string | The node reporting this status. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | disk-encrypt-show-status-info | The attributes of the disk-encrypt. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# disk-encrypt-status-get-iter

[top]

Return information about the latest self-encrypting disk command for one or more nodes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | disk-encrypt-show-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | disk-encrypt-show-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the disk-encrypt object. All disk-encrypt objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | disk-encrypt-show-status-info[] optional | The list of attributes of disk-encrypt objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more disk-encrypt objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
| --- | --- |
| **EINTERNALERROR** | |

# Element definition: **disk-encrypt-info**

[top]

Self-Encrypting Disk parameters. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
| --- | --- | --- | --- |
| **compliance-standard** | | string optional | Security standard the device supports. Attributes: non-creatable, non-modifiable |
| **control-standard** | | string optional | Control Standard. Attributes: non-creatable, non-modifiable |
| **data-key-id** | | string optional | Key ID of the data authentication key. Attributes: non-creatable, non-modifiable |
| **disk-name** | | string optional | Name of the self-encrypting disk. Attributes: key, non-creatable, non-modifiable |
| **fips-key-id** | | string optional | Key ID of the FIPS authentication key. Attributes: non-creatable, non-modifiable |
| **is-fips-certified** | | boolean optional | Whether drive is FIPS-certified. Attributes: non-creatable, non-modifiable |
| **is-sed** | | boolean optional | Is self-encrypting disk? Attributes: non-creatable, non-modifiable |
| **overall-security** | | string optional | Overall Security. Attributes: non-creatable, non-modifiable |
| **protection-mode** | | string optional | Protection mode of the device.<br><br>Possible values are:<br><br>• 'open' ... disk is unprotected,<br>• 'data' ... data protection only without FIPS compliance,<br>• 'part' ... partial protection with FIPS compliance only,<br>• 'full' ... full data and FIPS compliance protection, and<br>• 'miss' ... protection information is not available<br><br>Attributes: non-creatable, non-modifiable |
| | | | Disk Type Attributes: non-creatable, non-modifiable Possible values:<br><br>• "ata" - Advanced Technology Attachment,<br>• "bsas" - Bridged Serial Attached SCSI (bridged from SATA),<br>• "fcal" - Fibre Channel Arbitrated Loop,<br>• "fsas" - High-Capacity (Fat) Serial Attached SCSI,<br>• "lun" - SCSI Logical Unit Number (e.g. Array),<br>• "sas" - Serial Attached SCSI, |

| | | | |
|---|---|---|---|
| **type** | | string optional | "msata" - Multiple bridged SATA disks in a single carrier,<br>• "ssd" - Solid-State Disk,<br>• "vmdisk" - Hypervisor Virtual Disk,<br>• "unknown" - unknown,<br>• "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_dc" - Data Center Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_cap" - High Capacity Solid-State Disk,<br>• "vmlun" - Hypervisor Virtual LUN,<br>• "vmlun_ssd" - Hypervisor Virtual SSD LUN,<br>• "ssd_zns" - Zoned Namespaces Solid-State Disk |

# Element definition: **disk-encrypt-modify-iter-info**

[top]

Information about the operation that was attempted/performed against disk-encrypt object.

| Name | Range | Type | Description |
|---|---|---|---|
| **disk-encrypt-key** | | disk-encrypt-info | The keys for the disk-encrypt object to which the operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |

# Element definition: **disk-encrypt-sanitize-iter-info**

[top]

Information about the operation that was attempted/performed against disk-encrypt object.

| Name | Range | Type | Description |
|---|---|---|---|
| **disk-encrypt-key** | | disk-encrypt-info | The keys for the disk-encrypt object to which the operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |

# Element definition: **disk-encrypt-show-status-info**

[top]

Information about storage encryption disk operations When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **disk-done-count** | **[0..2^32-1]** | integer optional | Number of drives that finished the operation, whether successful or not. Attributes: non-creatable, non-modifiable |
| **disk-start-count** | **[0..2^32-1]** | integer optional | Number of drives that started the operation. Attributes: non-creatable, non-modifiable |
| **disk-success-count** | **[0..2^32-1]** | integer optional | Number of drives that successfully completed the operation. Attributes: non-creatable, non-modifiable |
| **is-fips-support** | | boolean optional | Value is 'true' if the node supports FIPS-certified Self-Encrypting Drives. Attributes: non-creatable, non-modifiable |
| **latest-op** | | string optional | Latest operation. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Operation unknown/unspecified,<br>• "destroy" - Cryptograpically destroy encrypting drive,<br>• "modify" - Change encrypting drive parameters,<br>• "revert_original" - Revert drive to as-manufactured state,<br>• "sanitize" - Cryptographically sanitize encrypting drive,<br>• "show" - Show encrypting drive parameters,<br>• "status" - Display the status of encryption operations |
| **node-name** | | string optional | The node reporting this status. Attributes: key, non-creatable, non-modifiable |
| **op-execute-time** | **[0..2^32-1]** | integer optional | Execution time of the operation. Attributes: non-creatable, non-modifiable |
| **op-start-time** | **[0..2^31-1]** | integer optional | Date and time the operation started. Attributes: non-creatable, non-modifiable |

# Element definition: **disk-name**

[top]

Disk path name

[none]

# Element definition: **disk-encrypt-info**

[top]

Self-Encrypting Disk parameters. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **compliance-standard** | | string optional | Security standard the device supports. Attributes: non-creatable, non-modifiable |
| **control-standard** | | string optional | Control Standard. Attributes: non-creatable, non-modifiable |
| **data-key-id** | | string optional | Key ID of the data authentication key. Attributes: non-creatable, non-modifiable |
| **disk-name** | | string optional | Name of the self-encrypting disk. Attributes: key, non-creatable, non-modifiable |
| **fips-key-id** | | string optional | Key ID of the FIPS authentication key. Attributes: non-creatable, non-modifiable |
| **is-fips-certified** | | boolean optional | Whether drive is FIPS-certified. Attributes: non-creatable, non-modifiable |
| **is-sed** | | boolean optional | Is self-encrypting disk? Attributes: non-creatable, non-modifiable |
| **overall-security** | | string optional | Overall Security. Attributes: non-creatable, non-modifiable |
| **protection-mode** | | string optional | Protection mode of the device.<br><br>Possible values are:<br><br>• 'open' ... disk is unprotected,<br>• 'data' ... data protection only without FIPS compliance,<br>• 'part' ... partial protection with FIPS compliance only,<br>• 'full' ... full data and FIPS compliance protection, and<br>• 'miss' ... protection information is not available<br><br>Attributes: non-creatable, non-modifiable |
| **type** | | string optional | Disk Type Attributes: non-creatable, non-modifiable Possible values:<br><br>• "ata" - Advanced Technology Attachment,<br>• "bsas" - Bridged Serial Attached SCSI (bridged from SATA),<br>• "fcal" - Fibre Channel Arbitrated Loop,<br>• "fsas" - High-Capacity (Fat) Serial Attached SCSI,<br>• "lun" - SCSI Logical Unit Number (e.g. Array),<br>• "sas" - Serial Attached SCSI,<br>• "msata" - Multiple bridged SATA disks in a single carrier,<br>• "ssd" - Solid-State Disk,<br>• "vmdisk" - Hypervisor Virtual Disk,<br>• "unknown" - unknown,<br>• "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_dc" - Data Center Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_cap" - High Capacity Solid-State Disk,<br>• "vmlun" - Hypervisor Virtual LUN,<br>• "vmlun_ssd" - Hypervisor Virtual SSD LUN,<br>• "ssd_zns" - Zoned Namespaces Solid-State Disk |

# APIs in Category: **ems**


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The Event Management System (EMS) is a mechanism in the Data ONTAP kernel that supports creation, forwarding, and consumption of event indications. Ems events are generated by ONTAP when errors occur or to log status. These event indications are logged to /etc/log/ems and, depending on the event and its severity, to the syslog/console. If an event has a SNMP definition, SNMP traps will also be generated by the event indication.

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ems-mail-history-get-iter
ems-message-get
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ems-snmp-history-destroy
ems-snmp-history-destroy-iter
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ems-status-get
ems-status-get-iter

# ems-autosupport-log

[top]

This API is used by SnapDrive to log SnapDrive specific events occurring on a host system to the the appliance and optionally use the appliance to generate an autosupport message. This event information will be encapsulated in an app.log.x EMS event based on error level. If auto-support is true, an autosupport message will be sent from the filer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **app-version** | | string | Version of application invoking the API. |
| **auto-support** | | boolean validate | If 'true', an AutoSupport message will be generated. |
| **category** | | string | Application defined category of the event. |
| **computer-name** | | string | Host name invoking the API. |
| **event-description** | | string | Description of event to log. An application defined message to log. |
| **event-id** | | integer validate | ID of event. A user defined event-id, range [0..2^32-2]. |
| **event-source** | | string | Name of the application invoking the API. |
| **log-level** | | integer validate | Log level. Accepted values are 0 for 'emergency', 1 for 'alert', 2 for 'critical', 3 for 'error', 4 for 'warning', 5 for 'notice', 6 for 'info', and 7 for 'debug'. As of Data ONTAP 9.0, log-level's 2 and 4 are no longer supported. Specifying 2 or 4 would be equivalent to specifying 3 or 5, respectively. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |

| Vfiler-enabled |
| --- |
| Yes |

# ems-config-get

[top]

Return the EMS Configuration.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **desired-attributes** | | ems-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **attributes** | | ems-config-info | The attributes of the ems-config. |

| Errno | Description |
| --- | --- |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-config-modify

[top]

Modify the EMS Configuration.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **auto-suppress-exempt-filter** | | string optional | Name of event filter exempt from auto-suppression |
| **console** | | boolean optional | Whether console logging should be used. |
| **console-log-level** | | emsseverity optional | Console logging level. Possible values:<br>• "node_fault" - A data corruption has been detected or the node is unable to provide client service,<br>• "svc_fault" - A temporary loss of service has been detected, typically a transient software fault,<br>• "node_error" - A hardware error has been detected which is not immediately fatal,<br>• "svc_error" - A software error has been detected which is not immediately fatal,<br>• "warning" - A high-priority message, does not indicate a fault,<br>• "notice" - A normal-priority message, |

| | | | |
|---|---|---|---|
| | | | does not indicate a fault,<br>• "info" - A low-priority message, does not indicate a fault,<br>• "debug" - A debugging message, typically suppressed from customer,<br>• "var" - Message has variable severity, selected at runtime |
| **duplicate-suppression-duration** | **[0..2^32-1]** | integer<br>optional | Duration in seconds for suppression of identical messages |
| **log-rotation-size** | | size<br>optional | Log file size (in bytes) needed to trigger rotation |
| **mail-from** | | mail-address<br>optional | The from address of ems mail. |
| **mail-server** | | string<br>optional | The mail server to use when sending mail. |
| **max-destination-count** | **[0..2^32-1]** | integer<br>optional | Maximum number of event notification destinations in system. |
| **max-filter-count** | **[0..2^32-1]** | integer<br>optional | Maximum number of event filters in system. |
| **max-filter-rule-count** | **[0..2^32-1]** | integer<br>optional | Maximum number of event filter rules in system. |
| **max-log-show-size** | **[1..10000]** | integer<br>optional | Maximum number of events to show. |
| **max-notification-count** | **[0..2^32-1]** | integer<br>optional | Maximum number of event notifications in system. |
| **max-target-event-bytes** | **[10..134217728]** | integer<br>optional | Maximum bytes per event per week. Used by autosuppression to control growth of log file size. |
| **max-target-log-size** | **[1048576..134217728]** | integer<br>optional | The target upper limit of the event log file size in bytes. Used by autosuppression to control growth of log file size. |
| **proxy-url** | | string<br>optional | HTTP/HTTPS proxy URL to use when sending to REST API destinations. |
| **proxy-user** | | string<br>optional | User name to use for the HTTP/HTTPS proxy when sending to REST API destinations. |
| **rest-delivery-timeout** | **[1..1000]** | integer<br>optional | REST API URL delivery timeout in seconds. |
| **suppression** | | boolean<br>optional | Whether suppression should be used. |
| **trace-log-size** | **[1..10000]** | integer<br>optional | Maximum number of traces kept. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-config-set-proxy-password

[top]

Modify the password for proxy server

| Input Name | Range | Type | Description |
|---|---|---|---|
| **password-for-proxy-server** | | string optional | Password for proxy server |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **E_EMS_PASSWORDS_NOT_MATCH** | |
| **E_EMS_PASSWORD_REQUIRED** | |

# ems-destination-create

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Creates an EMS destination.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hide-parameters** | | boolean optional | Hide parameter values? |
| **mail** | | mail-address[] optional | The e-mail address to which events are sent. |
| **name** | | string | The name of the EMS destination. |
| **return-record** | | boolean optional | If set to true, returns the ems-destination on successful creation. Default: false |
| **snmp** | | remote-ip[] optional | The SNMP addresses to which traps are sent. |
| **snmp-community** | | string optional | The SNMP community name. |
| **syslog** | | remote-ip[] optional | The remote syslog servers to which messages are sent. |
| **syslog-facility** | | syslog-facility optional | The syslog logging facility. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | ems-destination-info optional | The ems-destination created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-destination-destroy

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Deletes the specified EMS destination.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | The name of the EMS destination. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-destination-destroy-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Deletes several EMS destinations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple ems-destination objects match a given query. If set to true, the API will continue deleting the next matching ems-destination even when the deletion of a previous ems-destination fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching ems-destination even when the deletion of a previous matching ems-destination fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of ems-destination objects to delete in this call. Default: 20 |
| **query** | | ems-destination-info | If deleting a specific ems-destination, this input element must specify all keys. If deleting multiple ems-destination objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of ems-destination objects (just keys) that were not deleted due to some error. If set to false, the list of ems-destination objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-destination objects (just keys) that were successfully deleted. If set to false, the list of ems-destination objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | ems-destination-destroy-iter-info[] optional | Information about ems-destination objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| | | string | Tag for the next call. Not present when there are no more |

| | | | |
|---|---|---|---|
| **next-tag** | | optional | matching ems-destination objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of ems-destination objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of ems-destination objects that matched the query and were successfully deleted. |
| **success-list** | | ems-destination-destroy-iter-info[] optional | The ems-destination objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-destination-get

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return the specified EMS destination information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-destination-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **name** | | string | The name of the EMS destination. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ems-destination-info | The attributes of the ems-destination. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-destination-get-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return information on EMS destinations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-destination-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | ems-destination-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-destination object. All ems-destination objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ems-destination-info[] optional | The list of attributes of ems-destination objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-destination objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-destination-modify

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Modifies the specified EMS destination.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hide-parameters** | | boolean optional | Hide parameter values? |
| **mail** | | mail-address[] optional | The e-mail address to which events are sent. |
| **name** | | string | The name of the EMS destination. |
| **snmp** | | remote-ip[] optional | The SNMP addresses to which traps are sent. |
| **snmp-community** | | string optional | The SNMP community name. |
| **syslog** | | remote-ip[] optional | The remote syslog servers to which messages are sent. |
| **syslog-facility** | | syslog-facility optional | The syslog logging facility. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-destination-modify-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Modifies

several EMS destinations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ems-destination-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple ems-destination objects match a given query. If set to true, the API will continue modifying the next matching ems-destination even when modification of a previous ems-destination fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching ems-destination even when the modification of a previous matching ems-destination fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | ems-destination-info | If modifying a specific ems-destination, this input element must specify all keys. If modifying ems-destination objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of ems-destination objects (just keys) that were not modified due to some error. If set to false, the list of ems-destination objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-destination objects (just keys) that were successfully updated. If set to false, the list of ems-destination objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | ems-destination-modify-iter-info[] optional | Information about ems-destination objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching ems-destination objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of ems-destination objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of ems-destination objects that matched the query and were successfully updated. |
| **success-list** | | ems-destination-modify-iter-info[] optional | The ems-destination objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

## ems-event-catalog-get-iter

[top]

Return information on several EMS messages.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | event-catalog-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | event-catalog-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-catalog object. All ems-event-catalog objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | event-catalog-info[] optional | The list of attributes of ems-event-catalog objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more ems-event-catalog objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

## ems-event-filter-copy

[top]

Copy an Event filter including all its rules

| Input Name | Range | Type | Description |
|---|---|---|---|
| filter-name | | string | Event Filter Name. |
| new-filter-name | | string | New Event Filter Name. |

| Errno | Description |
|---|---|
| EDUPLICATEENTRY | |
| EINTERNALERROR | |
| EOBJECTNOTFOUND | |

| | |
|---|---|
| **E_EMS_EMPTY_FILTERNAME** | |
| **E_EMS_FILTERNAME_HAS_SPACES** | |
| **E_EMS_INVALID_FILTERNAME** | |
| **E_EMS_MAX_FILTER_LIMIT_EXCEEDED** | |

# ems-event-filter-create

[top]

Create a new event filter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **filter-name** | | string | Filter Name. The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen). |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDUPLICATEENTRY** | |
| **E_EMS_EMPTY_FILTERNAME** | |
| **E_EMS_FILTERNAME_HAS_SPACES** | |
| **E_EMS_INVALID_FILTERNAME** | |
| **E_EMS_MAX_FILTER_LIMIT_EXCEEDED** | |
| **E_EMS_CLUSTER_NOT_CAPABLE** | |

# ems-event-filter-destroy-iter

[top]

Delete one or more existing event filters. To delete the event notifications associated with the filter as well, set the force flag.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple ems-event-filter objects match a given query. If set to true, the API will continue with the next matching ems-event-filter even when the operation fails for the ems-event-filter. If set to false, the API will return on the first failure. Default: false |
| **force-delete-notification** | | boolean optional | If true, delete the event notifications that have the specified filter. The default is false. |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching ems-event-filter even when the operation on a previous matching ems-event-filter fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of ems-event-filter objects to be operated in this call. Default: 20 |
| | | | If operating on a specific ems-event-filter, this input element must |

| | | | |
|---|---|---|---|
| **query** | | event-filter | specify all keys. If operating on ems-event-filter objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of ems-event-filter objects (just keys) that were not operated on due to some error. If set to false, the list of ems-event-filter objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-event-filter objects (just keys) that were successfully operated on. If set to false, the list of ems-event-filter objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | ems-event-filter-destroy-iter-info[] optional | Information about ems-event-filter objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching ems-event-filter objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of ems-event-filter objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of ems-event-filter objects that matched the query and were successfully processed. |
| **success-list** | | ems-event-filter-destroy-iter-info[] optional | The ems-event-filter objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **E_EMS_CANNOT_ALTER_DEFAULT_FILTER** | |
| **E_EMS_FILTER_HAS_NOTIFICATIONS** | |

# ems-event-filter-get-iter

[top]

Iterate over a list of event filters.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | event-filter optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | event-filter optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-filter object. All ems-event-filter objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | event-filter[] optional | The list of attributes of ems-event-filter objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-event-filter objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-event-filter-rename

[top]

Rename an Event filter

| Input Name | Range | Type | Description |
|---|---|---|---|
| **filter-name** | | string | Event Filter Name. |
| **new-filter-name** | | string | New Event Filter Name. |

| Errno | Description |
|---|---|
| **EDUPLICATEENTRY** | |
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **E_EMS_EMPTY_FILTERNAME** | |
| **E_EMS_FILTERNAME_HAS_SPACES** | |
| **E_EMS_INVALID_FILTERNAME** | |
| **E_EMS_CANNOT_ALTER_DEFAULT_FILTER** | |

# ems-event-filter-rule-add

[top]

Add a rule to an event filter

| Input Name | Range | Type | Description |
|---|---|---|---|
| **filter-name** | | string | Filter Name |
| **message-** | | string | Message Name. Default: * |

| | | | |
|---|---|---|---|
| **name** | | optional | |
| **position** | | integer optional | An optional field to specify the position at which the rule needs to be added. Default: Added one below the last position which is the default rule. |
| **severity** | | string[] optional | Severity<br><br>Possible values:<br><br>• 'emergency' - Disruption,<br>• 'alert' - Single point of failure,<br>• 'error' - Degradation,<br>• 'notice' - Information,<br>• 'informational' - Information,<br>• 'debug' - Debug information,<br>• '*' - All of the above<br><br>Default: * |
| **snmp-trap-type** | | string[] optional | SNMP Trap Type<br><br>Possible values:<br><br>• 'standard' - Standard SNMP traps,<br>• 'built-in' - Built-in SNMP traps,<br>• 'severity-based' - Severity based SNMP traps<br>• '*' - All of the above<br><br>Default: * |
| **type** | | event-rule-type | Rule Type |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **E_EMS_CLUSTER_NOT_CAPABLE** | |
| **E_EMS_NEW_RULE_FOR_UNKNOWN_FILTER** | |
| **E_EMS_CANNOT_ALTER_DEFAULT_FILTER** | |
| **E_EMS_MAX_FILTER_RULE_LIMIT_EXCEEDED** | |
| **E_EMS_ONLY_DEFAULT_RULE_ID** | |
| **E_EMS_INVALID_EVENT_FILTER_RULE_ID** | |
| **E_EMS_NO_EVENT_MATCHED_THE_RULE** | |
| **E_EMS_NO_REQUIRED_VALUE** | |
| **E_EMS_STAR_CANNOT_COEXIST** | |
| **E_EMS_INVALID_TRAP_TYPE** | |
| **E_EMS_SEVERITIES_NOT_SUPPORTED** | |
| **E_EMS_FILTER_RULE_INVALID_MESSAGENAME** | |
| **E_EMS_FILTER_RULE_INVALID_SEVERITY** | |
| **E_EMS_FILTER_RULE_INVALID_TRAP** | |
| **E_EMS_FILTER_RULE_INVALID_SEVERITY_TRAP** | |

# ems-event-filter-rule-delete

[top]

Delete a rule for an event filter

| Input Name | Range | Type | Description |
|---|---|---|---|
| **filter-name** | | string | Filter Name |
| **position** | **[0..2^32-1]** | integer | Rule Position |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **E_EMS_UNKNOWN_FILTER** | |
| **E_EMS_CANNOT_ALTER_DEFAULT_FILTER** | |
| **E_EMS_CANNOT_DELETE_DEFAULT_RULE** | |
| **E_EMS_ONLY_DEFAULT_RULE_PRESENT** | |
| **E_EMS_ONLY_DEFAULT_RULE_ID** | |
| **E_EMS_INVALID_EVENT_FILTER_RULE_ID** | |

# ems-event-filter-rule-reorder

[top]

Reorder the rules based on the new position for a given rule

| Input Name | Range | Type | Description |
|---|---|---|---|
| **filter-name** | | string | Filter Name |
| **position** | **[0..2^32-1]** | integer | Rule Positon |
| **to-position** | **[0..2^32-1]** | integer | New Rule Position |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **E_EMS_UNKNOWN_FILTER** | |
| **E_EMS_CANNOT_ALTER_DEFAULT_FILTER** | |
| **E_EMS_ONLY_DEFAULT_RULE_ID** | |
| **E_EMS_INVALID_EVENT_FILTER_RULE_ID** | |

# ems-event-filter-test

[top]

Test an event filter

| Input Name | Range | Type | Description |
|---|---|---|---|
| **filter-name** | | string | Filter Name |
| **message-name** | | ems-id optional | Message Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | Gives the total number of events that are included in the filter. The format is: ' events will be included in the given filter.' If messagename |

| | | | |
|---|---|---|---|
| **output** | | string | is provided, it specifies if the messagename is included or excluded in the filter. The format is: 'The messagename is included/excluded from the given filter.' |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-event-notification-create

[top]

Create an event notification

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destinations** | | string[] | List of Event Notification Destinations |
| **filter-name** | | string | Filter Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **id** | **[0..2^32-1]** | integer optional | A non persistent ID assigned to the newly created notification. This can be used to update/delete the notification. Note: This ID is non-persistent and will be changed every time a previously created notification is deleted. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDUPLICATEENTRY** | |
| **E_EMS_CLUSTER_NOT_CAPABLE** | |
| **E_EMS_MAX_NOTIFICATION_LIMIT_EXCEEDED** | |
| **E_EMS_FILTER_DOESNT_EXIST** | |
| **E_EMS_DESTINATIONS_REQUIRED** | |
| **E_EMS_DESTINATION_NOT_PRESENT** | |

# ems-event-notification-destination-check

[top]

Check connectivity to an event notification destination

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-name** | | string | Event Notification Destination Name |
| **node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **check-passed** | | boolean | Connectivity Check Passed? |
| **result-log** | | string | Provides the result information after trying to connect to the given destination. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# ems-event-notification-destination-create

[top]

Create an event notification destination

| Input Name | Range | Type | Description |
|---|---|---|---|
| certificate-authority | | string optional | Use this field and certificate-serial to specify the client certificate to use when being authenticated by the REST API server. |
| certificate-serial | | string optional | Use this field and certificate-authority to specify the client certificate to use when being authenticated by the REST API server. |
| email | | string optional | Use this field to specify an email destination. Note: Each destination name can only be associated with either an email destination or a syslog destination. SNMP destinations can be created/updated only through the 'system snmp traphost' command and they are associated with the default destination name 'snmp-traphost'. The format of the email destination is as per RFC standard. |
| name | | string | Destination Name.The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen). |
| rest-api-url | | string optional | Use this field to specify REST API server URL to which event notifications will be sent. Enter the full URL, which must start either with an http:// or https:// prefix. |
| return-record | | boolean optional | If set to true, returns the ems-event-notification-destination on successful creation. Default: false |
| syslog | | string optional | Use this field to specify a syslog destination. Note: Each destination name can only be associated with either an email destination or a syslog destination. SNMP destinations can be created/updated only through the 'system snmp traphost' command and they are associated with the default destination name 'snmp-traphost'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| result | | event-notification-destination optional | The ems-event-notification-destination created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EDUPLICATEENTRY | |
| E_EMS_CLUSTER_NOT_CAPABLE | |
| E_EMS_EMPTY_FILTERNAME | |
| E_EMS_FILTERNAME_HAS_SPACES | |
| E_EMS_FILTERNAME_SYNTAX_ERROR | |
| E_EMS_INVALID_SYSLOG_DEST | |
| E_EMS_MAX_DESTINATION_LIMIT_EXCEEDED | |
| E_EMS_CLIENT_CERT_DOES_NOT_EXIST | |
| E_EMS_CLIENT_KEY_DOES_NOT_EXIST | |

| | |
|---|---|
| **E_EMS_CERT_INFO_INCOMPLETE** | |
| **E_EMS_HTTP_WITH_CERT** | |

# ems-event-notification-destination-destroy-iter

[top]

Delete one or more existing event destinations

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple ems-event-notification-destination objects match a given query. If set to true, the API will continue with the next matching ems-event-notification-destination even when the operation fails for the ems-event-notification-destination. If set to false, the API will return on the first failure. Default: false |
| **force-delete-notification** | | boolean optional | If true, delete the event notifications that have the specified destination as the only destination as well. The default is false. |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching ems-event-notification-destination even when the operation on a previous matching ems-event-notification-destination fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of ems-event-notification-destination objects to be operated in this call. Default: 20 |
| **query** | | event-notification-destination | If operating on a specific ems-event-notification-destination, this input element must specify all keys. If operating on ems-event-notification-destination objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of ems-event-notification-destination objects (just keys) that were not operated on due to some error. If set to false, the list of ems-event-notification-destination objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-event-notification-destination objects (just keys) that were successfully operated on. If set to false, the list of ems-event-notification-destination objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | ems-event-notification-destination-destroy-iter-info[] | Information about ems-event-notification-destination objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |

| | | | |
|---|---|---|---|
| | | optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching ems-event-notification-destination objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of ems-event-notification-destination objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of ems-event-notification-destination objects that matched the query and were successfully processed. |
| **success-list** | | ems-event-notification-destination-destroy-iter-info[] optional | The ems-event-notification-destination objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **E_EMS_CANNOT_ALTER_DEFAULT_SNMP_DESTINATION** | |
| **E_EMS_DESTINATION_HAS_NOTIFICATIONS** | |

# ems-event-notification-destination-get-iter

[top]

Returns information about one or more event notification destinations. The fields is-server-ca-present, certificate-authority, certificate-serial and is-certificate-valid are only applicable for a destination of type 'rest-api' and the destination being an HTTPS destination.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | event-notification-destination-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | event-notification-destination-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-notification-destination object. All ems-event-notification-destination objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | event-notification-destination-info[] optional | The list of attributes of ems-event-notification-destination objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-event-notification-destination objects to return. |

| | | | |
|---|---|---|---|
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-event-notification-destination-modify-iter

[top]

Modify one or more event notification destinations

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | event-notification-destination | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple ems-event-notification-destination objects match a given query. If set to true, the API will continue modifying the next matching ems-event-notification-destination even when modification of a previous ems-event-notification-destination fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching ems-event-notification-destination even when the modification of a previous matching ems-event-notification-destination fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | event-notification-destination | If modifying a specific ems-event-notification-destination, this input element must specify all keys. If modifying ems-event-notification-destination objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of ems-event-notification-destination objects (just keys) that were not modified due to some error. If set to false, the list of ems-event-notification-destination objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-event-notification-destination objects (just keys) that were successfully updated. If set to false, the list of ems-event-notification-destination objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | ems-event-notification- | |

| | | | |
|---|---|---|---|
| **failure-list** | | destination-modify-iter-info[] optional | Information about ems-event-notification-destination objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching ems-event-notification-destination objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of ems-event-notification-destination objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of ems-event-notification-destination objects that matched the query and were successfully updated. |
| **success-list** | | ems-event-notification-destination-modify-iter-info[] optional | The ems-event-notification-destination objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **E_EMS_CANNOT_ALTER_DEFAULT_SNMP_DESTINATION** | |
| **E_EMS_CANNOT_MODIFY_DESTINATION_TYPE** | |
| **E_EMS_INVALID_SYSLOG_DEST** | |
| **E_EMS_CLIENT_CERT_DOES_NOT_EXIST** | |
| **E_EMS_CLIENT_KEY_DOES_NOT_EXIST** | |
| **E_EMS_CERT_INFO_INCOMPLETE** | |
| **E_EMS_HTTP_WITH_CERT** | |

# ems-event-notification-destroy-iter

[top]

Delete one or more event notifications

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple ems-event-notification objects match a given query. If set to true, the API will continue deleting the next matching ems-event-notification even when the deletion of a previous ems-event-notification fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching ems-event-notification even when the deletion of a previous matching ems-event-notification fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-** | integer | The maximum number of ems-event-notification objects to |

| | | | |
|---|---|---|---|
| | 1] | optional | delete in this call. Default: 20 |
| **query** | | event-notification | If deleting a specific ems-event-notification, this input element must specify all keys. If deleting multiple ems-event-notification objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of ems-event-notification objects (just keys) that were not deleted due to some error. If set to false, the list of ems-event-notification objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-event-notification objects (just keys) that were successfully deleted. If set to false, the list of ems-event-notification objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | ems-event-notification-destroy-iter-info[] optional | Information about ems-event-notification objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching ems-event-notification objects to be deleted. |
| **num-failed** | [0..2^32-1] | integer optional | Number of ems-event-notification objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | [0..2^32-1] | integer optional | The number of ems-event-notification objects that matched the query and were successfully deleted. |
| **success-list** | | ems-event-notification-destroy-iter-info[] optional | The ems-event-notification objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# ems-event-notification-get-iter

[top]

Returns information about one or more event notifications

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | event-notification optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | event-notification | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-notification object. All ems-event-notification objects matching |

| | | | |
|---|---|---|---|
| | | optional | this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | event-notification[] optional | The list of attributes of ems-event-notification objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-event-notification objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-event-notification-history-get-iter

[top]

Return EMS messages sent to a destination.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | event-notification-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination** | | string | The destination name. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | event-notification-history-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-event-notification-history object. All ems-event-notification-history objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | event-notification-history-info[] optional | The list of attributes of ems-event-notification-history objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-event-notification-history objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-event-notification-modify-iter

[top]

Modify one or more event notifications

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | event-notification | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple ems-event-notification objects match a given query. If set to true, the API will continue modifying the next matching ems-event-notification even when modification of a previous ems-event-notification fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching ems-event-notification even when the modification of a previous matching ems-event-notification fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | event-notification | If modifying a specific ems-event-notification, this input element must specify all keys. If modifying ems-event-notification objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of ems-event-notification objects (just keys) that were not modified due to some error. If set to false, the list of ems-event-notification objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-event-notification objects (just keys) that were successfully updated. If set to false, the list of ems-event-notification objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | ems-event-notification-modify-iter-info[] optional | Information about ems-event-notification objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching ems-event-notification objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of ems-event-notification objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of ems-event-notification objects that matched the query and were successfully updated. |

| | | | |
|---|---|---|---|
| **success-list** | | ems-event-notification-modify-iter-info[] optional | The ems-event-notification objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **E_EMS_FILTER_DOESNT_EXIST** | |
| **E_EMS_DESTINATIONS_REQUIRED** | |
| **E_EMS_DESTINATION_NOT_PRESENT** | |

# ems-invoke

[top]

Invoke an ems event. This functionality is intended for use in testing syslog parsers or upper level SNMP management software. The event will be forwarded to the ems log at /etc/log/ems and optionally to the syslog or SNMP trap generator. Invoked events in /etc/log/ems will have the attribute 'inv' set to "1". This is to allow auto-support to differentiate between real and invoked events. Syslog entries resulting from invoked events will contain the text "invoked event:" so that they aren't confused with real events. Invoked events by default are only logged to the /etc/log/ems log. To have an event go to the syslog or generate an snmp trap, the 'syslog' and/or 'snmp' flags need to be set.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **event-id** | | string | Name of the event to invoke. Each ems event has a unique identifier (event-id) that can be used by this api to 'fake' an event. Example event-id's: kern.syslog.msg kern.uptime.filer raid.cksum.replay.nvram raid.cksum.replay.summary raid.fsm.commitStateTransit |
| **event-version** | | integer optional | If set, specifies the version of the event to invoke. By default, the latest version is used. Accepted values are [1..n]. Event-version is only used when multiple versions of an event exist simultaneously within a given build of ONTAP. Most events have an event-version of 1. |
| **params** | | param[] optional | |
| **severity** | | string optional | For events with variable severity, specfies the severity to invoke the event at. Shouldn't be set for events that don't have variable severity. Possible Values: debug info notice warning svc_error node_error svc_fault node_fault |
| **snmp** | | boolean optional | If set, and event has an SNMP definition, generate SNMP trap for event. Invoked messages by default do not generate SNMP traps. |
| **syslog** | | boolean optional | If set, and the event has a syslog format definition, forward invoked message to syslog. Invoked messages are by default not forwarded to syslog |

| Errno | Description |
|---|---|
| **EEMS_INVOKE_FAILED** | |
| **EEMS_INVOKE_BAD_PARAM** | |
| **EEMS_INVOKE_ID_BAD** | |
| **EEMS_INVOKE_SEVERITY_REQUIRED** | |
| **EEMS_INVOKE_SEVERITY_INVALID** | |
| **EEMS_INVOKE_SEVERITY_NOT_VARIABLE** | |

| | |
|---|---|
| **EEMS_INVOKE_PARAMS_INSUFFICIENT** | |
| **EEMS_INVOKE_VERSION_INVALID** | |
| **EEMS_INVOKE_SUPRESS_DUP** | |
| **EEMS_INVOKE_SUPRESS_TIMER** | |
| **EEMS_INVOKE_NVRAM_TOO_BIG** | |
| **EEMS_INVOKE_QUEUE_FULL** | |

# ems-mail-history-destroy

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Delete an individual mail history entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node emitting the EMS message. |
| **seq-num** | | seqnum | The message sequence number. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-mail-history-destroy-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Delete mail history entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple ems-mail-history objects match a given query. If set to true, the API will continue deleting the next matching ems-mail-history even when the deletion of a previous ems-mail-history fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching ems-mail-history even when the deletion of a previous matching ems-mail-history fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of ems-mail-history objects to delete in this call. Default: 20 |
| **query** | | ems-mail-history-info | If deleting a specific ems-mail-history, this input element must specify all keys. If deleting multiple ems-mail-history objects based on query, this input element must specify a query. |
| **return-** | | boolean | If set to true, the API will return the list of ems-mail-history objects (just keys) that were not deleted due to some error. If set to false, |

| | | | |
|---|---|---|---|
| **failure-list** | | optional | the list of ems-mail-history objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-mail-history objects (just keys) that were successfully deleted. If set to false, the list of ems-mail-history objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | ems-mail-history-destroy-iter-info[] optional | Information about ems-mail-history objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching ems-mail-history objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of ems-mail-history objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of ems-mail-history objects that matched the query and were successfully deleted. |
| **success-list** | | ems-mail-history-destroy-iter-info[] optional | The ems-mail-history objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-mail-history-get

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return an individual mail history entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-mail-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node emitting the EMS message. |
| **seq-num** | | seqnum | The message sequence number. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | ems-mail- | |

| | | | |
|---|---|---|---|
| **attributes** | | history-info | The attributes of the ems-mail-history. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-mail-history-get-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return information mail history.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-mail-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ems-mail-history-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-mail-history object. All ems-mail-history objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ems-mail-history-info[] optional | The list of attributes of ems-mail-history objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-mail-history objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-message-get

[top]

Return an EMS message.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **desired-attributes** | | ems-message-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node emitting the EMS message. |
| **seq-num** | | seqnum | The message sequence number. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ems-message-info | The attributes of the ems-message. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-message-get-iter

[top]

Return EMS messages.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-message-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ems-message-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-message object. All ems-message objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ems-message-info[] optional | The list of attributes of ems-message objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-message objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-routing-add-destination

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Add EMS Destinations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destinations** | | ems-destination[] | Destinations |
| **message-name** | | ems-id | The name of the EMS message. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-routing-get

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return the specified EMS route information. In general, specifying the severity input parameter is not needed. If specified, it must match that of the event identified by the message-name input parameter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-routing-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **message-name** | | ems-id | The name of the EMS message. |
| **severity** | | eventseverity optional | The event severity. As of Data ONTAP 9.0, 'critical' and 'warning' severities are no longer supported. Possible values:<br>• "emergency" - Disruption,<br>• "alert" - Single point of failure,<br>• "critical" - Critical condition,<br>• "error" - Degradation,<br>• "warning" - Warning condition,<br>• "notice" - Information,<br>• "informational" - Information,<br>• "debug" - Debug information |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ems-routing-info | The attributes of the ems-routing. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-routing-get-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return information on several EMS routes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-routing-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ems-routing-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-routing object. All ems-routing objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ems-routing-info[] optional | The list of attributes of ems-routing objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-routing objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-routing-modify

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Modifies the specified EMS route.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destinations** | | ems-destination[] optional | The event destinations. |
| **frequency-threshold** | | integer optional | Number of times an event occurs before a repeat notification of the event is sent. |
| **message-name** | | ems-id | The name of the EMS message. |
| **time-threshold** | | integer optional | Minimum number of seconds between repeat notifications of an event. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

| EINTERNALERROR | |
|---|---|

# ems-routing-modify-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Modifies several EMS route.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ems-routing-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple ems-routing objects match a given query. If set to true, the API will continue modifying the next matching ems-routing even when modification of a previous ems-routing fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching ems-routing even when the modification of a previous matching ems-routing fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | ems-routing-info | If modifying a specific ems-routing, this input element must specify all keys. If modifying ems-routing objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of ems-routing objects (just keys) that were not modified due to some error. If set to false, the list of ems-routing objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-routing objects (just keys) that were successfully updated. If set to false, the list of ems-routing objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | ems-routing-modify-iter-info[] optional | Information about ems-routing objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching ems-routing objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of ems-routing objects that matched the query, but were not modified due to some error. |
| **num-** | **[0..2^32-** | integer | The number of ems-routing objects that matched the query and |

| | | | |
|---|---|---|---|
| **succeeded** | **1]** | optional | were successfully updated. |
| **success-list** | | ems-routing-modify-iter-info[] optional | The ems-routing objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## ems-routing-remove-destination

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Remote EMS Destinations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destinations** | | ems-destination[] | Destinations |
| **message-name** | | ems-id | The name of the EMS message. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## ems-snmp-history-destroy

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Delete an individual SNMP history entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node emitting the EMS message. |
| **seq-num** | | seqnum | The message sequence number. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## ems-snmp-history-destroy-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Delete SNMP history entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | This input element is useful when multiple ems-snmp-history |

| | | | |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | objects match a given query. If set to true, the API will continue deleting the next matching ems-snmp-history even when the deletion of a previous ems-snmp-history fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching ems-snmp-history even when the deletion of a previous matching ems-snmp-history fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of ems-snmp-history objects to delete in this call. Default: 20 |
| **query** | | ems-snmp-history-info | If deleting a specific ems-snmp-history, this input element must specify all keys. If deleting multiple ems-snmp-history objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of ems-snmp-history objects (just keys) that were not deleted due to some error. If set to false, the list of ems-snmp-history objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of ems-snmp-history objects (just keys) that were successfully deleted. If set to false, the list of ems-snmp-history objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | ems-snmp-history-destroy-iter-info[] optional | Information about ems-snmp-history objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching ems-snmp-history objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of ems-snmp-history objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of ems-snmp-history objects that matched the query and were successfully deleted. |
| **success-list** | | ems-snmp-history-destroy-iter-info[] optional | The ems-snmp-history objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-snmp-history-get

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return an individual SNMP history entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-snmp-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node emitting the EMS message. |
| **seq-num** | | seqnum | The message sequence number. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ems-snmp-history-info | The attributes of the ems-snmp-history. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-snmp-history-get-iter

[top]

(This interface has been deprecated. It may be removed from a future release of Data ONTAP)-Return information SNMP history.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-snmp-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ems-snmp-history-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-snmp-history object. All ems-snmp-history objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | ems- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | snmp-history-info[] optional | The list of attributes of ems-snmp-history objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-snmp-history objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ems-status-get

[top]

Return information on an EMS message.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **message-name** | | ems-id | The message name. |
| **node** | | node-name | Node emitting the EMS message. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ems-status-info | The attributes of the ems-status. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ems-status-get-iter

[top]

Return information on EMS messages.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ems-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | ems-status- | A query that specifies which objects to return. A query could be specified on any number of attributes in the ems-status object. All |

| | | | |
|---|---|---|---|
| **query** | | info optional | ems-status objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ems-status-info[] optional | The list of attributes of ems-status objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ems-status objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **ems-config-info**

[top]

EMS Configuration Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **auto-suppress-exempt-filter** | | string optional | Name of event filter exempt from auto-suppression Attributes: non-creatable, modifiable |
| **console** | | boolean optional | Whether console logging should be used. Attributes: non-creatable, modifiable |
| **console-log-level** | | emsseverity optional | Console logging level. Attributes: non-creatable, modifiable Possible values:<br>• "node_fault" - A data corruption has been detected or the node is unable to provide client service,<br>• "svc_fault" - A temporary loss of service has been detected, typically a transient software fault,<br>• "node_error" - A hardware error has been detected which is not immediately fatal,<br>• "svc_error" - A software error has been detected which is not immediately fatal,<br>• "warning" - A high-priority message, does not indicate a fault, |

| | | | |
|---|---|---|---|
| | | | • "notice" - A normal-priority message, does not indicate a fault,<br>• "info" - A low-priority message, does not indicate a fault,<br>• "debug" - A debugging message, typically suppressed from customer,<br>• "var" - Message has variable severity, selected at runtime |
| **duplicate-suppression-duration** | **[0..2^32-1]** | integer optional | Duration in seconds for suppression of identical messages Attributes: non-creatable, modifiable |
| **log-rotation-size** | | size optional | Log file size (in bytes) needed to trigger rotation Attributes: non-creatable, modifiable |
| **mail-from** | | mail-address optional | The from address of ems mail. Attributes: non-creatable, modifiable |
| **mail-server** | | string optional | The mail server to use when sending mail. Attributes: non-creatable, modifiable |
| **max-destination-count** | **[0..2^32-1]** | integer optional | Maximum number of event notification destinations in system. Attributes: non-creatable, modifiable |
| **max-filter-count** | **[0..2^32-1]** | integer optional | Maximum number of event filters in system. Attributes: non-creatable, modifiable |
| **max-filter-rule-count** | **[0..2^32-1]** | integer optional | Maximum number of event filter rules in system. Attributes: non-creatable, modifiable |
| **max-log-show-size** | **[1..10000]** | integer optional | Maximum number of events to show. Attributes: non-creatable, modifiable |
| **max-notification-count** | **[0..2^32-1]** | integer optional | Maximum number of event notifications in system. Attributes: non-creatable, modifiable |
| **max-target-event-bytes** | **[10..134217728]** | integer optional | Maximum bytes per event per week. Used by autosuppression to control growth of log file size. Attributes: non-creatable, modifiable |
| **max-target-log-size** | **[1048576..134217728]** | integer optional | The target upper limit of the event log file size in bytes. Used by autosuppression to control growth of log file size. Attributes: non-creatable, modifiable |
| **proxy-url** | | string optional | HTTP/HTTPS proxy URL to use when sending to REST API destinations. Attributes: non-creatable, modifiable |
| **proxy-user** | | string optional | User name to use for the HTTP/HTTPS proxy when sending to REST API destinations. Attributes: non-creatable, modifiable |
| **rest-delivery-timeout** | **[1..1000]** | integer optional | REST API URL delivery timeout in seconds. Attributes: non-creatable, modifiable |
| **suppression** | | boolean optional | Whether suppression should be used. Attributes: non-creatable, modifiable |
| **trace-log-size** | **[1..10000]** | integer optional | Maximum number of traces kept. Attributes: non-creatable, modifiable |

## Element definition: **ems-destination**

[top]

EMS destination

[none]

# Element definition: **ems-destination-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against ems-destination object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-destination-key** | | ems-destination-info | The keys for the ems-destination object to which the deletion applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |

# Element definition: **ems-destination-info**

[top]

EMS Destination Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **hide-parameters** | | boolean optional | Hide parameter values? Attributes: optional-for-create, modifiable |
| **mail** | | mail-address[] optional | The e-mail address to which events are sent. Attributes: optional-for-create, modifiable |
| **name** | | string optional | The name of the EMS destination. Attributes: key, required-for-create, non-modifiable |
| **snmp** | | remote-ip[] optional | The SNMP addresses to which traps are sent. Attributes: optional-for-create, modifiable |
| **snmp-community** | | string optional | The SNMP community name. Attributes: optional-for-create, modifiable |
| **syslog** | | remote-ip[] optional | The remote syslog servers to which messages are sent. Attributes: optional-for-create, modifiable |
| **syslog-facility** | | syslog-facility optional | The syslog logging facility. Attributes: optional-for-create, modifiable |

# Element definition: **ems-destination-modify-iter-info** [top]

Information about the modify operation that was attempted/performed against ems-destination object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-destination-key** | | ems-destination-info | The keys for the ems-destination object to which the modify operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |

# Element definition: **ems-event-filter-destroy-iter-info** [top]

Information about the operation that was attempted/performed against ems-event-filter object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-event-filter-key** | | event-filter | The keys for the ems-event-filter object to which the operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |

# Element definition: **ems-event-notification-destination-destroy-iter-info** [top]

Information about the operation that was attempted/performed against ems-event-notification-destination object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-event-notification-destination-key** | | event-notification-destination | The keys for the ems-event-notification-destination object to which the operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |

# Element definition: **ems-event-notification-destination-modify-iter-info** [top]

Information about the modify operation that was attempted/performed against ems-event-notification-destination object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-event-notification-destination-key** | | event-notification-destination | The keys for the ems-event-notification-destination object to which the modify operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |

# Element definition: **ems-event-notification-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against ems-event-notification object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-event-notification-key** | | event-notification | The keys for the ems-event-notification object to which the deletion applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |

# Element definition: **ems-event-notification-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against ems-event-notification object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-event-notification-key** | | event-notification | The keys for the ems-event-notification object to which the modify operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |

# Element definition: **ems-id**

[top]

EMS Id

[none]

[top]

# Element definition: **ems-mail-history-destroy-iter-info**

Information about the deletion operation that was attempted/performed against ems-mail-history object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-mail-history-key** | | ems-mail-history-info | The keys for the ems-mail-history object to which the deletion applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |

# Element definition: **ems-mail-history-info**

[top]

EMS Mail History Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **drops-since-previous-time** | **[0..2^32-1]** | integer optional | Number of drops since previous transmission. Attributes: non-creatable, non-modifiable |
| **mail-address** | | mail-address[] optional | The mail address. Attributes: non-creatable, non-modifiable |
| **message** | | string optional | The alert message. Attributes: non-creatable, non-modifiable |
| **message-name** | | ems-id optional | The emitted message's name. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node emitting the EMS message. Attributes: key, required-for-create, non-modifiable |
| **previous-time** | | datetime optional | Previous transmission time. Attributes: non-creatable, non-modifiable |
| **seq-num** | | seqnum optional | The message sequence number. Attributes: key, required-for-create, non-modifiable |
| **time** | | datetime optional | The mail transmission time. Attributes: non-creatable, non-modifiable |

# Element definition: **ems-message-info**

[top]

EMS Message Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-severity** | | emsseverity optional | Message EMS severity. Attributes: non-creatable, non-modifiable Possible values:<br>• "node_fault" - A data corruption has been detected or the node is unable to provide client service,<br>• "svc_fault" - A temporary loss of service has been detected, typically a transient software fault,<br>• "node_error" - A hardware error has been detected which is not immediately fatal,<br>• "svc_error" - A software error has been detected which is not immediately fatal,<br>• "warning" - A high-priority message, does not indicate a fault,<br>• "notice" - A normal-priority message, does not indicate a fault,<br>• "info" - A low-priority message, does not indicate a fault,<br>• "debug" - A debugging message, typically suppressed from customer,<br>• "var" - Message has variable severity, selected at runtime |
| **event** | | string optional | The EMS event. Attributes: non-creatable, non-modifiable |
| **event-xml-len** | **[0..2^32-1]** | integer optional | EMS event XML length in bytes. Attributes: non-creatable, non-modifiable |
| **filter-name** | | ems-filter optional | Name of the filter to apply on events. Attributes: non-creatable, non-modifiable |
| **kernel-gen** | **[0..2^64-1]** | integer optional | The emitted message's kernel generation number. Attributes: non-creatable, non-modifiable |
| **kernel-seq-num** | **[0..2^64-1]** | integer optional | The emitted message's kernel sequence number. Attributes: non-creatable, non-modifiable |
| **message-name** | | ems-id optional | The emitted message's name. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node emitting the EMS message. Attributes: key, non-creatable, non-modifiable |
| **num-suppressed-since-last** | **[0..2^32-1]** | integer optional | Number of times suppressed since last time the event was logged. Attributes: non-creatable, non-modifiable |
| **parameters** | | parameter[] optional | Event parameter's name and value. |
| **seq-num** | | seqnum optional | The message sequence number. Attributes: key, non-creatable, non-modifiable |
| | | | Message severity. As of Data ONTAP 9.0, 'critical' and 'warning' severities are no longer supported. Attributes: non-creatable, non-modifiable Possible values:<br>• "emergency" - Disruption, |

| | | | |
|---|---|---|---|
| **severity** | | eventseverity optional | • "alert" - Single point of failure,<br>• "critical" - Critical condition,<br>• "error" - Degradation,<br>• "warning" - Warning condition,<br>• "notice" - Information,<br>• "informational" - Information,<br>• "debug" - Debug information |
| **source** | | string optional | The emitted message's source. Attributes: non-creatable, non-modifiable |
| **time** | | datetime optional | The time of message emission. Attributes: non-creatable, non-modifiable |
| **version** | **[0..2^32-1]** | integer optional | Version number of the event. Attributes: non-creatable, non-modifiable |

# Element definition: **ems-routing-info**

[top]

EMS Routing Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **action** | | string optional | The corrective action. Attributes: non-creatable, non-modifiable |
| **description** | | string optional | The event description. Attributes: non-creatable, non-modifiable |
| **destinations** | | ems-destination[] optional | The event destinations. Attributes: non-creatable, modifiable |
| **frequency-threshold** | **[0..2^32-1]** | integer optional | Number of times an event occurs before a repeat notification of the event is sent. Attributes: non-creatable, modifiable |
| **message-name** | | ems-id optional | The name of the EMS message. Attributes: key, non-creatable, non-modifiable |
| **severity** | | eventseverity optional | The event severity. As of Data ONTAP 9.0, 'critical' and 'warning' severities are no longer supported. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "emergency" - Disruption,<br>• "alert" - Single point of failure,<br>• "critical" - Critical condition,<br>• "error" - Degradation,<br>• "warning" - Warning condition,<br>• "notice" - Information,<br>• "informational" - Information,<br>• "debug" - Debug information |
| **snmp-** | | boolean | Indicates whether or not the event supports SNMP traps. |

| | | | |
|---|---|---|---|
| **support** | | optional | Attributes: non-creatable, non-modifiable |
| **time-threshold** | **[0..2^32-1]** | integer optional | Minimum number of seconds between repeat notifications of an event. Attributes: non-creatable, modifiable |

# Element definition: **ems-routing-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against ems-routing object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-routing-key** | | ems-routing-info | The keys for the ems-routing object to which the modify operation applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |

# Element definition: **ems-snmp-history-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against ems-snmp-history object.

| Name | Range | Type | Description |
|---|---|---|---|
| **ems-snmp-history-key** | | ems-snmp-history-info | The keys for the ems-snmp-history object to which the deletion applies. |
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |

# Element definition: **ems-snmp-history-info**

[top]

EMS SNMP History Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **drops-since-previous-time** | **[0..2^32-1]** | integer optional | Number of drops since previous transmission. Attributes: non-creatable, non-modifiable |
| | | string | |

| | | | |
|---|---|---|---|
| **message** | | optional | The alert message. Attributes: non-creatable, non-modifiable |
| **message-name** | | ems-id optional | The emitted message's name. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node emitting the EMS message. Attributes: key, required-for-create, non-modifiable |
| **previous-time** | | datetime optional | Previous transmission time. Attributes: non-creatable, non-modifiable |
| **seq-num** | | seqnum optional | The message sequence number. Attributes: key, required-for-create, non-modifiable |
| **snmp-address** | | string[] optional | The SNMP client address. Attributes: non-creatable, non-modifiable |
| **time** | | datetime optional | The SNMP transmission time. Attributes: non-creatable, non-modifiable |

# Element definition: **ems-status-info**

[top]

EMS Message Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **accumulated-bytes** | **[0..2^32-1]** | integer optional | The total number of bytes the event has accumulated in the log file. Attributes: non-creatable, non-modifiable |
| **change-since** | | boolean optional | The algorithm to determine which events are considered chatter is run periodically. The change-since parameter indicates whether the event has been posted since the last time the chatter determination algorithm has run. Attributes: non-creatable, non-modifiable |
| **drops** | **[0..2^32-1]** | integer optional | Number of times the event has been dropped. An event is dropped if it is suppressed or has exceeded incoming rate limits. Attributes: non-creatable, non-modifiable |
| **indications** | **[0..2^32-1]** | integer optional | Number of times the event has been posted. Attributes: non-creatable, non-modifiable |
| **is-chatter** | | boolean optional | Whether the event is considered chatter, and therefore subject to autosuppression. Attributes: non-creatable, non-modifiable |
| **last-day-histogram** | **[0..2^64-1]** | integer[] optional | 24-hour histogram. Number of times the event was posted in the last day. The histogram is divided into 24 buckets, each bucket collecting one hour. The buckets are displayed in reverse chronological order (most recent first). Attributes: non-creatable, non-modifiable |
| **last-hour-histogram** | **[0..2^64-1]** | integer[] optional | 60-minute histogram. Number of times the event was posted in the last hour. The histogram is divided into sixty buckets, each bucket collecting one minute. The buckets are displayed in reverse chronological order (most recent first). Attributes: |

| | | | |
|---|---|---|---|
| | | | non-creatable, non-modifiable |
| **last-time-dropped** | | datetime optional | Time the event was most recently posted and suppressed. Attributes: non-creatable, non-modifiable |
| **last-time-occurred** | | datetime optional | Time the event was most recently posted. Attributes: non-creatable, non-modifiable |
| **last-time-processed** | | datetime optional | Time the event was most recently posted and not suppressed. Attributes: non-creatable, non-modifiable |
| **last-week-histogram** | **[0..2^64-1]** | integer[] optional | 7-day histogram. Number of times the event was posted in the last week. The histogram is divided into 7 buckets, each bucket collecting one day. The buckets are displayed in reverse chronological order (most recent first). Attributes: non-creatable, non-modifiable |
| **message-name** | | ems-id optional | The message name. Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Node emitting the EMS message. Attributes: key, non-creatable, non-modifiable |
| **num-asup-dropped** | **[0..2^64-1]** | integer optional | Number of times the event destined for AutoSupport has been dropped. Attributes: non-creatable, non-modifiable |
| **num-autosuppressed** | **[0..2^32-1]** | integer optional | Number of times the event has been autosuppressed. Attributes: non-creatable, non-modifiable |
| **num-console-dropped** | **[0..2^64-1]** | integer optional | Number of times the event destined for console output has been dropped. Attributes: non-creatable, non-modifiable |
| **num-dup-suppressed** | **[0..2^32-1]** | integer optional | Number of times the event has been duplicate suppressed. Attributes: non-creatable, non-modifiable |
| **num-dup-suppressed-after-120s** | **[0..2^64-1]** | integer optional | Number of times the event has been duplicate suppressed because an identical event was generated after 120 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable |
| **num-dup-suppressed-in-120s** | **[0..2^64-1]** | integer optional | Number of times the event has been duplicate suppressed because an identical event was generated within 120 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable |
| **num-dup-suppressed-in-30s** | **[0..2^64-1]** | integer optional | Number of times the event has been duplicate suppressed because an identical event was generated within 30 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable |
| **num-dup-suppressed-in-60s** | **[0..2^64-1]** | integer optional | Number of times the event has been duplicate suppressed because an identical event was generated within 60 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable |
| **num-dup-suppressed-in-90s** | **[0..2^64-1]** | integer optional | Number of times the event has been duplicate suppressed because an identical event was generated within 90 seconds of its previous occurrence. Attributes: non-creatable, non-modifiable |
| **num-email-dropped** | **[0..2^64-1]** | integer optional | Number of times the event destined for an email destination has been dropped. Attributes: non-creatable, non-modifiable |
| **num-logger-dropped** | **[0..2^32-1]** | integer optional | Number of times the event has been dropped by the logger. Attributes: non-creatable, non-modifiable |
| **num-mgwd-dropped** | **[0..2^64-1]** | integer optional | Number of times the event destined for Management Gateway has been dropped. Attributes: non-creatable, non-modifiable |
| **num-rate-limited** | **[0..2^32-1]** | integer optional | Number of times the event has been rate limited. Attributes: non-creatable, non-modifiable |
| **num-router-dropped** | **[0..2^64-1]** | integer optional | Number of times the event has been dropped by the EMS router. Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **num-suppressed-since-last** | **[0..2^32-1]** | integer optional | Number of times suppressed since last time logged. Attributes: non-creatable, non-modifiable |
| **num-timer-suppressed** | **[0..2^32-1]** | integer optional | Number of times the event has been timer suppressed. Attributes: non-creatable, non-modifiable |
| **probability** | **[0..100]** | integer optional | Probability of an event being suppressed via autosuppress. Attributes: non-creatable, non-modifiable |
| **severity** | | emsseverity optional | The severity of the event. Attributes: non-creatable, non-modifiable Possible values:<br>• "node_fault" - A data corruption has been detected or the node is unable to provide client service,<br>• "svc_fault" - A temporary loss of service has been detected, typically a transient software fault,<br>• "node_error" - A hardware error has been detected which is not immediately fatal,<br>• "svc_error" - A software error has been detected which is not immediately fatal,<br>• "warning" - A high-priority message, does not indicate a fault,<br>• "notice" - A normal-priority message, does not indicate a fault,<br>• "info" - A low-priority message, does not indicate a fault,<br>• "debug" - A debugging message, typically suppressed from customer,<br>• "var" - Message has variable severity, selected at runtime |
| **stat-starting-time** | | datetime optional | Time the event was first posted. Attributes: non-creatable, non-modifiable |

# Element definition: **emsseverity**

[top]

NODE_FAULT|SVC_FAULT|NODE_ERROR|SVC_ERROR|WARNING|NOTICE|INFO|DEBUG|VAR Possible values:

- "node_fault" - A data corruption has been detected or the node is unable to provide client service,
- "svc_fault" - A temporary loss of service has been detected, typically a transient software fault,
- "node_error" - A hardware error has been detected which is not immediately fatal,
- "svc_error" - A software error has been detected which is not immediately fatal,
- "warning" - A high-priority message, does not indicate a fault,
- "notice" - A normal-priority message, does not indicate a fault,
- "info" - A low-priority message, does not indicate a fault,
- "debug" - A debugging message, typically suppressed from customer,
- "var" - Message has variable severity, selected at runtime

[none]

# Element definition: **event-catalog-info**

[top]

Event catalog information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **action** | | string optional | The corrective action. Attributes: non-creatable, non-modifiable |
| **deprecated** | | boolean optional | The flag that indicates whether or not the event is deprecated. Attributes: non-creatable, non-modifiable |
| **description** | | string optional | The event description. Attributes: non-creatable, non-modifiable |
| **filter-name** | | string optional | Filter Name Attributes: non-creatable, non-modifiable |
| **message-name** | | ems-id optional | The name of the EMS message. Attributes: key, non-creatable, non-modifiable |
| **severity** | | string optional | Severity<br><br>Possible values:<br><br>• 'emergency' - Disruption,<br>• 'alert' - Single point of failure,<br>• 'error' - Degradation,<br>• 'notice' - Information,<br>• 'informational' - Information,<br>• 'debug' - Debug information<br><br>Attributes: non-creatable, non-modifiable |
| **snmp-trap-type** | | snmptraptypes optional | The type of SNMP trap. Attributes: non-creatable, non-modifiable<br>Possible values:<br><br>• "standard" - Standard SNMP traps,<br>• "built_in" - Built-in SNMP traps,<br>• "severity_based" - Severity based SNMP traps |

# Element definition: **event-filter**

[top]

Event filter creation. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **event-filter-rule** | | event-filter-rule-info[] optional | List of rules added to each filter. |
| **filter-name** | | string optional | Filter Name. The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen). Attributes: key, required-for-create, non-modifiable |

# Element definition: **event-notification**

[top]

Event notifications. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **destinations** | | string[] optional | List of Event Notification Destinations Attributes: required-for-create, modifiable |
| **filter-name** | | string optional | Event Filter Name Attributes: required-for-create, modifiable |
| **id** | **[0..2^32-1]** | integer optional | Event Notification ID Attributes: key, required-for-create, non-modifiable |

# Element definition: **event-notification-destination**

[top]

Event notification destinations. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **certificate-authority** | | string optional | Use this field and certificate-serial to specify the client certificate to use when being authenticated by the REST API server. Attributes: optional-for-create, modifiable |
| **certificate-** | | string | Use this field and certificate-authority to specify the client certificate to use when being authenticated by the REST API server. Attributes: optional-for- |

| | | | |
|---|---|---|---|
| **serial** | | optional | create, modifiable |
| **email** | | string optional | Use this field to specify an email destination. Note: Each destination name can only be associated with either an email destination or a syslog destination. SNMP destinations can be created/updated only through the 'system snmp traphost' command and they are associated with the default destination name 'snmp-traphost'. The format of the email destination is as per RFC standard. Attributes: optional-for-create, modifiable |
| **name** | | string optional | Destination Name.The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen). Attributes: key, required-for-create, non-modifiable |
| **rest-api-url** | | string optional | Use this field to specify REST API server URL to which event notifications will be sent. Enter the full URL, which must start either with an http:// or https:// prefix. Attributes: optional-for-create, modifiable |
| **syslog** | | string optional | Use this field to specify a syslog destination. Note: Each destination name can only be associated with either an email destination or a syslog destination. SNMP destinations can be created/updated only through the 'system snmp traphost' command and they are associated with the default destination name 'snmp-traphost'. Attributes: optional-for-create, modifiable |

# Element definition: **event-notification-destination-info**

[top]

Event notification destinations. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **certificate-authority** | | string optional | Issuing Certificate Authority (CA) of client certificate. Attributes: non-creatable, non-modifiable |
| **certificate-serial** | | string optional | Serial number of certificate in hexadecimal format. Attributes: non-creatable, non-modifiable |
| **destination** | | string[] optional | An output field to view the destination. Attributes: non-creatable, non-modifiable |
| **is-certificate-valid** | | boolean optional | This field indicates whether the client certificate specified by the certificate-authority and certificate-serial fields is valid. If not, and if the REST API server requires client authentication, event messages will not be sent to the server. Attributes: non-creatable, non-modifiable |
| **is-server-ca-present** | | boolean optional | This field indicates whether certificates of the server-ca type exist in the system. If not, event messages will not be sent to a rest-api type destination having an HTTPS URL. Attributes: non-creatable, non-modifiable |
| **name** | | string optional | Destination Name.The name must start and end with an alphanumeric and must be in the length of 2 to 64 characters. The allowed special characters are _(underscore) and -(hyphen). Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **type** | | string optional | An output field to view the type of the destination. The type could be one of email, syslog, REST API server URL or SNMP. SNMP destinations are displayed under the default destination name 'snmp-traphost'. The SNMP destinations associated with 'snmp-traphost' can be created/updated only through the 'system snmp traphost' command. Attributes: non-creatable, non-modifiable Possible values:<br>• "snmp" - SNMP destination,<br>• "email" - Email destination,<br>• "syslog" - Syslog Destination,<br>• "rest_api" - REST API URL Destination |

# Element definition: **event-notification-history-info**

[top]

Event notification history info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **event** | | string optional | The EMS event. Attributes: non-creatable, non-modifiable |
| **message-name** | | ems-id optional | The emitted message's name. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node emitting the EMS message. Attributes: key, non-creatable, non-modifiable |
| **seq-num** | | seqnum optional | The message sequence number. Attributes: key, non-creatable, non-modifiable |
| **severity** | | string optional | Severity<br><br>Possible values:<br>• 'emergency' - Disruption,<br>• 'alert' - Single point of failure,<br>• 'error' - Degradation,<br>• 'notice' - Information,<br>• 'informational' - Information,<br>• 'debug' - Debug information<br><br>Attributes: non-creatable, non-modifiable |
| **time** | | datetime optional | The time of message emission. Attributes: non-creatable, non-modifiable |

# Element definition: **event-rule-type**

[top]

include|exclude Possible values:

- "include" - Event(s) matching this rule is included in the specified filter,
- "exclude" - Event(s) matching this rule is excluded in the specified filter

[none]

## Element definition: **eventseverity**

[top]

EMERGENCY|ALERT|ERROR|NOTICE|INFORMATIONAL|DEBUG Possible values:

- "emergency" - Disruption,
- "alert" - Single point of failure,
- "critical" - Critical condition,
- "error" - Degradation,
- "warning" - Warning condition,
- "notice" - Information,
- "informational" - Information,
- "debug" - Debug information

[none]

## Element definition: **mail-address**

[top]

E-mail Address

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **param**

[top]

one parameter required by the event.

[none]

## Element definition: **remote-ip**

[top]

Remote IP Address

[none]

## Element definition: **seqnum**

[top]

Reverse-ordered Integer Range : [0..2^64-1].

[none]

## Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **syslog-facility**

[top]

The syslog facility.

[none]

## Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

## Element definition: **ems-destination**

[top]

EMS destination

[none]

## Element definition: **ems-destination-info**

[top]

EMS Destination Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **hide-parameters** | | boolean optional | Hide parameter values? Attributes: optional-for-create, modifiable |
| **mail** | | mail-address[] optional | The e-mail address to which events are sent. Attributes: optional-for-create, modifiable |
| **name** | | string optional | The name of the EMS destination. Attributes: key, required-for-create, non-modifiable |
| **snmp** | | remote-ip[] optional | The SNMP addresses to which traps are sent. Attributes: optional-for-create, modifiable |
| **snmp-community** | | string optional | The SNMP community name. Attributes: optional-for-create, modifiable |
| **syslog** | | remote-ip[] optional | The remote syslog servers to which messages are sent. Attributes: optional-for-create, modifiable |
| **syslog-facility** | | syslog-facility optional | The syslog logging facility. Attributes: optional-for-create, modifiable |

# Element definition: **ems-filter**

[top]

EMS Filter Name

[none]

# Element definition: **ems-id**

[top]

EMS Id

[none]

# Element definition: **ems-routing-info**

[top]

EMS Routing Info When returned as part of the output, all elements of this typedef are reported, unless

otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **action** | | string optional | The corrective action. Attributes: non-creatable, non-modifiable |
| **description** | | string optional | The event description. Attributes: non-creatable, non-modifiable |
| **destinations** | | ems-destination[] optional | The event destinations. Attributes: non-creatable, modifiable |
| **frequency-threshold** | **[0..2^32-1]** | integer optional | Number of times an event occurs before a repeat notification of the event is sent. Attributes: non-creatable, modifiable |
| **message-name** | | ems-id optional | The name of the EMS message. Attributes: key, non-creatable, non-modifiable |
| **severity** | | eventseverity optional | The event severity. As of Data ONTAP 9.0, 'critical' and 'warning' severities are no longer supported. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "emergency" - Disruption,<br>• "alert" - Single point of failure,<br>• "critical" - Critical condition,<br>• "error" - Degradation,<br>• "warning" - Warning condition,<br>• "notice" - Information,<br>• "informational" - Information,<br>• "debug" - Debug information |
| **snmp-support** | | boolean optional | Indicates whether or not the event supports SNMP traps. Attributes: non-creatable, non-modifiable |
| **time-threshold** | **[0..2^32-1]** | integer optional | Minimum number of seconds between repeat notifications of an event. Attributes: non-creatable, modifiable |

# Element definition: **event-filter-rule-info**

[top]

List of rules added to each filter.

| Name | Range | Type | Description |
|---|---|---|---|
| **message-name** | | string optional | Message Name Attributes: non-creatable, non-modifiable |
| **position** | **[0..2^32-1]** | integer optional | Rule Position Attributes: non-creatable, non-modifiable |
| | | | Severity<br><br>Possible values:<br>• 'emergency' - Disruption, |

| | | | |
|---|---|---|---|
| **severity** | | string[] optional | • 'alert' - Single point of failure,<br>• 'error' - Degradation,<br>• 'notice' - Information,<br>• 'informational' - Information,<br>• 'debug' - Debug information,<br>• '*' - All of the above<br><br>Default:* Attributes: non-creatable, non-modifiable |
| **snmp-trap-type** | | string[] optional | SNMP Trap Type<br><br>Possible values:<br><br>• 'standard' - Standard SNMP traps,<br>• 'built-in' - Built-in SNMP traps,<br>• 'severity-based' - Severity based SNMP traps<br>• '*' - All of the above<br><br>Default: * Attributes: non-creatable, non-modifiable |
| **type** | | event-rule-type optional | Rule Type Attributes: non-creatable, non-modifiable Possible values:<br><br>• "include" - Event(s) matching this rule is included in the specified filter,<br>• "exclude" - Event(s) matching this rule is excluded in the specified filter |

# Element definition: **event-rule-type**

[top]

include|exclude Possible values:

- "include" - Event(s) matching this rule is included in the specified filter,
- "exclude" - Event(s) matching this rule is excluded in the specified filter

[none]

# Element definition: **eventseverity**

[top]

EMERGENCY|ALERT|ERROR|NOTICE|INFORMATIONAL|DEBUG Possible values:

- "emergency" - Disruption,
- "alert" - Single point of failure,
- "critical" - Critical condition,
- "error" - Degradation,
- "warning" - Warning condition,
- "notice" - Information,
- "informational" - Information,
- "debug" - Debug information

[none]

## Element definition: **mail-address** [top]

E-mail Address

[none]

## Element definition: **parameter** [top]

Event parameter's name and value.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | List of event parameter names. Attributes: non-creatable, non-modifiable |
| **value** | | string optional | List of event parameter values. Attributes: non-creatable, non-modifiable |

## Element definition: **remote-ip** [top]

Remote IP Address

[none]

## Element definition: **snmptraptypes** [top]

Standard|Built-in|Severity-based Possible values:

- "standard" - Standard SNMP traps,
- "built_in" - Built-in SNMP traps,
- "severity_based" - Severity based SNMP traps

[none]

## Element definition: **syslog-facility** [top]

The syslog facility.

[none]

# Element definition: **ems-destination**

[top]

EMS destination

[none]

# Element definition: **ems-id**

[top]

EMS Id

[none]

# APIs in Category: **environment**

| | |
|---|---|
| environment-sensors-get-iter | Environmental subsystem is a module to monitor the system's environmental states by reading the hardware sensors on various components. According to the states of the sensors, the subsystem will take actions based on a predefined environmental policy. This category contains the APIs for the environmental subsystem. |

## environment-sensors-get-iter

[top]

Returns the sensors information from the environmental subsystem.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | environment-sensors-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **discrete-sensor-state** | | sensor-state-enum optional | Discrete-valued sensor state |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 300 |
| **query** | | environment-sensors-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the environment object. All environment objects matching this query up to 'max-records' will be returned. |
| **sensor-name** | | string optional | Name of the sensor in the environmental subsystem. The maximum length of the sensor name is 32 |
| **sensor-type** | | sensor-type-enum optional | Type of the sensor. See sensor-type-enum for possible values |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |
| **threshold-sensor-state** | | sensor-state-enum optional | Threshold-based sensor state |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | environment-sensors-info[] optional | The list of attributes of environment objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more environment objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# Element definition: **environment-sensors-info**

[top]

Environment Sensor Info. The environmental subsystem monitors a set of hardware sensors in the system. Each sensor represents a pair of state and value that can be measured to reflect the physical state of device(s). Based on the values the sensors represent, the sensors can be grouped to discrete-valued sensors and threshold-based sensors. The discrete-valued sensors have a set of discrete values that represent states of sensors. The threshold-based sensors have a numeral value that represnts a value on an axis, and may have a set of thresholds (points on that axis) are used to define the state of the sensor (ranging from critically low to critically high). This typedef defines the information for both groups of sensors. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **critical-high-threshold** | **[-2^31..2^31-1]** | integer optional | Critical high threshold Attributes: non-creatable, non-modifiable |
| **critical-low-threshold** | **[-2^31..2^31-1]** | integer optional | Critical low threshold Attributes: non-creatable, non-modifiable |
| **discrete-sensor-state** | | sensor-state-enum optional | Discrete-valued sensor state Attributes: non-creatable, non-modifiable Possible values:<br>• "normal" - The device is normal,<br>• "warn-low" - The device state is lower than the warning low threshold and higher than the critical low threshold,<br>• "warn-high" - The device state is higher than the warning high threshold and lower than the critical high threshold,<br>• "crit-low" - The device state is lower than the critical low threshold,<br>• "crit-high" - The device state is higher than the critical higher threshold,<br>• "disabled" - The sensor is disabled, only available for SP-based filers,<br>• "uninitialized" - The sensor is not yet initialized, only available for SP-based filers,<br>• "init-failed" - The sensor failed to initialize, only available for SP-based filers,<br>• "not-available" - The sensor is temporarily not able to report status, only available for SP-based filers,<br>• "invalid" - The status returned from the sensor is not valid, only available for SP-based filers,<br>• "retry" - The sensor is in the rety state, only available for non SP-based filers,<br>• "bad" - The device is bad, only available for non SP-based filers,<br>• "not-present" - The device is not present, only available for |

| | | | |
|---|---|---|---|
| | | | non SP-based filers,<br>• "failed" - The sensor failed to report status,<br>• "ignored" - The sensor state is ignored, only available for SP-based filers,<br>• "unknown" - The sensor state is uknown |
| **discrete-sensor-value** | | string optional | Discrete-valued sensor value Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | Node name the sensor is associated with Attributes: key, non-creatable, non-modifiable |
| **sensor-name** | | string optional | Name of the sensor in the environmental subsystem. The maximum length of the sensor name is 32 Attributes: non-creatable, non-modifiable |
| **sensor-type** | | sensor-type-enum optional | Type of the sensor Attributes: non-creatable, non-modifiable Possible values:<br>• "fan" - FAN RPM sensors,<br>• "thermal" - Temerature sensors,<br>• "voltage" - Voltage measurement sensors,<br>• "current" - Current measurement sensors,<br>• "battery-life" - Sensors report battery life,<br>• "discrete" - Discrete sensors,<br>• "fru" - FRU sensors,<br>• "nvmem" - Sensors on the NVMEM module,<br>• "counter" - Sensors report in counters,<br>• "minutes" - Sensors report by minutes,<br>• "percent" - Sensors report in percentage,<br>• "agent" - Sensors on or throught the Agent device,<br>• "unknown" - Unknown sensors |
| **threshold-sensor-state** | | sensor-state-enum optional | Threshold-based sensor state Attributes: non-creatable, non-modifiable Possible values:<br>• "normal" - The device is normal,<br>• "warn-low" - The device state is lower than the warning low threshold and higher than the critical low threshold,<br>• "warn-high" - The device state is higher than the warning high threshold and lower than the critical high threshold,<br>• "crit-low" - The device state is lower than the critical low threshold,<br>• "crit-high" - The device state is higher than the critical higher threshold,<br>• "disabled" - The sensor is disabled, only available for SP-based filers,<br>• "uninitialized" - The sensor is not yet initialized, only available for SP-based filers,<br>• "init-failed" - The sensor failed to initialize, only available for SP-based filers,<br>• "not-available" - The sensor is temporarily not able to report status, only available for SP-based filers,<br>• "invalid" - The status returned from the sensor is not valid, only available for SP-based filers,<br>• "retry" - The sensor is in the rety state, only available for non SP-based filers,<br>• "bad" - The device is bad, only available for non SP-based filers,<br>• "not-present" - The device is not present, only available for non SP-based filers, |

| | | | |
|---|---|---|---|
| | | | • "failed" - The sensor failed to report status,<br>• "ignored" - The sensor state is ignored, only available for SP-based filers,<br>• "unknown" - The sensor state is uknown |
| **threshold-sensor-value** | **[-2^31..2^31-1]** | integer optional | Threshold-based sensor value Attributes: non-creatable, non-modifiable |
| **value-units** | | string optional | The units of the threshold-based sensor value. More than 90 possible unit types. Refer to the "Sensor Unit Type Codes" in the IPMI spec for possible types. Attributes: non-creatable, non-modifiable |
| **warning-high-threshold** | **[-2^31..2^31-1]** | integer optional | Warning high threshold Attributes: non-creatable, non-modifiable |
| **warning-low-threshold** | **[-2^31..2^31-1]** | integer optional | Warning low threshold Attributes: non-creatable, non-modifiable |

# Element definition: **sensor-state-enum**

[top]

normal|warn-low|warn-high|crit-low|crit-high|disabled|uninitialized|init-failed|not-available|invalid|retry|bad|not-present|failed|ignored|fault|unknown Possible values:

- "normal" ,
- "warn_low" ,
- "warn_high" ,
- "crit_low" ,
- "crit_high" ,
- "disabled" ,
- "uninitialized" ,
- "init_failed" ,
- "not_available" ,
- "invalid" ,
- "retry" ,
- "bad" ,
- "not_present" ,
- "failed" ,
- "ignored" ,
- "fault" ,
- "unknown"

[none]

# Element definition: **sensor-type-enum**

[top]

fan|thermal|voltage|current|battery-life|discrete|fru|nvmem|counter|minutes|percent|agent|unknown Possible values:

- "fan" ,
- "thermal" ,

"voltage" ,
- "current" ,
- "battery_life" ,
- "discrete" ,
- "fru" ,
- "nvmem" ,
- "counter" ,
- "minutes" ,
- "percent" ,
- "agent" ,
- "unknown"

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

# APIs in Category: **exports**


export-check-access-get-iter
export-policy-create
export-policy-destroy
export-policy-get
export-policy-get-iter
export-policy-rename
export-rule-add-clientmatches
export-rule-create
export-rule-destroy
export-rule-get
export-rule-get-create-defaults
export-rule-get-iter
export-rule-modify
export-rule-remove-clientmatches
export-rule-set-index
exports-access-cache-all-vservers-get
exports-access-cache-all-vservers-modify
exports-access-cache-config-get
exports-access-cache-config-get-iter
exports-access-cache-config-modify


This set of ZAPIs allows managing Export policies and rules for NFSv2, NFSv3, NFSv4, and CIFS protocols. Contains methods to create, modify, delete, and obtain information about Export policies and rules in a cluster. FlexGroups do not support Export policies that allow NFSv4 protocol access.

## export-check-access-get-iter

[top]

Shows the access information for supplied client

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-type** | | export-access-rights | Access Rights to Check for |
| **authentication-method** | | security-flavor | Authentication Method |
| **client-ip** | | ip-address | Client IP Address |
| **desired-attributes** | | export-check-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| | | | |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **protocol** | | access-protocol | Protocol |
| **query** | | export-check-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Client access check information object. All Client access check information objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |
| **volume** | | volume-name | Volume Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | export-check-info[] optional | The list of attributes of Client access check information objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Client access check information objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# export-policy-create

[top]

Create an Export policy configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | export-policy-name | Export policy name. |
| **return-record** | | boolean optional | If set to true, returns the Export policy configuration. on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | export-policy-info optional | The Export policy configuration. created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

[top]

# export-policy-destroy

Delete an Export policy configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | export-policy-name | Export policy name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# export-policy-get

[top]

Get an Export policy configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | export-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy-name** | | export-policy-name | Export policy name. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | export-policy-info | The attributes of the Export policy configuration.. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# export-policy-get-iter

[top]

Get a group of Export policy configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | export-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | export-policy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Export policy configuration. object. All Export policy configuration. objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | export-policy-info[] optional | The list of attributes of Export policy configuration. objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Export policy configuration. objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# export-policy-rename

[top]

Rename an Export policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-policy-name** | | export-policy-name | New Export policy name. |
| **policy-name** | | export-policy-name | Export policy name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# export-rule-add-clientmatches

[top]

Add list of clientmatch strings to an existing export-policy rule

| Input Name | Range | Type | Description |
|---|---|---|---|
| **clientmatches** | | string | List of Clientmatch Strings to Add |
| **policy-name** | | export-policy-name | Export policy name. |
| **rule-index** | **[0..2^32-1]** | integer | Export policy rule index. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| | |

| | |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# export-rule-create

[top]

Create an Export rule configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **anonymous-user-id** | | string<br>optional | User name or ID to which anonymous users are mapped. Default value is '65534'. |
| **client-match** | | string | List of client match specifications for Export rule. The clients specified are enforced with this Export rule. The rule with the higher rule index value takes precedence. |
| **export-chown-mode** | | exportchownmode<br>optional | Change ownership mode. Possible values are 'restricted', 'unrestricted'. Default value is 'restricted'. |
| **export-ntfs-unix-security-ops** | | exportntfsunixsecops<br>optional | Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail'. Default value is 'fail'. |
| **is-allow-dev-is-enabled** | | boolean<br>optional | If 'true', the NFS server will allow creation of devices. Default value is 'true'. |
| **is-allow-set-uid-enabled** | | boolean<br>optional | If 'true', NFS server will honor SetUID bits in SETATTR operation. Default value is 'true'. |
| **policy-name** | | export-policy-name | Export policy name. |
| **protocol** | | access-protocol[]<br>optional | Client access protocol. Default value is 'any'. |
| **ro-rule** | | security-flavor[] | Rule for read-only access. |
| **rule-index** | | integer<br>optional | Export rule index. A next available value is assigned if no value is provided during create else the rule is inserted at the given rule index position in the export-rule table. |
| **rw-rule** | | security-flavor[] | Rule for read-write access. |
| **super-user-security** | | security-flavor[]<br>optional | Security flavors for the superuser. Default value is 'none'. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# export-rule-destroy

[top]

Delete an Export rule configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | export-policy-name | Export policy name. |
| **rule-index** | **[0..2^32-1]** | integer | Export rule index. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# export-rule-get

[top]

Get an Export rule configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | export-rule-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy-name** | | export-policy-name | Export policy name. |
| **rule-index** | **[0..2^32-1]** | integer | Export rule index. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | export-rule-info | The attributes of the Export rule configuration.. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# export-rule-get-create-defaults

[top]

Obtain the default values for Export rule configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | export-rule-info optional | Optionally specify the value for attributes if available. The default values for some attributes may depend on the values specified for some other attribute. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **defaults** | | export-rule-info | The default attributes for the Export rule configuration.. |

# export-rule-get-iter

[top]

Get a group of Export rule configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | export-rule-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | export-rule-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Export rule configuration. object. All Export rule configuration. objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | export-rule-info[] optional | The list of attributes of Export rule configuration. objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Export rule configuration. objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# export-rule-modify

[top]

Modify an Export rule configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **anonymous-user-id** | | string optional | User name or ID to which anonymous users are mapped. Default value is '65534'. |
| **client-match** | | string optional | List of client match specifications for Export rule. The clients specified are enforced with this Export rule. The rule with the higher rule index value takes precedence. |
| **export-chown-mode** | | exportchownmode optional | Change ownership mode. Possible values are 'restricted', 'unrestricted'. Default value is 'restricted'. |
| **export-ntfs-unix-security-ops** | | exportntfsunixsecops optional | Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail'. Default value is 'fail'. |
| **is-allow-dev-is-** | | boolean | If 'true', the NFS server will allow creation of devices. |

| | | | |
|---|---|---|---|
| **enabled** | | optional | Default value is 'true'. |
| **is-allow-set-uid-enabled** | | boolean optional | If 'true', NFS server will honor SetUID bits in SETATTR operation. Default value is 'true'. |
| **policy-name** | | export-policy-name | Export policy name. |
| **protocol** | | access-protocol[] optional | Client access protocol. Default value is 'any'. |
| **ro-rule** | | security-flavor[] optional | Rule for read-only access. |
| **rule-index** | **[0..2^32-1]** | integer | Export rule index. |
| **rw-rule** | | security-flavor[] optional | Rule for read-write access. |
| **super-user-security** | | security-flavor[] optional | Security flavors for the superuser. Default value is 'none'. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# export-rule-remove-clientmatches

[top]

Remove clientmatch strings from an existing export-policy rule

| Input Name | Range | Type | Description |
|---|---|---|---|
| **clientmatches** | | string | List of Clientmatch Strings to Remove |
| **policy-name** | | export-policy-name | Export policy name. |
| **rule-index** | **[0..2^32-1]** | integer | Export policy rule index. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# export-rule-set-index

[top]

Move a rule to the specified index

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-rule-index** | **[0..2^32-1]** | integer | New ruleindex value for the Export rule. The rule will be inserted into the rule-index position in the export-rule table. |
| **policy-name** | | export-policy-name | Export policy name. |

| | | | |
|---|---|---|---|
| **rule-index** | **[0..2^32-1]** | integer | Export policy rule index. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# exports-access-cache-all-vservers-get

[top]

Get the NFS Exports Access Cache Refresh Periods.This API is deprecated in Data ONTAP 9.0.0 and later.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | access-cache-attributes-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | access-cache-attributes-info | The attributes of the NFS Exports Access Cache. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# exports-access-cache-all-vservers-modify

[top]

Modify the NFS Exports Access Cache Refresh Periods. This API is deprecated in Data ONTAP 9.0.0 and later.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **harvest-timeout** | **[60..2592000]** | integer optional | Harvest Timeout (Secs) |
| **refresh-period-negative** | **[60..86400]** | integer optional | TTL For Negative Entries (Secs) |
| **refresh-period-positive** | **[300..86400]** | integer optional | TTL For Positive Entries (Secs) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# exports-access-cache-config-get

[top]

Get the exports access cache configuration for the given Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | exports-access-cache-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | exports-access-cache-config-info | The attributes of the Exports Access Cache Configuration. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# exports-access-cache-config-get-iter

[top]

Iterate over the list of Vservers for exports access cache configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | exports-access-cache-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | exports-access-cache-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Exports Access Cache Configuration object. All Exports Access Cache Configuration objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-** | | exports-access-cache- | |

| | | | |
|---|---|---|---|
| **list** | | config-info[] optional | The list of attributes of Exports Access Cache Configuration objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Exports Access Cache Configuration objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## exports-access-cache-config-modify

[top]

Modify the exports access cache configuration for the given Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **harvest-timeout** | **[60..2592000]** | integer optional | The timeout in seconds after which unused access cache entries will be deleted. Default value is 36000 seconds |
| **ttl-failure** | **[1..60]** | integer optional | TTL in seconds for access cache entries that failed to fetch export rules from management gateway. Default value is 5 seconds |
| **ttl-negative** | **[60..86400]** | integer optional | TTL in seconds for access cache entries that deny access. Default value is 3600 seconds |
| **ttl-positive** | **[300..86400]** | integer optional | TTL in seconds for access cache entries that allow access. Default value is 3600 seconds |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

## Element definition: **access-cache-attributes-info**

[top]

NFS Exports Access Cache Attributes When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **harvest-timeout** | **[60..2592000]** | integer optional | Harvest Timeout (Secs) Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **refresh-period-negative** | **[60..86400]** | integer optional | TTL For Negative Entries (Secs) Attributes: non-creatable, non-modifiable |
| **refresh-period-positive** | **[300..86400]** | integer optional | TTL For Positive Entries (Secs) Attributes: non-creatable, non-modifiable |

# Element definition: **access-protocol**

[top]

Client Access Protocol Possible values:

- "any" - Any,
- "nfs2" - NFS Version 2,
- "nfs3" - NFS Version 3,
- "nfs" - Any Version of NFS,
- "cifs" - CIFS,
- "nfs4" - NFS Version 4,
- "flexcache" - Flexcache,
- "nfs4_1" - NFS Version 4.1,
- "nfs4_2" - NFS Version 4.2

[none]

# Element definition: **export-access-rights**

[top]

read|read-write|denied Possible values:

- "read" - Read,
- "read_write" - Read-Write,
- "denied" - Denied

[none]

# Element definition: **export-check-info**

[top]

Information about the client access. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | Access Rights Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **access** | | export-access-rights optional | • "read" - Read,<br>• "read_write" - Read-Write,<br>• "denied" - Denied |
| **access-type** | | export-access-rights optional | Access Rights to Check for Attributes: key, non-creatable, non-modifiable Possible values:<br>• "read" - Read,<br>• "read_write" - Read-Write,<br>• "denied" - Denied |
| **authentication-method** | | security-flavor optional | Authentication Method Attributes: key, non-creatable, non-modifiable Possible values:<br>• "any" - Any,<br>• "none" - Anonymous Access Allowed If Security Type Not Already Listed,<br>• "never" - Never,<br>• "krb5" - Kerberos 5 Authentication,<br>• "krb5i" - Kerberos 5 Authentication With Data Integrity Protection,<br>• "krb5p" - Kerberos 5 Authentication With Data Privacy Protection,<br>• "ntlm" - CIFS NTLM,<br>• "sys" - NFS AUTH_SYS |
| **client-ip** | | ip-address optional | Client IP Address Attributes: key, non-creatable, non-modifiable |
| **path** | | string optional | Path Attributes: non-creatable, non-modifiable |
| **policy** | | string optional | Export Policy Attributes: non-creatable, non-modifiable |
| **policy-owner** | | string optional | Export Policy Owner Attributes: non-creatable, non-modifiable |
| **policy-owner-type** | | policy-owner-type optional | Type of Export Policy Owner Attributes: non-creatable, non-modifiable Possible values:<br>• "volume" - Volume,<br>• "qtree" - Qtree |
| **protocol** | | access-protocol optional | Protocol Attributes: key, non-creatable, non-modifiable Possible values:<br>• "any" - Any,<br>• "nfs2" - NFS Version 2,<br>• "nfs3" - NFS Version 3,<br>• "nfs" - Any Version of NFS,<br>• "cifs" - CIFS,<br>• "nfs4" - NFS Version 4,<br>• "flexcache" - Flexcache,<br>• "nfs4_1" - NFS Version 4.1,<br>• "nfs4_2" - NFS Version 4.2 |
| **rule-index** | **[0..2^32-1]** | integer optional | Export Policy Rule Index Attributes: non-creatable, non-modifiable |
| | | security- | Security Style Attributes: non-creatable, non-modifiable Possible values:<br>• "unix" - NFS, |

| | | | |
|---|---|---|---|
| **security-style** | | style-enum optional | • "ntfs" - CIFS,<br>• "mixed" - Mixed,<br>• "unified" - Unified |
| **volume** | | volume-name optional | Volume Name Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **export-policy-info**

[top]

Information about the Export policy configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **policy-id** | **[0..2^64-1]** | integer optional | Export policy id. Attributes: non-creatable, non-modifiable |
| **policy-name** | | export-policy-name optional | Export policy name. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | string optional | Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **export-policy-name**

[top]

The name of the export policy

[none]

# Element definition: **export-rule-info**

[top]

Information about the Export rule configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **anonymous-user-id** | | string optional | User name or ID to which anonymous users are mapped. Default value is '65534'. Attributes: optional-for-create, modifiable |
| **client-match** | | string optional | List of client match specifications for Export rule. The clients specified are enforced with this Export rule. The rule with the higher rule index value takes precedence. Attributes: required-for-create, modifiable |
| **export-chown-mode** | | exportchownmode optional | Change ownership mode. Possible values are 'restricted', 'unrestricted'. Default value is 'restricted'. Attributes: optional-for-create, modifiable Possible values:<br>• "restricted" ,<br>• "unrestricted" |
| **export-ntfs-unix-security-ops** | | exportntfsunixsecops optional | Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail'. Default value is 'fail'. Attributes: optional-for-create, modifiable Possible values:<br>• "ignore" ,<br>• "fail" |
| **is-allow-dev-is-enabled** | | boolean optional | If 'true', the NFS server will allow creation of devices. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-allow-set-uid-enabled** | | boolean optional | If 'true', NFS server will honor SetUID bits in SETATTR operation. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **policy-name** | | export-policy-name optional | Export policy name. Attributes: key, required-for-create, non-modifiable |
| **protocol** | | access-protocol[] optional | Client access protocol. Default value is 'any'. Attributes: optional-for-create, modifiable Possible values:<br>• "any" - Any,<br>• "nfs2" - NFS Version 2,<br>• "nfs3" - NFS Version 3,<br>• "nfs" - Any Version of NFS,<br>• "cifs" - CIFS,<br>• "nfs4" - NFS Version 4,<br>• "flexcache" - Flexcache,<br>• "nfs4_1" - NFS Version 4.1,<br>• "nfs4_2" - NFS Version 4.2 |
| **ro-rule** | | security-flavor[] optional | Rule for read-only access. Attributes: required-for-create, modifiable Possible values:<br>• "any" - Any,<br>• "none" - Anonymous Access Allowed If Security Type Not Already Listed,<br>• "never" - Never,<br>• "krb5" - Kerberos 5 Authentication,<br>• "krb5i" - Kerberos 5 Authentication With Data Integrity Protection,<br>• "krb5p" - Kerberos 5 Authentication With Data Privacy Protection, |

| | | | |
|---|---|---|---|
| | | | • "ntlm" - CIFS NTLM,<br>• "sys" - NFS AUTH_SYS |
| **rule-index** | **[0..2^32-1]** | integer<br>optional | Export rule index. Attributes: key, optional-for-create, non-modifiable |
| **rw-rule** | | security-flavor[]<br>optional | Rule for read-write access. Attributes: required-for-create, modifiable Possible values:<br>• "any" - Any,<br>• "none" - Anonymous Access Allowed If Security Type Not Already Listed,<br>• "never" - Never,<br>• "krb5" - Kerberos 5 Authentication,<br>• "krb5i" - Kerberos 5 Authentication With Data Integrity Protection,<br>• "krb5p" - Kerberos 5 Authentication With Data Privacy Protection,<br>• "ntlm" - CIFS NTLM,<br>• "sys" - NFS AUTH_SYS |
| **super-user-security** | | security-flavor[]<br>optional | Security flavors for the superuser. Default value is 'none'. Attributes: optional-for-create, modifiable Possible values:<br>• "any" - Any,<br>• "none" - Anonymous Access Allowed If Security Type Not Already Listed,<br>• "never" - Never,<br>• "krb5" - Kerberos 5 Authentication,<br>• "krb5i" - Kerberos 5 Authentication With Data Integrity Protection,<br>• "krb5p" - Kerberos 5 Authentication With Data Privacy Protection,<br>• "ntlm" - CIFS NTLM,<br>• "sys" - NFS AUTH_SYS |
| **vserver-name** | | string<br>optional | Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **exportchownmode**

[top]

restricted|unrestricted Possible values:

- "restricted" ,
- "unrestricted"

[none]

# Element definition: **exportntfsunixsecops**

[top]

ignore|fail Possible values:

"ignore" ,
- "fail"

[none]

## Element definition: **exports-access-cache-config-info** [top]

Information about Exports Access Cache Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **harvest-timeout** | **[60..2592000]** | integer optional | The timeout in seconds after which unused access cache entries will be deleted. Default value is 36000 seconds Attributes: non-creatable, modifiable |
| **ttl-failure** | **[1..60]** | integer optional | TTL in seconds for access cache entries that failed to fetch export rules from management gateway. Default value is 5 seconds Attributes: non-creatable, modifiable |
| **ttl-negative** | **[60..86400]** | integer optional | TTL in seconds for access cache entries that deny access. Default value is 3600 seconds Attributes: non-creatable, modifiable |
| **ttl-positive** | **[300..86400]** | integer optional | TTL in seconds for access cache entries that allow access. Default value is 3600 seconds Attributes: non-creatable, modifiable |
| **vserver** | | string optional | Vserver name Attributes: key, non-creatable, non-modifiable |

## Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

## Element definition: **security-flavor** [top]

authentication method Possible values:

- "any" - Any,
- "none" - Anonymous Access Allowed If Security Type Not Already Listed,
- "never" - Never,
- "krb5" - Kerberos 5 Authentication,
- "krb5i" - Kerberos 5 Authentication With Data Integrity Protection,

- "krb5p" - Kerberos 5 Authentication With Data Privacy Protection,
- "ntlm" - CIFS NTLM,
- "sys" - NFS AUTH_SYS

[none]

## Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

## Element definition: **access-protocol**

[top]

Client Access Protocol Possible values:

- "any" - Any,
- "nfs2" - NFS Version 2,
- "nfs3" - NFS Version 3,
- "nfs" - Any Version of NFS,
- "cifs" - CIFS,
- "nfs4" - NFS Version 4,
- "flexcache" - Flexcache,
- "nfs4_1" - NFS Version 4.1,
- "nfs4_2" - NFS Version 4.2

[none]

## Element definition: **export-access-rights**

[top]

read|read-write|denied Possible values:

- "read" - Read,
- "read_write" - Read-Write,
- "denied" - Denied

[none]

## Element definition: **export-policy-name**

[top]

The name of the export policy

[none]

## Element definition: **policy-owner-type**

[top]

volume|qtree Possible values:

- "volume" - Volume,
- "qtree" - Qtree

[none]

## Element definition: **security-style-enum**

[top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **fc**


fc-config-adapter-disable
fc-config-adapter-enable
fc-config-list-info
fc-config-list-iter-end
fc-config-list-iter-next
fc-config-list-iter-start
fc-config-set-adapter-fc-type


Data ONTAP supports three separate functions with Fibre channel controllers:

- Initiator mode for FC storage loops, FC TapeSAN, and OPR functionality
- Target mode for SAN attach (FCP/Blocks access) functionality
- FC-VI mode for MetroCluster/SlideRuler interconnect functionality

These three functions are controlled by separate drivers. As DOT boots, the device driver attached to each FC adapter determines which function an adapter will support.

The fc-config interface provides a user programmable mechanism to configure the personality of Fibre channel adapters by changing what driver attached to the adapter. Not all Fibre channel adapters support FC configuration.

For more information refer to the "fcadmin config" CLI.

## fc-config-adapter-disable

[top]

Call the corresponding adapter driver disable function to bring the adapter offline. Under some circumstances an adapter can not be put offline. (e.g. when the adapter is being used by the RAID sub-system to provide disks in a volume). In some cases, manual intervention is required. When this happens, an appropriate error messages is returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | FC adapter name (e.g. 0a) |
| **node-name** | | string | This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |
| **EADAPTERINVALIDTYPE** | |
| **ENOTSTARTED** | |
| **EONTAPI_EINVAL** | |
| **ENODENOTFOUND** | |

## fc-config-adapter-enable

[top]

Call the corresponding adapter driver enable function to bring the adapter online. Under some circumstances an adapter can not be brought online. (e.g. when that adapter is in the UNCONFIGURED

state, or when there is no cable attached to the adapter port). When this happens, an appropriate error messages is returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | FC adapter name (e.g 0a) |
| **node-name** | | string | This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |
| **EADAPTERINVALIDTYPE** | |
| **ENOTSTARTED** | |
| **EONTAPI_EINVAL** | |
| **ENODENOTFOUND** | |

# fc-config-list-info

[top]

Iterate over a list of fc objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fc-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fc-config optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fc object. All fc objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fc-config[] optional | The list of attributes of fc objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more fc objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |
| | |

| | |
|---|---|
| **EADAPTERINVALIDTYPE** | |
| **ENOTSTARTED** | |
| **ENODENOTFOUND** | |

# fc-config-list-iter-end

[top]

Terminate the fc-config-list iteration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from a previous fc-config-list-iter-start. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |

# fc-config-list-iter-next

[top]

Obtain a list of FC adapter configuration information. Only provides information for adapters that are configurable.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maximum** | | integer | Maximum number of entries to retrieve. |
| **tag** | | string | Tag from a previous fc-config-list-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **adapter-info** | | fc-config-info[] | List of adapter information |
| **records** | | integer | This tells you how many records are being returned. When this value is 0, you have retrieved everything. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |

# fc-config-list-iter-start

[top]

Start iteration through the list of adapter configuration information.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number of items that have been saved for future retrieval with fc-config-list-iter-next. |
| **tag** | | string | Tag to be used in subsequent iterations. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| | |
|---|---|
| **EOPNOTSUPPORTED** | |

# fc-config-set-adapter-fc-type

[top]

fc-config-set-adapter-fc-type changes the adapter driver and/or configuration state. Each configurable adapter has an adapter-type and adapter-state. The adapter-type indicates which driver is attached to the adapter, the adapter-state indicates what the configuration state of the adapter is. The fc-type is used to modify both the adapter-type and the adapter-state. After setting the adapter fc-type a filer reboot is sometimes needed to make the change effective. Use fc-config-list-info to determine if a filer reboot is needed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | FC adapter name (e.g 0a) |
| **fc-type** | | string | Sets the type and state of the adapter. Possible inputs:<br>"unconfigured" - set adapter-type to "initiator" and adapter-state to UNCONFIGURED<br>"initiator" - set adapter-type to "initiator" and adapter-state to CONFIGURED<br>"target" - set adapter-type to "target" and adapter-state to CONFIGURED<br>"vi" - set adapter-type to "vi" and adapter-state to CONFIGURED |
| **node-name** | | string optional | This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |
| **EADAPTERINVALIDTYPE** | |
| **EOPNOTSUPPORTED** | |
| **EONTAPI_EINVAL** | |
| **ENODENOTFOUND** | |

# Element definition: **fc-config**

[top]

fc config When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string optional | Adapter name Attributes: key, non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **adapter-state** | | string optional | Adapter current state Attributes: non-creatable, non-modifiable |
| **adapter-status** | | string optional | Adapter online status Attributes: non-creatable, non-modifiable |
| **adapter-type** | | string optional | Adaptaer type Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Node name Attributes: key, non-creatable, non-modifiable |
| **pending-fc-type** | | string optional | Pending reason Attributes: non-creatable, non-modifiable |

# Element definition: **fc-config-info**

[top]

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | FC adapter name (e.g. 0c) |
| **adapter-state** | | string | Indicates what the adapter configuration state is. Possible values:<br>"UNDEFINED" - The default state. The adapter has never been configured.<br>"CONFIGURED" - The adapter port is configured and the adapter is operational.<br>"UNCONFIGURED" - The adapter is unconfigured. The initiator driver is attached, but the adapter is not operational.<br>"PENDING" - The adapter is waiting for a filer reboot to effect an fc-type change.<br>While in the PENDING state the adapter can not be used |
| **adapter-status** | | string | Possible values:<br>"online" - adapter driver is enabled<br>"offline" - adapter driver is disabled |
| **adapter-type** | | string | Indicates which driver is attached to the adapter. Possible values:<br>"initiator" - the storage Initiator driver (default)<br>"vi" - the FC-VI cluster interconnect driver<br>"target" - the FCP Target driver |
| **pending-fc-type** | | string optional | If adapter-state is PENDING, this value tells what the last fc-config-set-adapter-fc-type command was. |

# APIs in Category: **fcp**


fcp-adapter-clear-partner
fcp-adapter-config-down
fcp-adapter-config-media-type
fcp-adapter-config-up
fcp-adapter-get-iter
fcp-adapter-initiators-list-info
fcp-adapter-list-info
fcp-adapter-nameserver-list-iter-end
fcp-adapter-nameserver-list-iter-next
fcp-adapter-nameserver-list-iter-start
fcp-adapter-reset-stats
fcp-adapter-set-partner
fcp-adapter-set-speed
fcp-adapter-stats-get-iter
fcp-adapter-stats-list-info
fcp-adapter-topology-list-iter-end
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fcp-adapter-topology-list-iter-start
fcp-adapter-zone-list-iter-end
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fcp-adapter-zone-list-iter-start
fcp-get-cfmode
fcp-initiator-get-iter
fcp-interface-get-iter
fcp-nameserver-get-iter
fcp-node-get-name
fcp-node-set-name
fcp-ping
fcp-ping-igroup-view-get-iter
fcp-ping-info
fcp-ping-initiator-get-iter
fcp-port-name-get-iter
fcp-port-name-list-info
fcp-port-name-set
fcp-port-name-swap
fcp-service-create
fcp-service-destroy
fcp-service-get-iter
fcp-service-start
fcp-service-status
fcp-service-stop
fcp-set-cfmode
fcp-tdz-get-iter
fcp-topology-get-iter
fcp-topology-port-get-iter
fcp-wwpnalias-get-alias-info
fcp-wwpnalias-get-iter
fcp-wwpnalias-remove
fcp-wwpnalias-set

fcp-zone-get-iter

# fcp-adapter-clear-partner

[top]

Removes the name of the partner adapter which the local adapter should takeover. Partner adapter setting is obsolete and this operation is no longer supported.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string | Local FC adapter. |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |

# fcp-adapter-config-down

[top]

Bring a Fibre Channel target adapter offline. The adapter may not be offline immediately after the call returns, it may take up to a few seconds for the adapter to change state. In Data ONTAP 7-Mode, if the FCP service is not running then all adapters are automatically offlined. They cannot be brought online again until FCP service is started. adapter to change state. In Data ONTAP Cluster-Mode, offlining an adapter will operationally disable all FCP logical interfaces (LIFs) hosted by the adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string | FC adapter to bring offline. |
| **node** | | string | The name of the storage system node where the adapter is installed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |
| **EADAPTERINVALIDTYPE** | |
| **EADAPTERPARTNER** | |
| **ENOTSTARTED** | |
| **ENTAPI_EINVAL** | |

# fcp-adapter-config-media-type

[top]

Sets the link type on the Fibre Channel target adapter. It can be configured to establish a point-to-point link, a loop configuration or to automatically sense whether the connection type is a point-to-point or loop link. Setting the link to point-to-point in a loop configuration can prevent the loop from coming up properly. If the adapter is online, it must be brought offline and then online in order for a new mediatype to take effect. This may temporarily disrupt fcp service on the target adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string | FC adapter to bring offline. |
| | | | |

| | | | |
|---|---|---|---|
| **media-type** | | string | Media type to set. Valid values are point-to-point ("ptp"), loop configuration ("loop"), or automatic ("auto"). |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |
| **EADAPTERINVALIDTYPE** | |
| **EADAPTERPARTNER** | |
| **ENOTSTARTED** | |
| **ECLUSTERED** | |
| **EONTAPI_EINVAL** | |

# fcp-adapter-config-up

[top]

Bring a Fibre Channel target adapter online. The adapter may not be online immediately after the call returns, it may take up to a few seconds for the adapter to initialize. In Data ONTAP 7-Mode, if the FCP service is not running then all adapters are automatically offlined. They cannot be brought online again until FCP service is started. In Data ONTAP Cluster-Mode, offlining an adapter will operationally disable all FCP logical interfaces (LIFs) hosted by the adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string | FC adapter to bring online. |
| **node** | | string | The name of the storage system node where the adapter is installed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |
| **EADAPTERINVALIDTYPE** | |
| **EADAPTERPARTNER** | |
| **ENOTSTARTED** | |
| **EONTAPI_EINVAL** | |

# fcp-adapter-get-iter

[top]

Iterate over the list of physical FC adapters.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-config-adapter-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fcp-config-adapter- | A query that specifies which objects to return. A query could be specified on any number of attributes in the FC Adapter object. All |

| | | | |
|---|---|---|---|
| | | info optional | FC Adapter objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-config-adapter-info[] optional | The list of attributes of FC Adapter objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more FC Adapter objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-adapter-initiators-list-info

[top]

Get the list of initiators currently connected to the specified Fibre Channel target adapter, or if none specified, a list of initiators connected to any FC target adapter. Information returned for each initiator includes the portname of initiators that are currently logged in with the the FC target adapters. If the portname is in an initiator group, then the group name is also included. Also the Fibre Channel host address and the nodename/portname of the initiators are included as well. Connectivity of adapters running on behalf of partners are not included in the list when requesting for all adapters. If listing for all adapters and an error occurred for while retrieving connection status for an adapter, status for that adapter will not be returned, and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string optional | Adapter to get initiator list for. If no adapter is specified, information is returned for all initiators connected through any fcp adapter in the system. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapters** | | fcp-adapter-initiators-info[] | A list of FC adapters containing list of initiators and their aliases. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-list-info

[top]

Gets information such as nodename/portname and link state about the specified Fibre Channel target adapter, or if no adapter is specified, about all the FC target adapters.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string optional | FC target Adapter to get config information for. If no adapter is specified, information is returned for all FC target Adapters. |
| **partner-only** | | boolean optional | This field is obsolete and no longer used beginning with Data ONTAP 8.0. |
| **verbose** | | boolean optional | If specified with "true", additional adapter info is returned. Look at description of output for what additions. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fcp-config-adapters** | | fcp-config-adapter-info[] | List of adapter configuration information. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |
| **ENOADAPTERNOTFOUND** | |
| **ENOVIRTUALADAPTERS** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-nameserver-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from a previous fcp-adapter-nameserver-list-iter-start. |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-nameserver-list-iter-next

[top]

Return items from a previous call to fcp-adapter-nameserver-list-iter-start Information returned for each nameserver entry include the port identifier, port type, port name, node name, symbolic port name, symbolic node name, fabric port name, class of service, and registered FC4 types.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **maximum** | | integer | The maximum number of entries to retrieve. |
| **tag** | | string | Tag from a previous fcp-adapter-nameserver-list-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter-nameserver-objects** | | fcp-adapter-nameserver-object-info[] | List of nameserver objects. |
| **records** | | integer | This tells you how many records are being returned from this particular call to fcp-adapter-nameserver-list-iter-next When this value is 0, you have retrieved everything. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-nameserver-list-iter-start

[top]

Get the fabric nameserver objects the results of which are retrieved by using fcp-adapter-nameserver-list-iter-next. Connectivity of adapters running on behalf of partners are not included in the list when requesting for all adapters. If listing for all adapters and an error occurs while retrieving connection status for an adapter, status for that adapter will not be returned and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string optional | Adapter to get nameserver objects for. If no adapter is specified, information is returned for all fcp adapter. |
| **zoned** | | boolean optional | If true, returns only devices that are zoned to the target adapter. Otherwise, all devices in the fabric are returned. Default is false. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number which tells you how many items have been saved for future retrieval with fcp-adapter-nameserver-list-iter-next. |
| **tag** | | string | Tag to be used in subsequent calls to fcp-adapter-nameserver-list-iter-next. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-reset-stats

[top]

Resets the stats for the specified Fibre Channel Target Adapter. If none specified, reset stats for all FC adapters.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string optional | FC Target adapter. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |

# fcp-adapter-set-partner

[top]

Sets the name of the partner adapter which the local adapter should takeover. Partner adapter setting is obsolete and this operation is no longer supported.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string | Local FC adapter. |
| **partner-adapter** | | string | Partner FC adapter to takeover. |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |

# fcp-adapter-set-speed

[top]

Sets the speed on the Fibre Channel target adapter. It can be configured to run at 1Gb, 2Gb, 4Gb, 8Gb, 10Gb, 16Gb or to auto negotiate. The 10Gb adapter only supports the 10Gb speed. The 16Gb adapter only supports speeds of 16Gb, 8Gb, and 4Gb. The 8Gb adapter only supports speeds of 8Gb, 4Gb, and 2Gb. The 4Gb adapter only supports speeds of 4Gb, 2Gb, and 1Gb. If the adapter is online it must be brought offline before setting the speed, and then online in order for a new speed to take effect. This may temporarily disrupt fcp service on the target adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string | FC Target adapter |
| **node** | | string | The name of the storage system node where the adapter is installed. |
| **speed** | | string | Link speed (in Gb). Possible values: "1", "2", "4", "8", "10", "16" or "auto" (auto negotiate speed). |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |
| **EADAPTERINVALIDTYPE** | |
| **EADAPTERPARTNER** | |
| **ENOTSTARTED** | |
| **EONTAPI_EINVAL** | |

# fcp-adapter-stats-get-iter

[top]

Iterate over a list of fcp objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-adapter-stats-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fcp-adapter-stats-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fcp object. All fcp objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-adapter-stats-info[] optional | The list of attributes of fcp objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more fcp objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-adapter-stats-list-info

[top]

Get statistics about the Fibre Channel target adapters. Statistics of adapters running on behalf of partners are not included in the list when requesting stats for all adapters. If listing stats for all adapters and an error occurred for while retrieving stats for an adapter, stats for that adapter will not be returned, and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string optional | FC target Adapter. If no adapter is specified, statistics for all the adapters are returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter-** | | fcp-adapter- | List of statistics for FC adapters. |

| | | | |
|---|---|---|---|
| **stats** | | stats-info[] | |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |

# fcp-adapter-topology-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from a previous fcp-adapter-topology-list-iter-start. |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-topology-list-iter-next

[top]

Return items from a previous call to fcp-adapter-topology-list-iter-start Information returned for each switch includes the nodename, logical name, domain identifier, vendor, release version, and port information. If a port has devices attached to it, then information about each attached device is included as well.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maximum** | | integer | The maximum number of entries to retrieve. |
| **tag** | | string | Tag from a previous fcp-adapter-topology-list-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter-topology-switches** | | fcp-adapter-topology-switch-info[] | Information about the connected FC switch. |
| **records** | | integer | This tells you how many records are being returned from this particular call to fcp-adapter-topology-list-iter-next When this value is 0, you have retrieved everything. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-topology-list-iter-start

[top]

Get the fabric topology for one or more switches the results of which are retrieved by using fcp-adapter-topology-list-iter-next. Connectivity of adapters running on behalf of partners are not included in the list when requesting for all adapters. If listing for all adapters and an error occurs while retrieving connection status for an adapter, information for that adapter will not be returned and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string optional | Adapter to get topology information for. If no adapter is specified, information is returned for all fcp adapter. |
| **verbose** | | boolean optional | If true, returns verbose information including port information about each switch in the fabric. Default is true. |
| **zoned** | | boolean optional | If true, returns only devices in the fabric that are zoned to the target adapter. Default is false. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number which tells you how many items have been saved for future retrieval with fcp-adapter-topology-list-iter-next. |
| **tag** | | string | Tag to be used in subsequent calls to fcp-adapter-topology-list-iter-next. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-zone-list-iter-end

[top]

Terminate a list iteration and clean up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from a previous fcp-adapter-zone-list-iter-start. |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-zone-list-iter-next

[top]

Return items from a previous call to fcp-adapter-zone-list-iter-start Information returned for each zone entry include the active zone set name, the zone name, and the zone members.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maximum** | | integer | The maximum number of entries to retrieve. Range: [0..2^32-1] |
| **tag** | | string | Tag from a previous fcp-adapter-zone-list-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter-zones** | | fcp-adapter-zone-info[] | List of zone entries. |
| **records** | | integer | This tells you how many records are being returned from this particular call to fcp-adapter-zone-list-iter-next When this value is 0, you have retrieved everything. Range: [0..2^32-1] |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-adapter-zone-list-iter-start

[top]

Get the active zone set information from the zone server. The results can then be retrieved by using fcp-adapter-zone-list-iter-next. Connectivity of adapters running on behalf of partners is not included in the list when requesting for all adapters. If listing for all adapters and an error occurs while retrieving connection status for an adapter, status for that adapter will not be returned and the API will continue on with the rest of the adapters without erroring out. You can get the error message for that adapter, by specifically specifying that adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string optional | Adapter to get zone information for. If no adapter is specified, information is returned for all fcp adapter. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number which tells you how many items have been saved for future retrieval with fcp-adapter-zone-list-iter-next. Range: [0..2^32-1] |
| **tag** | | string | Tag to be used in subsequent calls to fcp-adapter-zone-list-iter-next. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EADAPTERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-get-cfmode

[top]

Get the current cfmode setting for the system.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fcp-cfmode** | | string | Current FCP cfmode setting. Possible values: single_image, unknown |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| ENOTCLUSTERED | |

# fcp-initiator-get-iter

[top]

List all initiators connected to FCP target LIFs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | fcp-adapter-initiators-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | fcp-adapter-initiators-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the connected FCP initiator object. All connected FCP initiator objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | fcp-adapter-initiators-info[] optional | The list of attributes of connected FCP initiator objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more connected FCP initiator objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# fcp-interface-get-iter

[top]

Iterate over a list of FCP Target Logical Interfaces (LIF).

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | fcp-interface-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is |

| | | | |
|---|---|---|---|
| | | optional | available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fcp-interface-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the FCP data LIF object. All FCP data LIF objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-interface-info[] optional | The list of attributes of FCP data LIF objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more FCP data LIF objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-nameserver-get-iter

[top]

Iterates over the list of entries in the fabric name server database.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-nameserver-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fcp-nameserver-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Shows entries in the fabric name server database. object. All Shows entries in the fabric name server database. objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-nameserver-info[] optional | The list of attributes of Shows entries in the fabric name server database. objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Shows entries in the fabric name server database. objects to |

| | | | |
|---|---|---|---|
| | | | return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-node-get-name

[top]

Get the current FCP World Wide Node Name (WWNN). This WWNN name is in the form XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. In Data ONTAP 7-Mode, this is the WWNN of the individual storage system. In "single_image" cfmode, the WWNN of the system and its high availability partner will be the same. In Data ONTAP Cluster-Mode, this is the WWNN of the Vserver FCP Service.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string | Current FCP World Wide Node Name (WWNN). |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |

# fcp-node-set-name

[top]

Set the current FCP World Wide Node Name (WWNN). This WWNN is in the form XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. The provided WWNN must also be within one of the allowed vendor-registered namespaces unless the force parameter is specified. In Data ONTAP 7-Mode, all Fibre Channel adapters must be offline. The allowed vendor namespace is "50:0a:09:80:8X:XX:XX". Changes will take place when the adapters are brought online. In Data ONTAP Cluster-Mode, the FCP service must be offline. The allowed vendor namespace is one of following:

- 2X:XX:00:a0:98:XX:XX:XX
- 2X:XX:00:a0:b8:XX:XX:XX
- 2X:XX:d0:39:ea:XX:XX:XX

Changes will take place when the service is brought online.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean<br>optional | If true, allow setting the WWNN to a value outside the vendor's registered namespace for the current mode. If false or not present, the request will fail unless the supplied WWNN is inside the correct namespace. |
| **node-name** | | string | FCP World Wide Node Name. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EONTAPI_EINVAL** | |
| **EALREADYSTARTED** | |
| **EOPNOTSUPPORTED** | |

| | |
|---|---|
| **EVDISK_ERROR_DUPLICATE_TARGET_NAME** | |
| **E_SAN_NOT_READY** | |

# fcp-ping

[top]

Send an ELS ECHO frame to a Fibre Channel address or WWPN. EHOSTNOTFOUND is returned if the WWPN cannot be resolved. EONTAPI_EHOSTDOWN is returned if the address cannot be pinged.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string | Adapter to send the ping request from. |
| **payload** | | string optional | Additional data to send in the payload of the ELS ECHO frame. The payload can be up to 248 characters long. |
| **port-id-or-wwpn** | | string | The Fibre Channel address or the WWPN to ping. The format of a Fibre channel address is a hexadecimal or numeric value with the range [0..2^24-1]. The format of a WWPN is XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. |

| Errno | Description |
|---|---|
| **EHOSTNOTFOUND** | |
| **EONTAPI_EHOSTDOWN** | |
| **EADAPTERNOTFOUND** | |
| **EONTAPI_EINVAL** | |

# fcp-ping-igroup-view-get-iter

[top]

Iterate over a list of FCP ping igroup results objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-ping-igroup-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fcp-ping-igroup-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the FCP ping igroup results object. All FCP ping igroup results objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | fcp- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | ping-igroup-status-info[] optional | The list of attributes of FCP ping igroup results objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more FCP ping igroup results objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-ping-info

[top]

Send an ELS ECHO frame to a Fibre Channel address or WWPN. The API pings the address or WWPN count times and returns the number of successful pings and times. EHOSTNOTFOUND is returned if the WWPN cannot be resolved. EONTAPI_EHOSTDOWN is returned if the address cannot be pinged. The interval between ping attempts is 1 second.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string | Adapter to send the ping request from. |
| **payload** | | string optional | Additional data to send in the payload of the ELS ECHO frame. The payload can be up to 248 characters long. |
| **ping-count** | | integer optional | The number of pings. Default is 3. Range: [1..16] |
| **port-id-or-wwpn** | | string | The Fibre Channel address or the WWPN to ping. The format of a Fibre channel address is a hexadecimal or numeric value with the range [0..2^24-1]. The format of a WWPN is XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **frames-received** | | integer optional | The number of frames received. The number of frames lost is the frames-transmitted minus frames-received. Range: [0..16] |
| **frames-transmitted** | | integer optional | Number of frames transmitted. Should be equal to ping-count. Range: [1..16] |
| **round-trip-maximum-time** | | integer optional | Maximum time in microseconds for a round trip between the target adapter and the destination if frames-received is greater than zero. Range: [0..2^31-1] |
| **round-trip-mean-time** | | integer optional | Mean time in microseconds for a round trip between the target adapter and the destination if frames-received is greater than zero. Range: [0..2^31-1] |
| **round-trip-minimum-time** | | integer optional | Minimum time in microseconds for a round trip between the target adapter and the destination if frames-received is greater than zero. Range: [0..2^31-1] |

| Errno | Description |
|---|---|
| **EHOSTNOTFOUND** | |
| **EONTAPI_EHOSTDOWN** | |
| **EADAPTERNOTFOUND** | |
| **EONTAPI_EINVAL** | |

# fcp-ping-initiator-get-iter

[top]

Iterate over a list of FCP ping by FCP initiator objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-ping-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fcp-ping-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the FCP ping by FCP initiator object. All FCP ping by FCP initiator objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-ping-status-info[] optional | The list of attributes of FCP ping by FCP initiator objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more FCP ping by FCP initiator objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-port-name-get-iter

[top]

Iterate over the list of valid Fibre Channel target port names on a Vserver's FCP LIFs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-port-name-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | fcp- | |

| | | | |
|---|---|---|---|
| **query** | | port-name-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Fibre Channel target port name object. All Fibre Channel target port name objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-port-name-info[] optional | The list of attributes of Fibre Channel target port name objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Fibre Channel target port name objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-port-name-list-info

[top]

Get the list of valid Fibre Channel target port names on a filer's local adapters. The filer needs to be in standby or single_image cfmode.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **verbose** | | boolean optional | If specified with "true", unused port names are also reported. Default value is "false". |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fcp-port-names** | | fcp-port-name-info[] | List of valid local port names and associated adapters. |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |
| **EADAPTERNOTFOUND** | |

# fcp-port-name-set

[top]

Set a valid but unused port name on a Fibre Channel target interface.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string | FCP target interface to set the WWPN on. In Data ONTAP 7-Mode, the name of a local adapter in standby single_image cfmode. In Data ONTAP Cluster-Mode, the name of an FCP data LIF in the vserver. |

| | | | |
|---|---|---|---|
| **port-name** | | string | WWPN to be set on the interface. It has to be a valid and unused one. |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |
| **EONTAPI_EINVAL** | |
| **EADAPTERNOTFOUND** | |
| **EADAPTERINVALIDTYPE** | |
| **EINTERNALERROR** | |
| **EALREADYSTARTED** | |
| **E_SAN_NOT_READY** | |

# fcp-port-name-swap

[top]

Swap port names of two local Fibre Channel target adapters.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter-1** | | string | One of the adapters to swap their port names. It has to be a local adapter in standby or single_image cfmode. |
| **fcp-adapter-2** | | string | One of the adapters to swap their port names. It has to be a local adapter in standby or single_image cfmode. |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |
| **EONTAPI_EINVAL** | |
| **EADAPTERNOTFOUND** | |
| **EADAPTERINVALIDTYPE** | |
| **EINTERNALERROR** | |
| **EALREADYSTARTED** | |
| **E_SAN_NOT_READY** | |

# fcp-service-create

[top]

Create an FCP Service in a Vserver. Each Vserver requires an online FCP Service in order to serve data via the Fibre Channel protocol.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force-node-name** | | boolean optional | If true, allow setting the WWNN to a value outside the vendor's registered namespaces. If false, the node-name must match one of the following namespaces:<br>• 2X:XX:00:a0:98:XX:XX:XX<br>• 2X:XX:00:a0:b8:XX:XX:XX<br>• 2X:XX:d0:39:ea:XX:XX:XX<br>. The default i false. |
| **node-name** | | string optional | The FCP World Wide Node Name (WWNN) for the FCP service. If not provided, one will be auto-generated. |

| | | | |
|---|---|---|---|
| **start** | | boolean optional | Determine the initial state of the FCP Service. If true, the service will be automatically started after creation completes. If false, the service will be left in the stopped state and the caller must subsequently call fcp-service-start to start the service. The default is true. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string | The world-wide node name (WWNN) of the FCP target in the Vserver. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EONTAPI_EINVAL** | |
| **EVDISK_ERROR_DUPLICATE_TARGET_NAME** | |
| **EONTAPI_EEXIST** | |
| **EVSERVERNOTRUNNING** | |
| **E_SAN_NOT_READY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **FCP** |

# fcp-service-destroy

[top]

Destroy the FCP Service in a Vserver.

| Errno | Description |
|---|---|
| **E_SAN_NOT_READY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **FCP** |

# fcp-service-get-iter

[top]

Iterate over the list of FCP Services.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-service-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | fcp- | A query that specifies which objects to return. A query could be |

| | | | |
|---|---|---|---|
| **query** | | service-info optional | specified on any number of attributes in the FCP Service object. All FCP Service objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-service-info[] optional | The list of attributes of FCP Service objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more FCP Service objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-service-start

[top]

Starts FCP service. When FCP service is started, the adapters are brought online. The service will be available once the call returns with success. The adapters however, may not be available immediately after the call, it may take up to a few seconds for the adapters to initialize.

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EALREADYSTARTED** | |
| **VDISK_ERROR_CFMODE_MISMATCH** | |
| **VDISK_ERROR_PARTNER_NOT_REACHABLE** | |
| **EREVERTINPROGRESS** | |
| **VDISK_ERROR_PARTNER_WWNN_MISMATCH_FOR_SSI** | |
| **EVSERVERNOTRUNNING** | |
| **E_SAN_NOT_READY** | |

# fcp-service-status

[top]

Get status of the FCP service, whether or not it is running.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-available** | | boolean | "true" if FCP service is running, "false" otherwise. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-service-stop

[top]

Stops FCP service. When FCP service is stopped, the adapters are brought offline. The service will be unavailable once the call returns with success.

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ENOTSTARTED** | |
| **E_SAN_NOT_READY** | |

# fcp-set-cfmode

[top]

Set the current cfmode setting for the system. This setting controls how the cluster behaves during a takeover/giveback. It also controls if the filer should use multiple virtual target adapters per physical target adapter. fcp service must be stopped before executing this API. The only valid value for cfmode is 'single_image' If cfmode is set to 'single_image' the filer connects to the FC fabric in ptp mode by default but is configurable, and all luns in the cluster are visible on all FC target ports. In this mode all hosts require multipathing software. When setting the cfmode to 'single_image' configuration checks are performed. If these checks fail an EPERM error will be returned. See the lun-config-check-single-image-info API for more information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fcp-cfmode** | | string | Set current cfmode setting. Possible values: single_image |
| **force** | | boolean optional | Forcibly change the cfmode, overriding cluster partner checks. Obsolete. |

| Errno | Description |
|---|---|
| **ENOTCLUSTERED** | |
| **ESERVICENOTSTOPPED** | |
| **EINTERNALERROR** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EPERM** | |
| **EVDISK_ERROR_PARTNER_NOT_REACHABLE** | |
| **EVDISK_ERROR_IN_TAKEOVER** | |

# fcp-tdz-get-iter

[top]

Iterates over the list of entries in the tdz database.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-tdz-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fcp-tdz-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Shows entries in the fabric tdz database. object. All Shows entries in the fabric tdz database. objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-tdz-info[] optional | The list of attributes of Shows entries in the fabric tdz database. objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Shows entries in the fabric tdz database. objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-topology-get-iter

[top]

Iterates over the list of FCP topology interconnect elements.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-topology-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fcp-topology-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Show FCP topology interconnect elements. object. All Show FCP topology interconnect elements. objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-topology-info[] optional | The list of attributes of Show FCP topology interconnect elements. objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Show FCP topology interconnect elements. objects to return. |
| **num-records** | **[0..2^32-** | integer | The number of records returned in this call. |

| | | | |
|---|---|---|---|
| | 1] | | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# fcp-topology-port-get-iter

[top]

Iterates over the list of entries in the fabric name server database.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | fcp-topology-port-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | fcp-topology-port-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Shows FCP topology interconnect elements per adapter. object. All Shows FCP topology interconnect elements per adapter. objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | fcp-topology-port-info[] optional | The list of attributes of Shows FCP topology interconnect elements per adapter. objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more Shows FCP topology interconnect elements per adapter. objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# fcp-wwpnalias-get-alias-info

[top]

Get the list of WWPN for a given alias or an alias for for a given WWPN or complete list of all current alias- WWPN mappings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| alias | | string optional | Alias for a WWPN is the 32-character alias that may contain A-Z, a-z, 0-9, _,-,.,{,} and no spaces. When supplied, the alias with the corresponding WWPN will be returned. Otherwise, all aliases with their |

| | | | |
|---|---|---|---|
| | | | WWPNs present in the system will be returned. |
| **wwpn** | | string optional | WWPN for which all aliases will be returned. When supplied all aliases for that WWPN will be returned. Otherwise, all aliases with their WWPNs present in the system will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **aliases** | | aliases-info[] | A list of alias-WWPN mappings |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_WWPN_ALIASES_NOT_SET** | |
| **EVDISK_ERROR_WWPN_ALIAS_INVALID** | |
| **EVDISK_ERROR_WWPN_ALIAS_NOT_FOUND** | |
| **EVDISK_ERROR_NOT_VALID_FC_WWN** | |
| **EVDISK_ERROR_WWPN_ALIAS_REMOVE_INVALID_NUM_ARGS** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fcp-wwpnalias-get-iter

[top]

Iterate over the list of assigned World Wide Port Name (WWPN) aliases.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | aliases-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | aliases-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the WWPN aliases object. All WWPN aliases objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | aliases-info[] optional | The list of attributes of WWPN aliases objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more WWPN aliases objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fcp-wwpnalias-remove

[top]

Remove an alias for a World Wide Port Name of an initiator. Either the alias or the wwpn argument must be provided.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **alias** | | string optional | WWPN Alias to be removed. Either the alias or the wwpn argument must be provided. |
| **wwpn** | | string optional | WWPN for which all aliases are to be removed. Either the wwpn or the alias argument must be provided. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_WWPN_ALIAS_NOT_FOUND** | |
| **EVDISK_ERROR_WWPN_NOT_FOUND** | |
| **EVDISK_ERROR_WWPN_ALIAS_REMOVE_INVALID_NUM_ARGS** | |

# fcp-wwpnalias-set

[top]

Set an alias for a World Wide Port Name of an initiator that might login to the target.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **alias** | | string | Alias to be set for the given WWPN ("wwpn"); The alias can be 32-characters long and may contain: A-Z, a-z, 0-9, _,-,.,{,} and no spaces |
| **force** | | boolean optional | When set to true, the WWPN associated with the alias will be over-written. Default value is false. |
| **wwpn** | | string | WWPN for which alias is being set |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_WWPN_ALIASES_TOO_MANY** | |
| **EVDISK_ERROR_WWPN_ALIAS_INVALID** | |
| **EVDISK_ERROR_NOT_VALID_FC_WWN** | |
| **EVDISK_ERROR_WWPN_ALIAS_ALREADY_SET** | |

# fcp-zone-get-iter

[top]

Iterates over the list of entries in the fabric name server database.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fcp-zone-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | fcp-zone-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Shows the active zone set information. object. All Shows the active zone set information. objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fcp-zone-info[] optional | The list of attributes of Shows the active zone set information. objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Shows the active zone set information. objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **aliases-info**

[top]

A list of WWPNs and their aliases generated according to the input - alias, WWPN or nothing.

| Name | Range | Type | Description |
|---|---|---|---|
| **aliases-alias** | | string | The 32-character alias for a given FCP WWPN |
| **aliases-wwpn** | | string | The FCP WWPN for which the alias is given |
| **vserver** | | string optional | Vserver containing the alias |

# Element definition: **fcp-adapter-initiators-info**

[top]

A list of initiators currently connected to the FC adapter or FCP data LIF.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter** | | string | In Data ONTAP 7-Mode, the name of the physical FC adapter. In Data ONTAP Cluster-Mode, the name of the FC data LIF. |
| **data-protocol** | | fcp-adapter-data-protocol optional | The data protocol of the LIF. This field is available in Data ONTAP 9.4 and later. |
| **fcp-connected-initiators** | | fcp-connected-initiator-info[] | Information about the connected initiators |
| **vserver** | | string optional | Vserver of the FCP LIF. |

# Element definition: **fcp-adapter-nameserver-object-info**

[top]

Information about a nameserver object entry.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter** | | string | The adapter this nameserver object is visible through. |
| **class-service** | | string optional | Registered class of services as defined in the FC-FS standard. This element is omitted if the device has not registered a class of service. Comma separated possible values: "F", "1", "2", "3", "4", and "6". |
| **fabric-port-name** | | string optional | Fabric world wide port name (WWPN) of this entry. This element is omitted if the fabric WWPN is not registered. |
| **fc4-type** | | string optional | Registered FC4 Types. This element is omitted if the device has not registered an FC4 Type. Comma separated possible values: "llc/snap", "ipfc", "fcp", "gpp", "ipi-3m", "ipi-3s", "ipi-3p", "sbccs-ch", "sbccs-cu", "fc-sb-3_ch2cu", "fc-sb-3_cu2ch", "fc-gs", "fc-sw", "fc-al", "snmp", "hippi-fp", "mil-std-1553", "asm", "fc-vi", and "fc-av". |
| **node-name** | | string optional | World wide node name (WWNN) of this entry. This element is omitted if the device has not registered a WWNN. |
| **port-id** | | integer | Assigned port identifier of this entry. Range: [0..2^24-1] |
| **port-name** | | string optional | World wide port name (WWPN) of this entry. This element is omitted if the device has not registered a WWPN. |
| **port-type** | | string | Port type of this entry. Possible values: "n-port", "nl-port", "fnl-port", "nx-port", "f-port", "fl-port", "e-port", "b-port", "nv-port", "fv-port", "sd-port", "te-port", "tl-port", and "none". |
| **symbolic-node-name** | | string optional | Registered symbolic node name. If the device has not registered one, this element will be omitted. |
| **symbolic-port-name** | | string optional | Registered symbolic port name. If the device has not registered one, this element will be omitted. |

# Element definition: **fcp-adapter-stats-info**

[top]

Statistics for one FC adapter. Starting Data ONTAP 8.3, the SFP related attributes have been superseded by the same attributes in type fcp-config-adapter-info, and are retained in here for compatibility only.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter** | | string | Which FC adapter. |
| **adapter-resets** | | integer | Number of adapter resets occurred. |
| **crc-errors** | | integer | Total CRC errors occurred. |
| **discarded-frames** | | integer | Number of frames discarded by the target HBA. Range [0..2^31-1] |
| **frame-overruns** | | integer | Number of frame overruns detected by the adapter during write requests. |
| **frame-underruns** | | integer | Number of frame underruns detected by the adapter during read requests. |
| **initiators-** | | integer | Total number of initiators connected to this target adapter. |

| | | | |
|---|---|---|---|
| **connected** | | | |
| **invalid-xmit-words** | | integer | Number of invalid words transmitted. Range [0..2^31-1] |
| **is-sfp-diagnostics-internally-calibrated** | | boolean optional | Indicates if the SFP diagnostics are internally calibrated or not. The optional SFP rx/tx fields are invalid (and therefore not provided) if the SFP diagnostics are not internally calibrated. |
| **is-sfp-optical-transceiver-valid** | | boolean | Validity of the optical transceiver. Until Data ONTAP 8.0.0, this field was incorrectly named "is-spf-optical-transceiver-valid". While that field is also returned for backward compatibility, all new applications must use the current version. |
| **is-sfp-rx-power-in-range** | | boolean optional | Flag to indicate received optical power is in range. |
| **is-sfp-tx-power-in-range** | | boolean optional | Flag to indicate transmitted optical power is in range. |
| **link-breaks** | | integer | Number of times that the link breaks. |
| **lip-resets** | | integer | Number of times that a selective Reset LIP (Loop Initialization Primitive) occurred. LIP reset is used to preform a vendor-specific reset at the loop port specified by the AL-PA value. |
| **lr-received** | | integer | Number of LRs (Link Reset) received by the target HBA. Range [0..2^31-1] |
| **lr-sent** | | integer | Number of LRs (Link Reset) sent from the target HBA. Range [0..2^31-1] |
| **node** | | node-name | The name of the node where the adapter is installed. |
| **nos-received** | | integer | Number of NOSs (Not_Operational Primitive Sequence)received by the target HBA. Range [0..2^31-1] |
| **ols-received** | | integer | Number of OLSs (Offline Primitive Sequence) received by the target HBA. Range [0..2^31-1] |
| **protocol-errors** | | integer | Number of protocol errors occurred. Range [0..2^31-1] |
| **queue-depth** | | integer | Counts the queue depth on the target HBA. |
| **scsi-requests-dropped** | | integer | Number of SCSI requests being dropped. |
| **sfp-connector** | | string optional | Connector used with the optical transceiver. |
| **sfp-date-code** | | string optional | Date code for the optical transceiver. |
| **sfp-encoding** | | string optional | Encoding used with the optical transceiver. Possible values ["8B10B", "?????"] |
| **sfp-fc-speedcapabilities** | | string optional | FC speed capabilities for the optical transceiver. Possible values [1, 2, 4, 8 in Gbps] |
| **sfp-formfactor** | | string optional | Form factor of the optical transceiver. Possible values: "SFP" (for Small FormFactor). |
| **sfp-part-number** | | string optional | Part number for the optical transceiver. |
| **sfp-rev** | | string optional | Revision for the optical transceiver. |
| **sfp-rx-power** | | string optional | SFP received optical power, reported to tenth decimal in uWatts. |
| **sfp-serial-number** | | string optional | Serial number for the optical transceiver. |
| **sfp-tx-power** | | string optional | SFP transmitted optical power, reported to tenth decimal in uWatts. |
| | | string | |

| | | | |
|---|---|---|---|
| **sfp-vendor-name** | | optional | Vendor name for the optical transceiver. |
| **sfp-vendor-oui** | | string optional | Vendor OUI (The IEEE Organizationally Unique Identifier) for the optical transceiver. |
| **sfp-wavelength** | | integer optional | Wavelength for the optical transceiver. Measured in nanometers. Range [830..860] |
| **spurious-interrupts** | | integer | Count of spurious interrupts. |
| **total-logins** | | integer | Counts the times of initiators added. Each time a new initiator is added, the total logins is incremented by 1. Each time an initiator is removed, the total logouts is incremented by 1. |
| **total-logouts** | | integer | Counts the times of initiators removed. Each time a new initiator is added, the total logins is incremented by 1. Each time an initiator is removed, the total logouts is incremented by 1. |

# Element definition: **fcp-adapter-topology-switch-info**

[top]

Information about an FC switch connected to an FC adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter** | | string | The name of the adapter this switch is visible through. |
| **domain** | | integer | The domain identifier of the FC switch. Range: [1..255] |
| **fcp-adapter-topology-switch-ports** | | fcp-adapter-topology-switch-port-info[] optional | List of ports for the FC switch. This is only returned if verbose is set to true. |
| **logical-name** | | string | The logical name of the FC switch. The maximum length is 64. |
| **node-name** | | string | Node name of the FC switch. The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. |
| **port-count** | | integer | The number of ports discovered on the FC switch. Range: [0..2^32-1] |
| **release** | | string | The release version of the FC switch. The maximum length is 64. |
| **vendor** | | string | The name of the FC switch vendor. The maximum length is 64. |

# Element definition: **fcp-adapter-zone-info**

[top]

Information about a zone.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter** | | string | The adapter this zone is visible through. |
| **fcp-adapter-zone-members** | | fcp-adapter-zone-member-info | List of zone members. |
| | | | |

| | | | |
|---|---|---|---|
| **zone-name** | | string | The name of the zone. The maximum length is 64. |
| **zone-set-name** | | string | The name of the zone set containing this zone. The maximum length is 64. |

# Element definition: **fcp-config-adapter-info**

[top]

Configuration information for one FC adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter** | | string optional | Adapter Attributes: key, non-creatable, non-modifiable |
| **connection-established** | | fcp-connection optional | Connection Established Attributes: non-creatable, non-modifiable Possible values:<br>• "loop" ,<br>• "ptp" |
| **data-link-rate** | **[0..2^32-1]** | integer optional | Data Link Rate (Gbit) Attributes: non-creatable, non-modifiable |
| **data-protocols-supported** | | fcp-adapter-data-protocol[] optional | Data Protocols Supported Attributes: non-creatable, non-modifiable Possible values:<br>• "fcp" ,<br>• "fc_nvme" |
| **fabric-established** | | boolean optional | Fabric Established Attributes: non-creatable, non-modifiable |
| **fabric-name** | | string optional | Fabric Name Attributes: non-creatable, non-modifiable |
| **firmware-rev** | | string optional | Firmware Revision Attributes: non-creatable, non-modifiable |
| **hardware-rev** | | string optional | Hardware Revision Attributes: non-creatable, non-modifiable |
| **info-name** | | string optional | Description Attributes: non-creatable, non-modifiable |
| **is-sfp-diagnostics-internally-calibrated** | | boolean optional | Is Internally Calibrated Attributes: non-creatable, non-modifiable |
| **is-sfp-optical-transceiver-valid** | | boolean optional | Validity Of Transceiver Attributes: non-creatable, non-modifiable |
| **is-sfp-rx-in-los** | | boolean optional | Is Receiver In LOS Attributes: non-creatable, non-modifiable |
| **is-sfp-rx-power-in-range** | | boolean optional | Is Received Power In Range Attributes: non-creatable, non-modifiable |
| **is-sfp-tx-in-disable** | | boolean | Is Xmit Disabled Attributes: non-creatable, non- |

| | | | |
|---|---|---|---|
| | | optional | modifiable |
| **is-sfp-tx-in-fault** | | boolean optional | Is Xmit In Fault Attributes: non-creatable, non-modifiable |
| **is-sfp-tx-power-in-range** | | boolean optional | Is Xmit Power In Range Attributes: non-creatable, non-modifiable |
| **max-speed** | | integer optional | Maximum Speed Attributes: non-creatable, non-modifiable |
| **media-type** | | string optional | Mediatype Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **node-name** | | string optional | Adapter WWNN Attributes: non-creatable, non-modifiable |
| **physical-protocol** | | string optional | Physical Protocol Attributes: non-creatable, non-modifiable |
| **port-address** | **[0..2^32-1]** | integer optional | Host Port Address Attributes: non-creatable, non-modifiable |
| **port-name** | | string optional | Adapter WWPN Attributes: non-creatable, non-modifiable |
| **sfp-connector** | | string optional | Connector Used Attributes: non-creatable, non-modifiable |
| **sfp-date-code** | | string optional | Date Code Of Transceiver Attributes: non-creatable, non-modifiable |
| **sfp-ddm-capabilities** | | string optional | Status Monitoring Available Attributes: non-creatable, non-modifiable |
| **sfp-ddm-status-control** | **[0..2^32-1]** | integer optional | DDM Status Attributes: non-creatable, non-modifiable |
| **sfp-diagnostic-monitoring-type** | **[0..2^32-1]** | integer optional | Diagnostic Monitoring Type Attributes: non-creatable, non-modifiable |
| **sfp-encoding** | | string optional | Encoding Used Attributes: non-creatable, non-modifiable |
| **sfp-fc-speedcapabilities** | | string optional | FC Capabilities Of Transceiver Attributes: non-creatable, non-modifiable |
| **sfp-formfactor** | | string optional | Form Factor Of Transceiver Attributes: non-creatable, non-modifiable |
| **sfp-part-number** | | string optional | Part Number Of Transceiver Attributes: non-creatable, non-modifiable |
| **sfp-rev** | | string optional | Revision Of Transceiver Attributes: non-creatable, non-modifiable |
| **sfp-rx-power** | | string optional | Received Optical Power Attributes: non-creatable, non-modifiable |
| **sfp-serial-number** | | string optional | Serial Number Of Transceiver Attributes: non-creatable, non-modifiable |
| **sfp-sff8472-compliance** | **[0..2^32-1]** | integer optional | SFF-8472 Compliance Attributes: non-creatable, non-modifiable |
| **sfp-tx-power** | | string optional | SFP Transmitted Optical Power Attributes: non-creatable, non-modifiable |
| **sfp-vendor-name** | | string optional | Vendor Name Of Transceiver Attributes: non-creatable, non-modifiable |
| **sfp-vendor-oui** | | string optional | Vendor OUI Of Transceiver Attributes: non-creatable, non-modifiable |
| **sfp-wavelength** | **[0..65535]** | integer optional | Wavelength In Nanometers Attributes: non-creatable, non-modifiable |
| | | string | Link speed Attributes: non-creatable, non- |

| | | | |
|---|---|---|---|
| **speed** | | optional | modifiable |
| **state** | | string optional | Operational Status Attributes: non-creatable, non-modifiable |
| **status-admin** | | fcp-adapter-state optional | Administrative Status Attributes: non-creatable, modifiable Possible values:<br>• "down" ,<br>• "up" |
| **status-extended** | | string optional | Extended Status Attributes: non-creatable, non-modifiable |
| **switch-port** | | string optional | Switch Port Attributes: non-creatable, non-modifiable |

# Element definition: **fcp-interface-info**

[top]

Information about a single FCP Logical Interface (LIF). When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **current-node** | | string optional | Node currently hosting the LIF. Attributes: non-creatable, non-modifiable |
| **current-port** | | string optional | FC Adapter currently hosting the LIF. Attributes: non-creatable, non-modifiable |
| **interface-name** | | string optional | Name of the LIF. Attributes: key, non-creatable, non-modifiable |
| **node-name** | | string optional | World Wide Node Name (WWNN) of the LIF. All LIFs in a Vserver have the same WWNN as the Vserver's FCP service. Attributes: non-creatable, non-modifiable |
| **port-address** | | string optional | Host port address of LIF. Attributes: non-creatable, non-modifiable |
| **port-name** | | string optional | World Wide Port Name (WWPN) of the LIF. Attributes: non-creatable, non-modifiable |
| **relative-port-id** | | integer optional | The SCSI Relative Target Port Identifier of the LIF. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver hosting the LIF. Attributes: key, non-creatable, non-modifiable |

# Element definition: **fcp-nameserver-info**

[top]

FCP name server entry for the adapter When returned as part of the output, all elements of this typedef

are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **fabric-port-wwn** | | string optional | Fabric world wide port name (WWPN) of the lif Attributes: non-creatable, non-modifiable |
| **fc4-type** | | string optional | Registered FC4 Type Attributes: non-creatable, non-modifiable |
| **lif** | | string optional | LIF Name Attributes: key, non-creatable, non-modifiable |
| **node-wwn** | | string optional | World Wide Node Name (WWNN) of the lif Attributes: non-creatable, non-modifiable |
| **port-id** | **[0..2^32-1]** | integer optional | Assigned port identifier of the lif Attributes: key, non-creatable, non-modifiable |
| **port-type** | | string optional | Port type of the lif Attributes: non-creatable, non-modifiable |
| **port-wwn** | | string optional | World Wide Port Name (WWPN) of the lif Attributes: non-creatable, non-modifiable |
| **service-class** | | string optional | Registered class of services as defined in the FC-FS standard Attributes: non-creatable, non-modifiable |
| **switch-port** | | string optional | Name of switch port connected to target array Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver hosting the FCP LIF Attributes: key, non-creatable, non-modifiable |

# Element definition: **fcp-ping-igroup-status-info**

[top]

FCP Ping result When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ext-status** | | string optional | Extended Status Attributes: non-creatable, non-modifiable |
| **igroup** | | string optional | Igroup Name Attributes: key, non-creatable, non-modifiable |
| **lif** | | string optional | LIF Name Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **node** | | string optional | Node Attributes: non-creatable, non-modifiable |
| **portset** | | string optional | Portset Attributes: non-creatable, non-modifiable |
| **status** | | string optional | Ping Status Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |
| **wwpn** | | string optional | FCP initiator WWPN Attributes: key, non-creatable, non-modifiable |

# Element definition: **fcp-ping-status-info**

[top]

Connectivity check between FCP initiator and FCP LIF When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ext-status** | | string optional | Extended Status Attributes: non-creatable, non-modifiable |
| **lif** | | string optional | LIF Name Attributes: key, non-creatable, non-modifiable |
| **node** | | string optional | Node Attributes: non-creatable, non-modifiable |
| **status** | | string optional | Ping Status Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |
| **wwpn** | | string optional | Remote WWPN Attributes: key, non-creatable, non-modifiable |

# Element definition: **fcp-port-name-info**

[top]

Information for one valid local port name.

| Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter** | | string optional | Only if this WWPN is being used by a Fibre Channel interface, the name of the interface is returned. In Data ONTAP 7-Mode, the name of a local adapter. In Data ONTAP Cluster-Mode, the name of an FCP data LIF. |
| **is-used** | | boolean | This indicates whether this WWPN is being used by a Fibre Channel target interface. |
| **port-** | | | A Fibre Channel WWPN in the form XX:XX:XX:XX:XX:XX:XX:XX where X is a |

| | | | |
|---|---|---|---|
| **name** | | string | hexadecimal digit. |
| **vserver** | | string | Vserver containing this port name |

# Element definition: **fcp-service-info**

[top]

FCP target service configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-available** | | boolean optional | true if the FCP Service is running, false otherwise. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | The world-wide node name (WWNN) of the FCP target in the Vserver. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver hosting the FCP service. Attributes: key, non-creatable, non-modifiable |

# Element definition: **fcp-tdz-info**

[top]

FCP tdz entry for the adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **lif** | | string optional | LIF Name Attributes: key, non-creatable, non-modifiable |
| **peer-zone-name** | | string optional | Peer Zone Name Attributes: key, non-creatable, non-modifiable |
| **principal-wwn** | | string optional | Principal Member WWN Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |
| **zone-wwpns** | | string optional | Zone Members Attributes: non-creatable, non-modifiable |

# Element definition: **fcp-topology-info**

[top]

FCP topology interconnect When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **domain-id** | **[0..2^32-1]** | integer optional | Domain Identifier Attributes: key, non-creatable, non-modifiable |
| **lif** | | string optional | LIF Name Attributes: key, non-creatable, non-modifiable |
| **logical-name** | | string optional | Logical Name Attributes: non-creatable, non-modifiable |
| **port-count** | **[0..2^32-1]** | integer optional | Port Count Attributes: non-creatable, non-modifiable |
| **release** | | string optional | Release Attributes: non-creatable, non-modifiable |
| **vendor** | | string optional | Vendor Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |
| **wwn** | | string optional | World Wide Name Attributes: non-creatable, non-modifiable |

# Element definition: **fcp-topology-port-info**

[top]

FCP topology interconnect elements for the adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter** | | string optional | Adapter name Attributes: key, non-creatable, non-modifiable |
| **domain-id** | **[0..2^32-1]** | integer optional | Domain Id Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **port-attached-id** | | string optional | Attached Port Id Attributes: non-creatable, non-modifiable |
| **port-attached-visible** | | string optional | Visible Attributes: non-creatable, non-modifiable |
| **port-attached-wwpn** | | string optional | Attached Port WWPN Attributes: non-creatable, non-modifiable |
| **port-count** | **[0..2^32-1]** | integer optional | Port Count Attributes: non-creatable, non-modifiable |
| **port-slot** | | string optional | Port Slot Attributes: non-creatable, non-modifiable |
| **port-state** | | fcpportstate optional | Port State Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "unknown" ,<br>• "online" ,<br>• "offline" ,<br>• "testing" ,<br>• "fault" |
| **port-type** | | fcporttype optional | Port Type Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "none" ,<br>• "n_port" ,<br>• "nl_port" ,<br>• "fnl_port" ,<br>• "nx_port" ,<br>• "f_port" ,<br>• "fl_port" ,<br>• "e_port" ,<br>• "b_port" ,<br>• "tnp_port" ,<br>• "tf_port" ,<br>• "nv_port" ,<br>• "fv_port" ,<br>• "sd_port" ,<br>• "te_port" ,<br>• "tl_port" |
| **port-wwpn** | | string optional | Port WWPN Attributes: key, non-creatable, non-modifiable |
| **switch-name** | | string optional | Switch Name Attributes: non-creatable, non-modifiable |
| **switch-release** | | string optional | Switch Release Attributes: non-creatable, non-modifiable |
| **switch-vendor** | | string optional | Switch Vendor Attributes: non-creatable, non-modifiable |
| **switch-wwn** | | string optional | Switch WWN Attributes: non-creatable, non-modifiable |

# Element definition: **fcp-zone-info**

[top]

FCP active zone set entry for the adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of

desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter** | | string optional | Adapter name Attributes: key, non-creatable, non-modifiable |
| **contents** | | string optional | Member Contents Attributes: non-creatable, non-modifiable |
| **domain-id** | **[0..2^32-1]** | integer optional | Member Domain Id Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **port** | **[0..2^32-1]** | integer optional | Member Port Attributes: non-creatable, non-modifiable |
| **port-id** | **[0..2^32-1]** | integer optional | Member Port Id Attributes: non-creatable, non-modifiable |
| **type** | **[0..2^32-1]** | integer optional | Member Type Attributes: non-creatable, non-modifiable |
| **type-name** | | string optional | Member Type Name Attributes: non-creatable, non-modifiable |
| **unique** | **[0..2^32-1]** | integer optional | (DEPRECATED)-This field is deprecated as of ONTAP 9.11, but remains in the API for backward compatibility. It is an incrementing number which is not tied to the zone and whose value can vary with each call. The caller is warned to not rely on this value to identify a zone. Attributes: key, non-creatable, non-modifiable |
| **wwn** | | string optional | Member WWN Attributes: non-creatable, non-modifiable |
| **zone-count** | **[0..2^32-1]** | integer optional | Zone Count Attributes: non-creatable, non-modifiable |
| **zone-member-count** | **[0..2^32-1]** | integer optional | Zone Member Count Attributes: non-creatable, non-modifiable |
| **zone-name** | | string optional | Zone Name Attributes: key, non-creatable, non-modifiable |
| **zoneset-name** | | string optional | Zoneset Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **fcp-adapter-data-protocol**

[top]

fcp|fc-nvme Possible values:

- "fcp" ,
- "fc_nvme"

[none]

# Element definition: **fcp-adapter-state**

[top]

down|up Possible values:

- "down" ,
- "up"

[none]

# Element definition: **fcp-adapter-topology-switch-port-info**

[top]

Information about the FC switch port.

| Name | Range | Type | Description |
|---|---|---|---|
| **fcp-adapter-topology-attached-ports** | | fcp-adapter-topology-attached-port-info[] | List of devices attached to this port. |
| **port-name** | | string | World wide port name (WWPN) of the port. The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. |
| **port-number** | | integer | Port index number. Range: [0..2^32-1] |
| **port-state** | | string | Port state. Possible values: "online", "offline", "testing", "fault", and "unknown". |
| **port-type** | | string | Port type. Possible values: "n-port", "nl-port", "fnl-port", "nx-port", "f-port", "fl-port", "e-port", "b-port", "nv-port", "fv-port", "sd-port", "te-port", "tl-port", and "none". |

# Element definition: **fcp-adapter-zone-member-info**

[top]

Information about a zone member.

| Name | Range | Type | Description |
|---|---|---|---|
| **domain-id** | | integer optional | Domain identifier of the switch. This element is returned if the zone-member-type is "domain-id-port". Range: [0..2^32-1] |
| **fabric-port-name** | | string optional | World wide port name (WWPN) of the fabric port. This element is returned if the zone-member-type is "fabric-port-name". The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. |
| **node-name** | | string optional | World wide node name (WWNN) of the N-port. This element is returned if the zone-member-type is "node-name". The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. |
| **port** | | integer optional | Port number on the switch. This element is returned if the zone-member-type is "domain-id-port". Range: [0..2^32-1] |
| **port-id** | | integer optional | Assigned port identifier. This element is returned if the zone-member-type is "port-id". Range: [0..2^24-1] |
| | | | |

| | | | |
|---|---|---|---|
| **port-name** | | string optional | World wide port name (WWPN) of the N-port. This element is returned if the zone-member-type is "port-name". The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. |
| **zone-member-type** | | string | The type of zone member. Possible values are: "port-name", "domain-id-port", "port-id", "node-name", "fabric-port-name", and "unknown". |
| **zone-member-value** | | integer optional | Uninterpreted value. This element is returned if the zone-member-type is "unknown". Range: [0..2^32-1] |

# Element definition: **fcp-connected-initiator-info**

[top]

Information about an initiator connected to an FC adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-list** | | initiator-group-list-info[] optional | List of initiator groups this initiator belongs to. |
| **node-name** | | string | World Wide Node Name (WWNN) of initiator. |
| **port-address** | **[0..2^32-1]** | integer | Fibre Channel host address it is connected to. |
| **port-name** | | string | World Wide Port Name (WWPN) of the initiator. |
| **portname-alias-list** | | portname-alias-name[] optional | List of aliases for the WWPN. |

# Element definition: **fcp-connection**

[top]

loop|ptp Possible values:

- "loop" ,
- "ptp"

[none]

# Element definition: **fcpportstate**

[top]

Unknown|Online|Offline|Testing|Fault Possible values:

- "unknown" ,
- "online" ,
- "offline" ,
- "testing" ,
- "fault"

[none]

## Element definition: **fcpporttype** [top]

None|N-Port|NL-Port|FNL-Port|NX-Port|F-Port|FL-Port|E-Port|B-Port|TNP-Port|TF-Port|NV-Port|FV-Port|SD-Port|TE-Port|TL-Port Possible values:

- "none" ,
- "n_port" ,
- "nl_port" ,
- "fnl_port" ,
- "nx_port" ,
- "f_port" ,
- "fl_port" ,
- "e_port" ,
- "b_port" ,
- "tnp_port" ,
- "tf_port" ,
- "nv_port" ,
- "fv_port" ,
- "sd_port" ,
- "te_port" ,
- "tl_port"

[none]

## Element definition: **node-name** [top]

The node's name

[none]

## Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

## Element definition: **fcp-adapter-topology-attached-port-info** [top]

Information about the attached device.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-** | | boolean | Visibility of this device through this adapter from a zoning perspective. |

| | | | |
|---|---|---|---|
| **visible** | | | |
| **port-id** | | integer | Assigned port identifier of the attached device. A value of 0 indicates no value has been assigned. Range: [0..2^24-1] |
| **port-name** | | string | World wide port name (WWPN) of the attached device. The format is: XX:XX:XX:XX:XX:XX:XX:XX where X is a hexadecimal digit. |

# Element definition: **initiator-group-list-info**

[top]

The initiator group this initiator belongs to.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of initiator group. |

# Element definition: **portname-alias-name**

[top]

Aliases for this WWPN

| Name | Range | Type | Description |
|---|---|---|---|
| **portname-alias** | | string | Alias for the WWPN |

# APIs in Category: **fcport**


fcport-get-link-state
fcport-reset-dev
fcport-send-lip
fcport-set-offline
fcport-set-online


## fcport-get-link-state

[top]

Get the link state of a specific adapter on this system.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b". If adapter-name is not supplied, the command will return EAPIMISSINGARGUMENT. |
| **node-name** | | string | This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **adapter-link-state** | | link-state-info[] | adapter link state info |
| **adapter-name** | | string | The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EOPNOTSUPPORTED** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

## fcport-reset-dev

[top]

When invoked the device will be reset. The device will be temporarily suspended while it is reset, after which it will resume processing device operations. This command should be used with care as it can have adverse effects, for instance pending commands to the device will be aborted when issuing this command.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **device-id** | | string | The device id is presented as a slot number followed by the port letter concatenated with the device-id. These two parts are separated by a period. For example 6b.5 If the device-id is omitted EAPIMISSINGARGUMENT will |

| | | | |
|---|---|---|---|
| | | | be returned. If the device-id is invalid EINVALIDINPUTERROR will be returned. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |

# fcport-send-lip

[top]

This will initiate a loop initialization on the specified fibrechannel loop port. The loop will be temporarily suspended while it is initialized, after which it will resume processing loop operations. This command should be used with care, because it can have adverse effects, like pending commands will be aborted when issuing this command.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **loop-id** | | string | The loop id is presented as a slot number and port letter concatenated (for example 6a). If the loop-id is omitted EAPIMISSINGARGUMENT will be returned. If the loop-id is invalid EINVALIDINPUTERROR will be returned. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EINVALIDINPUTERROR** | |
| **ELOOPUNAVAILABLE** | |

# fcport-set-offline

[top]

Offline a specific adapter on this system. This API should be used with care, as it can have adverse side effects, which you lose access to all devices of that port. The operation of offlining the already offlined adapter will be considered success.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b". If adapter-name is not supplied, the command will return EAPIMISSINGARGUMENT. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EOPNOTSUPPORTED** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

# fcport-set-online

[top]

Online a specific adapter on this system. The operation of onlining the already onlined adapter will be considered success.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b". If adapter-name is not supplied, the command will return EAPIMISSINGARGUMENT. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EOPNOTSUPPORTED** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

# Element definition: **link-state-info**

[top]

list link-state info of a specific adapter channel

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name. |
| **fc-port-info** | | fc-ports optional | fiber channel port information. Present only when link-state field value is "up". |
| **link-state** | | string | Possible values: "initing", "down", "up", "offline-physical", "offline-logical", or "zombified", which the adapter has stopped sending I/O and is ignoring link events. This state may occur when shelf firmware is being updated. |
| **node-name** | | string optional | This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name. |

# Element definition: **fc-ports**

[top]

Information about the ports belonging to the fiber channel adapter

| Name | Range | Type | Description |
|---|---|---|---|
| **port-number** | | string optional | This represents the physical port number of the FC port. Field is not present when port-type is "l-port" |
| **port-type** | | string | Type of port. Possible values: "l-port", loop port, node port used to connect a node to a Fibre Channel loop. "nl-port", network+loop port, node port which connects to both loops and switches. "n-port", network port, node port used to connect a node to a Fibre Channel switch. |
| **switch-name** | | string optional | This is the switch name, if any, connected to the FC port. Field is not present when port-type is "l-port" |
| **switch-wwn** | | string optional | This is the world wide name of the switch, if any, connected to the FC port. Field is not present when port-type is "l-port" |

# APIs in Category: **feature**


feature-status-list-info
feature-usage-get-iter
feature-usage-summary-get-iter


This set of APIs allow management of 7-Mode and Cluster-Mode features for Data ONTAP 8.2 and later. The feature status are set internally based on the enablement, entitlement, and other configuration restrictions of the feature.

## feature-status-list-info

[top]

Returns status information for managed features.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **managed-feature-status-list** | | managed-feature-status-info[] | An array, one entry per each managed feature. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## feature-usage-get-iter

[top]

Returns feature usage information for DATA ONTAP features. The feature usage information is reported on a per controller node basis.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | usage-state-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | usage-state-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the feature object. All feature objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | usage-state-info[] optional | The list of attributes of feature objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more feature objects to return. |

| | | | |
|---|---|---|---|
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## feature-usage-summary-get-iter

[top]

Returns feature usage summary information for DATA ONTAP features. The feature usage information is reported on a per controller node basis.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | usage-summary-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | usage-summary-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the feature object. All feature objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | usage-summary-info[] optional | The list of attributes of feature objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more feature objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **managed-feature-status-info**

[top]

Status information about a managed feature. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **feature-name** | | managed-feature optional | Managed feature name. Attributes: key, non-creatable, non-modifiable |
| **notes** | | string optional | Additional information about the managed feature status. Attributes: non-creatable, non-modifiable |
| **status** | | managed-feature-status optional | Status of a managed feature. Attributes: non-creatable, non-modifiable |

# Element definition: **usage-state-info**

[top]

Information about feature usage. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **date-collected** | | datetime optional | The time data was collected. Attributes: non-creatable, non-modifiable |
| **feature-message** | | string optional | Additional feature reported message. Attributes: non-creatable, non-modifiable |
| **feature-name** | | managed-feature optional | Name of the feature. Attributes: key, non-creatable, non-modifiable<br>Possible values:<br>• "cifs" ,<br>• "nfs" ,<br>• "iscsi" ,<br>• "fcp" ,<br>• "dedupe" ,<br>• "flexclone" ,<br>• "compression" ,<br>• "snaprestore" ,<br>• "snaplock" ,<br>• "snaplock_enterprise" ,<br>• "snapvault_primary" ,<br>• "snapvault_secondary" ,<br>• "snapmirror" ,<br>• "syncmirror" ,<br>• "flexcache" ,<br>• "ndmp" ,<br>• "multistore" ,<br>• "cdmi" ,<br>• "snapdrive_windows" ,<br>• "snapmanager_exchange" ,<br>• "snapmanager_sql" ,<br>• "snapmanager_sharepoint" , |

| | | | |
|---|---|---|---|
| | | | • "snapmanager_hyperv" ,<br>• "snapdrive_unix" ,<br>• "snapmanager_oracle" ,<br>• "snapmanager_sap" ,<br>• "v_storageattach" ,<br>• "mt_ek_mgmt" ,<br>• "s3" |
| **node** | | node-name optional | Name of the controller node. Attributes: key, non-creatable, non-modifiable |
| **owner** | | string optional | Name of the controller node. Attributes: non-creatable, non-modifiable |
| **serial-number** | | node-serial-number optional | Serial number of the controller node. Attributes: key, non-creatable, non-modifiable |
| **usage-status** | | feature-usage-state optional | The usage status information. Attributes: non-creatable, non-modifiable Possible values:<br>• "not_used" - Not Used,<br>• "configured" - Configured,<br>• "in_use" - In Use,<br>• "not_available" - Not Available |
| **week-number** | | seqnum optional | The week of data collection. Week number one is the oldest week of collection. Attributes: key, non-creatable, non-modifiable |

# Element definition: **usage-summary-info**

[top]

Summary information about feature usage. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | Name of the feature. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "cifs" ,<br>• "nfs" ,<br>• "iscsi" ,<br>• "fcp" ,<br>• "dedupe" ,<br>• "flexclone" ,<br>• "compression" ,<br>• "snaprestore" ,<br>• "snaplock" ,<br>• "snaplock_enterprise" ,<br>• "snapvault_primary" ,<br>• "snapvault_secondary" , |

| | | | |
|---|---|---|---|
| **feature-name** | | managed-feature optional | • "snapmirror" ,<br>• "syncmirror" ,<br>• "flexcache" ,<br>• "ndmp" ,<br>• "multistore" ,<br>• "cdmi" ,<br>• "snapdrive_windows" ,<br>• "snapmanager_exchange" ,<br>• "snapmanager_sql" ,<br>• "snapmanager_sharepoint" ,<br>• "snapmanager_hyperv" ,<br>• "snapdrive_unix" ,<br>• "snapmanager_oracle" ,<br>• "snapmanager_sap" ,<br>• "v_storageattach" ,<br>• "mt_ek_mgmt" ,<br>• "s3" |
| **last-used-time** | | datetime optional | The time when the feature was last recorded to be in-use. Attributes: non-creatable, non-modifiable |
| **owner** | | string optional | Name of the controller node. Attributes: non-creatable, non-modifiable |
| **serial-number** | | node-serial-number optional | Serial number of the controller node. Attributes: key, non-creatable, non-modifiable |
| **weeks-configured** | **[0..2147483647]** | integer optional | Number of weeks the feature was recorded to be configured. Attributes: non-creatable, non-modifiable |
| **weeks-in-use** | **[0..2147483647]** | integer optional | Number of weeks the feature was recorded to be in-use. Attributes: non-creatable, non-modifiable |
| **weeks-not-available** | **[0..2147483647]** | integer optional | Number of weeks the feature was recorded to not have usage data available. Attributes: non-creatable, non-modifiable |
| **weeks-not-used** | **[0..2147483647]** | integer optional | Number of weeks the feature was recorded to be not used. Attributes: non-creatable, non-modifiable |

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **feature-usage-state**

[top]

not-used|configured|in-use|not-available Possible values:

- "not_used" - Not Used,
- "configured" - Configured,
- "in_use" - In Use,
- "not_available" - Not Available

[none]

## Element definition: **managed-feature**

[top]

Managed Feature Possible values:

- "cifs" ,
- "nfs" ,
- "iscsi" ,
- "fcp" ,
- "dedupe" ,
- "flexclone" ,
- "compression" ,
- "snaprestore" ,
- "snaplock" ,
- "snaplock_enterprise" ,
- "snapvault_primary" ,
- "snapvault_secondary" ,
- "snapmirror" ,
- "syncmirror" ,
- "flexcache" ,
- "ndmp" ,
- "multistore" ,
- "cdmi" ,
- "snapdrive_windows" ,
- "snapmanager_exchange" ,
- "snapmanager_sql" ,
- "snapmanager_sharepoint" ,
- "snapmanager_hyperv" ,
- "snapdrive_unix" ,
- "snapmanager_oracle" ,
- "snapmanager_sap" ,
- "v_storageattach" ,
- "mt_ek_mgmt" ,
- "s3"

[none]

## Element definition: **managed-feature-status**

[top]

Represents the status of a managed feature. Possible values:

- "on" - feature is entitled and turned on,
- "available" - feature is entitled and available to be turned on. Its current on/off status is unknown,
- "on_not_configurable" - feature is no longer entitled but it was turned on before and remains to be on. Feature is not configurable at the moment,
- "off" - feature is entitled but turned off,
- "not_available" - feature is not entitled, licensing infrastructure is unavailable, or other configuration check prevents feature use. The field notes can provide additional information.

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **node-serial-number**

[top]

Assigned Node serial-number

[none]

## Element definition: **seqnum**

[top]

Reverse-ordered Integer Range : [0..2^64-1].

[none]

# APIs in Category: **file**


file-assign-qos
file-compact-data
file-create-directory
file-create-symlink
file-delete-directory
file-delete-file
file-fingerprint-abort
file-fingerprint-dump
file-fingerprint-get-iter
file-fingerprint-start
file-get-file-info
file-get-space-reservation-info
file-hole-range-query-iter
file-inode-info
file-inode-info-get-iter
file-list-directory-iter
file-list-directory-iter-end
file-list-directory-iter-next
file-list-directory-iter-start
file-punch-hole-iter
file-read-file
file-read-symlink
file-rename-file
file-set-space-reservation-info
file-truncate-file
file-usage-get
file-usage-result-get
file-usage-start
file-write-file


The path and filename values used in these APIs are "NFS" filenames by default. If a file is created with a name that is illegal in CIFS, CIFS access to the file will need to use the file's 8.3 name. Similarly, if two filenames created by these APIs differ only by case (e.g. "a" and "A"), CIFS access will see the 8.3 name for the second one created.

To access files or directories with Unicode file names, the UTF-8 equivalent of the Unicode path can be used. If a file contains Unicode-format data, the filer returns all the data in the file including the identifier in the first two bytes of the file which indicates the file contains Unicode data (0xFEFF).

A file may optionally contain multiple distinct streams of data. A stream is an on disk structure containing a sequence of bytes, analogous to a file. A stream associated with a file is identified by a name, and data may be read or written to a file or stream. A stream can be thought of as a hidden file associated with a base file, and is visible in the name space of the base file. Streams are typically used to store metadata associated with the base file

## file-assign-qos

[top]

Manage the association of QoS policy group to a specified file. QoS Policy groups define measurable Service Level Objectives (SLOs) that apply to the storage object with which the policy group is associated. In Data ONTAP 8.2 hierarchical QoS is not supported i.e. QoS policy groups cannot be assigned to multiple objects in the file's storage hierarchy - such as the parent LUN, volume or Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | The caching policy that is associated with this file. This policy is used to make caching decisions for this file. If a caching policy is not assigned to this file, the system uses the caching policy that is assigned to the containing volume. If a caching policy is not assigned to the containing volume, the system uses the caching policy that is assigned to the containing Vserver. If a caching policy is not assigned to the containing |

| | | | |
|---|---|---|---|
| **caching-policy** | | string optional | Vserver, the system uses the default cluster-wide policy. The possible options for this value are:<br><br>• none - Does not cache any user data or metadata blocks.<br>• auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks.<br>• meta - Read caches only metadata blocks.<br>• random_read - Read caches all metadata and randomly read user data blocks.<br>• random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.<br>• all_read - Read caches all metadata, randomly read and sequentially read user data blocks.<br>• all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data.<br>• all - Read caches all data blocks read and written. It does not do any write caching.<br><br>Default caching-policy is auto. |
| **file** | | string | Complete file path of the file without a trailing slash. |
| **qos-adaptive-policy-group-name** | | string optional | The QoS adaptive policy group name that is to be associated with this file in order to enforce service level objectives (SLO). NOTE: none is a reserved keyword for deleting the association of the file with a QoS adaptive policy group. |
| **qos-policy-group-name** | | string optional | The QoS Policy Group name that is to be associated with this file in order to enforce Service Level Objectives (SLO). NOTE: none is a reserved keyword for deleting the association of the file with a QoS policy group. |
| **volume** | | volume-name | Name of the Volume in which the file resides. |
| **vserver** | | vserver-name | Name of the Vserver in which the volume that hosts the file resides. |

| Errno | Description |
|---|---|
| **E_QOS_OBJECT_OVERLAP_ERROR** | |
| **E_QOS_NO_SUCH_PG** | |
| **E_QOS_TOO_MANY_USER_WIDS** | |
| **E_QOS_GENERAP_OP_ERROR** | |
| **E_QOS_VSERVERIZATION_VIOLATION** | |
| **E_QOS_FILE_IS_LUN** | |
| **E_QOS_FILE_ACCESS_ERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# file-compact-data

[top]

compact data

| Input Name | Range | Type | Description |
|---|---|---|---|
| **file** | | string | File Path |
| **node** | | filer-id | Node |

| | | | |
|---|---|---|---|
| **snapshot** | | snapshot-id | Snapshot Copy Name |
| **volume** | | volume-name | Volume Name |
| **vserver** | | vserver-name | Vserver Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-create-directory

[top]

Create a directory.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the directory to be created. The value is expected to begin with /vol/. |
| **perm** | | string | Permission of the directory to be created. It's similar to Unix style permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. Note: Prior to Data ONTAP 7.3.1 this value was treated as a base-10 number. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **EONTAPI_EPERM** | |
| **EONTAPI_EEXIST** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_ENOSPC** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EAPIVSERVERMISSING** | |
| **EVOLUMEQUIESCED** | |
| **EVOLUMEBUSY** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# file-create-symlink

[top]

Create a symlink.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the symlink file to create. The value is expected to begin with /vol/. |
| **symlink** | | string | Value of the symlink, which is the destination path contained in the symlink. This ZAPI does not check whether the destination path is accessible. This parameter may contain any arbitrary absolute or relative path. |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |
| EAPIVSERVERMISSING | |
| EVOLUMEQUIESCED | |
| EVOLUMEBUSY | |
| EINTERNALERROR | |
| EAPIERROR | |
| EVSERVER_OP_NOT_ALLOWED | |
| EONTAPI_EEXIST | |
| EONTAPI_ENOENT | |
| EONTAPI_ENAMETOOLONG | |
| EONTAPI_EPERM | |
| EONTAPI_ELOOP | |
| EONTAPI_ENOSPC | |
| EONTAPI_ENOTDIR | |

# file-delete-directory

[top]

Delete a directory.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | string | Path of the directory to delete. The value is expected to begin with /vol/. The directory must be empty in order for this API to succeed. |

| Errno | Description |
|---|---|
| EONTAPI_ENOENT | |
| EVSERVERNOTFOUND | |
| EAPIVSERVERMISSING | |
| EVOLUMEQUIESCED | |
| EVOLUMEBUSY | |
| EINTERNALERROR | |
| EVSERVER_OP_NOT_ALLOWED | |

# file-delete-file

[top]

Delete a file.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | string | path of the file or symlink to delete. the value is expected to begin with /vol/. |

| Errno | Description |
|---|---|
| EONTAPI_ENOENT | |
| EVOLUMEQUIESCED | |

| | |
|---|---|
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EAPIVSERVERMISSING** | |
| **EINTERNALERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# file-fingerprint-abort

[top]

The file-fingerprint-abort API can be used to abort an ongoing fingerprint operation. This api only aborts the fingerprint operations that have been started and have not finished. You identify the session-id with this API, and it aborts the fingerprint operation that is associated with that particular session-id. You must specify session-id when using file-fingerprint-abort.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **session-id** | **[0..2^32-1]** | integer | session-id of the fingerprint operation that needs to be stopped. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EIO** | |
| **EONTAPI_EOFFLINE** | |
| **EINTERNALERROR** | |

# file-fingerprint-dump

[top]

The file-fingerprint-dump API returns the fingerprint information for a file. The session-id must be specified when using the file-fingerprint-dump API.This is the session-id of the fingerprint operation that is returned when a fingerprint operation is started using the file-fingerprint-start API. If the fingerprint operation is complete, it will also show the complete fingerprint information for the file.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fingerprint-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **session-id** | **[0..2^32-1]** | integer | An unique identifier for the fingerprint operation. This session-id is returned when the fingerprint operation is started on a file. The session-id of the fingerprint operation can be used to get the progress of an ongoing fingerprint operation as well as the complete fingerprint output for the file once the operation is completed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | fingerprint-info | The attributes of the file. |

| Errno | Description |
|---|---|
| | |

| Errno | Description |
|---|---|
| EONTAPI_EINVAL | |
| EONTAPI_ENOENT | |
| EONTAPI_EIO | |
| EONTAPI_EOFFLINE | |
| EINTERNALERROR | |

# file-fingerprint-get-iter

[top]

The file-fingerprint-get-iter API returns information for one or several fingerprint operations. We need to specify either session-id or vserver-name and volume-name with the file-fingerprint-get-iter API. When queried with session-id, the file-fingerprint-get-iter API returns the progress of the fingerprint operation with the specified session-id. When queried with vserver-name and volume-name, the file-fingerprint-get-iter API returns the progress of all the fingerprint operations running on that particular volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | fingerprint-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | fingerprint-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the file object. All file objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | fingerprint-status-info[] optional | The list of attributes of file objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more file objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EONTAPI_EINVAL | |
| EONTAPI_ENOENT | |
| EONTAPI_EIO | |
| EONTAPI_EOFFLINE | |
| EINTERNALERROR | |

# file-fingerprint-start

[top]

The file-fingerprint-start API is used to start the fingerprint computation a file. The fingerprint computation is started on the file, and a session-id is returned. This session-id is an unique identifier for the fingerprint operation. To start the fingerprint computation on a file, the following parameters should be compulsarily specified:

- vserver : Name of the vserver which owns the volume.
- file : Complete file path of the file on which the fingerprint needs to be computed. This file path is of the form vol//

| Input Name | Range | Type | Description |
|---|---|---|---|
| **algorithm** | | string optional | The digest algorithm which will be used for the fingerprint computation. Fingerprint can be computed using one of the following digest algorithms :<br>• md5<br>• sha-256<br><br>If no algorithm is specified during file fingerprint start, then by default, we compute fingerprint of the file using the sha-256 digest alogorithm. |
| **file** | | string | Full path of the file on which fingerprint needs to be calculated. The value begins with /vol/. |
| **scope** | | string optional | The file scope which will be used for the fingerprint computation. FIngerprint can be computed over one of the following :<br>• data<br>• metadata<br>• both data and metadata<br><br>If no scope is specified during file fingerprint start, then by default, we compute fingerprint of the file over both data and metadata. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-session-id** | | integer optional | An unique identifier for the fingerprint operation. The result-session-id of the fingerprint operation can be used to get the progress of an ongoing fingerprint operation as well as the complete fingerprint output for the file once the operation is completed. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EIO** | |
| **EONTAPI_EOFFLINE** | |
| **EINTERNALERROR** | |

# file-get-file-info

[top]

Obtains the file information or properties.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Pathname of the directory to list. The value is expected to begin with /vol/. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| file-info | | file-info | File information from the stat() function. |

| Errno | Description |
|---|---|
| EONTAPI_ENOENT | |
| EVOLUMEQUIESCED | |
| EVOLUMEBUSY | |
| EVSERVERNOTFOUND | |
| EAPIVSERVERMISSING | |
| EINTERNALERROR | |
| EVOL_NOT_MOUNTED | |
| EVSERVER_OP_NOT_ALLOWED | |

| Vfiler-enabled |
|---|
| Yes |

# file-get-space-reservation-info

[top]

Queries the space reservation settings for the named file.

This API is not supported for Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | string | File to be queried. |
| volume-id | | string | The identifier of the volume in which the named file exists.<br><br>There are two legal choices for a volume identifier, either a DSID or a UUID.<br><br>DSIDs are formatted as 18-character strings composed of 16 hex characters, zero filled if required and prefixed with '0x'.<br><br>Here is an example of an actual DSID:<br><br>0x0000000000000401<br><br>UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.<br><br>Here is an example of an actual UUID:<br><br>49e370d6-5b5a-11d9-9eb5-000100000529 |

| Output Name | Range | Type | Description |
|---|---|---|---|
| is-fill-enabled | | boolean | Whether or not the file is set with fill. |
| is-overwrite-enabled | | boolean | Whether or not the file is set with overwrite. |

| Errno | Description |
|---|---|
| EOPNOTSUPPORTED | |
| EFILENOTFOUND | |
| EINTERNALERROR | |
| EVOLUMEBUSY | |
| EVOLUMEDOESNOTEXIST | |

# file-hole-range-query-iter

[top]

Return ranges of holes in a file

| Input Name | Range | Type | Description |
|---|---|---|---|
| length | | integer | The number of bytes to scan. If this is zero scan until end of file. If the length is not an integral multiple of the block size it will be rounded up to the end of the block. Range : [0..2^63-1] |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 64 |
| offset | | integer | The starting offset of the file from where the scan for holes should begin. If the offset is not an integral multiple of the block size it will be rounded down to the start of the block. Range : [0..2^63-1] |
| path | | string | The full path of the file for which hole information is to be queried. Format must be of the following: /vol/my_vol/my_file |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | hole-range-info[] optional | The list of attributes of file objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more file objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EONTAPI_ENOMEM | |
| EONTAPI_ESTALE | |
| EONTAPI_ERANGE | |
| EONTAPI_ENOENT | |
| EONTAPI_EINVAL | |
| EONTAPI_EOFFLINE | |
| EVSERVER_OP_NOT_ALLOWED | |

[top]

# file-inode-info

Get parent information for a given inode.

This API corresponds to the "inodepath" diagnostic-level CLI in ONTAP-Classic, and has the same defaults.

The input is:

- Required, a volume identifier. A volume may be specified by name, fsid, or (in some ONTAP products) UUID/DSID.
- Required, an inode number.
- Optional, a snapshot identifier to get information from a snapshot rather than the active volume. A snapshot may be specified by name or by id.
- Optional, various reporting flags (see below) to enable or disable optional output information.

The output is:

- All volume identifiers, the one used as input plus the values of the others.
- Optionally, all snapshot identifiers; the one used as input plus the value of the other.
- The number of parents for the inode.
- Optionally, one or more volume relative pathnames to the inode
- Optionally, one or more leaf names for the inode.
- Optionally, one or more of the actual parent info stored for the inode, in the form of the parent dir inode number and the parent directory cookie (fbn and offset into the fbn) used to find the dir entry that refers to the inode in the parent directory (ie. the info used to get the leaf name).

This API is only supported for flexible volumes and FlexGroup constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **encoded** | | boolean<br>optional | Specifies if non ASCII characters present in the filename will be hex encoded or not. If set to true, then all non-ASCII characters present in the filename are transformed to \XX where XX is the hex equivalent of the character. For example, if the filename has a non-ASCII character whose hex equivalent is 0x5C then the character would be encoded as a three byte sequence of '\','5' and 'C' & returned as "\5C". By default, the value is false. |
| **generation** | | integer<br>optional | The generation number for this inode.<br><br>Range: [1..2^32-1] |
| **inode-number** | | integer | The inode number for which information is desired. |
| **logical-snap-id** | | integer<br>optional | All snapshots are associated with an internal index. "logical-snap-id" is the client-visible index that maps the the underlying internal index.<br><br>Range: [1..255]. |
| **report-cifs-paths** | | boolean<br>optional | Flag for indicating if the paths returned should be cifs-paths |
| **report-leaf-name** | | boolean<br>optional | If set to true, report the leaf name of the given inode. The leaf name is equivalent to the final component of a full pathname. For example, the leaf name of:<br><br>/vol/vol0/foo/bar/baz<br>is:<br>baz<br><br>By default, the inode's leaf name is not shown. |
| **report-no-pathname** | | boolean<br>optional | If set to true, do not report on the given inode's full pathname. By default, the inode's full pathname is reported. |

| | | | |
|---|---|---|---|
| **report-other-parents** | | boolean optional | If set to true, report the requested information for all of the parents for the given inode. By default, only information about one of the given inode's parents is reported. |
| **report-parent-data** | | boolean optional | If set to true, report various other pieces of information about the given inode. This information includes the inode of the parent directory containing the given inode, along with the directory cookie by which the given inode is known in that parent directory inode. By default, this other information is not reported for the given inode. |
| **snap-id** | | integer optional | The snapshot number within the given volume in which the given inode is to be referenced. At most, one of snap-id or snap-name can be provided. If neither is provided, we reference the given inode within the active file system of the given volume. Valid snapshot ids have a range of 0 to (WAFL_SNAP_CNT - 1) (currently 255). A value of 0 will refer to the active file system of the given volume. This refers to the physical snapshot identifier. |
| **snap-name** | | string optional | A snapshot name within the given volume in which the given inode is to be referenced. At most, one of snap-id or snap-name can be provided. If neither is provided, we reference the given inode within the active file system of the given volume. |
| **volume-dsid** | | string optional | The DSID (Data Set IDentifier) of the volume containing the given inode. Exactly one of volume-fsid, volume-name, volume-uuid or volume-dsid must be specified.<br><br>DSIDs are formatted as 18-character strings composed of 16 hex characters prefixed with '0x'. NOTE: This form of volume identification is only supported in some ONTAP products (ONTAP-NG). |
| **volume-fsid** | | integer optional | The FSID (file system identifier) of the volume containing the given inode. Exactly one of volume-fsid, volume-name, volume-uuid, or volume-dsid must be specified. An FSID may have any uint32_t value. |
| **volume-name** | | string optional | The name of the volume containing the given inode. Exactly one of volume-fsid, volume-name, volume-uuid, or volume-dsid must be specified. |
| **volume-uuid** | | string optional | The UUID (Universally Unique IDentifier) of the volume containing the given inode. Exactly one of volume-fsid, volume-name, volume-uuid or volume-dsid must be specified.<br><br>UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.<br><br>An example UUID is 532ad684-c8ec-11d9-945f-00065b8c8a1e. NOTE: This form of volume identification is only supported in some ONTAP products (ONTAP-NG). |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **inode-number** | | integer | The number identifying the inode. |
| **inode-paths** | | inode-parent-info[] | List of requested paths and parent information for the given inode. |
| **logical-snap-id** | | integer optional | Logical snapshot index. This index maps to the above internal index. Logical index allows users to choose the same snapshot index across all members of a striped volume. This index is also useful for logical volume replication. A logical snapshot index of 0 implies that the |

| | | | |
|---|---|---|---|
| | | | snapshot is is not client-visible i.e. this is a un-coordinated snapshot.<br><br>Range: [0..255]. |
| **number-of-parents** | | integer | The number of parents for the inode. For a file, this is the number of links to the file. |
| **snapshot-id** | | integer optional | The snapshot id, if requested info is from a snapshot. This is the physical snapshot identifier. |
| **snapshot-name** | | string optional | The name of the snapshot, if requested info is from a snapshot. |
| **volume-dsid** | | string optional | The volume DSID. |
| **volume-fsid** | | integer | The volume FSID. |
| **volume-name** | | string | The volume name. |
| **volume-uuid** | | string | The volume UUID. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINODENUMBERTOOSMALL** | |
| **EINODENUMBERTOOLARGE** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ESNAPSHOTDOESNOTEXIST** | |
| **EINVALIDINODE** | |
| **EINELIGIBLEINODE** | |
| **EPARENTINFONOTLOADED** | |
| **EI2PNOTENABLED** | |
| **EINTERNALERROR** | |
| **EVOLUMEOFFLINE** | |
| **EWRONGSTRIPE** | |
| **EVOLUMEQUIESCED** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# file-inode-info-get-iter

[top]

Get information about all the files associated with an inode in a volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | inode-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | inode-info | A query that specifies which objects to return. A query could be specified on any number of attributes in the file object. All file objects matching this query up to 'max-records' will be returned. |

| | | | |
|---|---|---|---|
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | inode-info[] optional | The list of attributes of file objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more file objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINODENUMBERTOOSMALL** | |
| **EINODENUMBERTOOLARGE** | |
| **EVOLUMEDOESNOTEXIST** | |
| **ESNAPSHOTDOESNOTEXIST** | |
| **EINVALIDINODE** | |
| **EPARENTINFONOTLOADED** | |
| **EI2PNOTENABLED** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEQUIESCED** | |
| **EVOLUMEBUSY** | |
| **ESNAPSHOTINVALIDID** | |
| **ESNAPSHOTDOESNOTEXIST** | |
| **EAPIMISSINGARGUMENT** | |
| **EINVALIDDSID** | |
| **EVOLUMENAMEINVALID** | |

# file-list-directory-iter

[top]

list of files in a given directory.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | file-info[] optional | Specify which attributes to return. If not set return all of them. |
| **max-records** | **[1..2^32-1]** | integer optional | Maximum number of directory entries to retrieve. |
| **path** | | string | Pathname of the directory to list. The value is expected to begin with /vol/. |
| **query** | | file-info[] optional | A query that specifies which objects to return. The query can specify any attributes in the file object. All file objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Should be empty for first call. For subsequent calls should be the value returned by next-tag below. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | file-info[] optional | Array with information for each file in the named directory. |
| **next-tag** | | string optional | Tag to be used in the next call to continue iteration. Will not be returned if there are no more entries. |
| **num-records** | **[0..2^32-1]** | integer | This tells you how many records are being returned from this particular call to file-list-directory-iter-next. When this value is 0, you have retrieved everything. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EVOLUMEQUIESCED** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EAPIVSERVERMISSING** | |
| **E_DIRECTORY_CHANGED** | |
| **EINTERNALERROR** | |
| **EVOL_NOT_MOUNTED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# file-list-directory-iter-end

[top]

Terminate a directory iteration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from a previous file-list-directory-iter-start. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |

| Vfiler-enabled |
|---|
| **Yes** |

# file-list-directory-iter-next

[top]

Obtain a list of files in a given directory.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maximum** | | integer | Maximum number of directory entries to retrieve. |
| **tag** | | string | Tag from a previous file-list-directory-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **files** | | file-info[] | Array with information for each file in the named directory. |
| | | | This tells you how many records are being returned from this particular |

| | | | |
|---|---|---|---|
| **records** | | integer | call to file-list-directory-iter-next. When this value is 0, you have retrieved everything. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EVOLUMEQUIESCED** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# file-list-directory-iter-start

[top]

Start in iteration through the list of files in a given directory.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **encoded** | | boolean optional | Specifies if non ASCII characters present in the filename will be hex encoded or not. If set to true, then all non-ASCII characters present in the filename are transformed to \XX where XX is the hex equivalent of the character. For example, if the filename has a non-ASCII character whose hex equivalent is 0x5C then the character would be encoded as a three byte sequence of '\','5' and 'C' & returned as "\5C". By default, the value is false. |
| **path** | | string | Pathname of the directory to list. The value is expected to begin with /vol/. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number of items that have been saved for future retrieval with file-list-directory-iter-next. |
| **tag** | | string | Tag to be used in subsequent iterations. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EVOLUMEQUIESCED** | |
| **EVOLUMEBUSY** | |
| **EAPIERROR** | |
| **EONTAPI_EINVAL** | |

| Vfiler-enabled |
|---|
| **Yes** |

# file-punch-hole-iter

[top]

Punch hole in the file. Hole punching involves reclaiming of blocks in a file by unallocating them and then direct or indirect blocks can be made to point to 0.

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | hole-range-info[] | This is the array containing the ranges that need to be hole punched. |
| **path** | | string | Path of the file. Format must be of the following: /vol/my_vol/path-to-file |
| **tag** | | string optional | Do not set on first iteration. Use value of next-tag on subsequent iterations. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **next-tag** | | string optional | Returned if not all ranges have been punched |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EACCES** | |
| **EONTAPI_ESTALE** | |
| **EONTAPI_EPERM** | |
| **EVSERVERNOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOL_NOT_MOUNTED** | |
| **EONTAPI_ENOSPC** | |

# file-read-file

[top]

Read data from a named file. API will fail if length exceeds 1 MB. This API should only be used on normal files or streams associated with files. The results for other file types such as LUNs is undefined.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **length** | **[0..1048576]** | integer | Number of bytes to read from the file. |
| **offset** | **[0..2^63-1]** | integer | Offset into file to start reading from. If the value of offset is beyond the eof, the API will fail with EAPIERROR. |
| **path** | | string | Name of the file to read. For example: "/vol/<volume>/<file>". |
| **stream-name** | | string optional | A stream is an on disk structure which contains a sequence of bytes, analogous to a file. A stream is always associated with exactly one file. Characters that are valid for a file name are also valid for the stream-name. e.g., "meta", "resource1". Use this option if the data should be read from the named stream associated with file specified by <path> Default is empty stream name, in which case the data is read from file specified by <path> This field is available in Data ONTAP 8.2 or later. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **data** | | string | Data read from the file. The format of the data is ASCII hex characters, two characters representing one byte from the file. (This format allows the representation of 0-valued bytes.) |
| **length** | **[0..1048576]** | integer | Number of bytes actually read from the file. If this value is 0, then you have attempted to read at or past the end of the file. |

| Errno | Description |
|---|---|
| EONTAPI_EACCES | |
| EONTAPI_ENOENT | |
| EONTAPI_EFTYPE | |
| EVSERVERNOTFOUND | |
| EAPIVSERVERMISSING | |
| EVOLUMEQUIESCED | |
| EVOLUMEBUSY | |
| EINTERNALERROR | |
| EAPIERROR | |
| EVSERVER_OP_NOT_ALLOWED | |

| Vfiler-enabled |
|---|
| Yes |

# file-read-symlink

[top]

Read the contents of a symlink.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | string | Path of the symlink file to read. The value is expected to begin with /vol/. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| symlink | | string | Value of the symlink, which is the destination path contained in the symlink. |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |
| EAPIVSERVERMISSING | |
| EVOLUMEQUIESCED | |
| EVOLUMEBUSY | |
| EINTERNALERROR | |
| EAPIERROR | |
| EVSERVER_OP_NOT_ALLOWED | |
| EONTAPI_ENOENT | |
| EONTAPI_ENAMETOOLONG | |
| ENOTAPI_EINVAL | |
| EONTAPI_EPERM | |
| EONTAPI_ELOOP | |
| EONTAPI_ENOTDIR | |

# file-rename-file

[top]

Rename a file or directory. Note that this API cannot be used to rename to a different volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **from-path** | | string | Original path of the file. The value must begin with /vol/. |
| **to-path** | | string | Final path of the file. The value must begin with /vol/. All path components except the final file name must already exist. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EEXIST** | |
| **EONTAPI_EXDEV** | |
| **EVOLUMEQUIESCED** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EAPIVSERVERMISSING** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# file-set-space-reservation-info

[top]

Sets the space reservation settings for the named file. is-overwrite-enabled and is-fill-enabled both must be the same value.

This API is not supported for Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-fill-enabled** | | boolean optional | Whether or not to set the file with fill. |
| **is-overwrite-enabled** | | boolean optional | Whether or not to set the file with overwrite. |
| **path** | | string | File to be queried. |
| **volume-id** | | string | The identifier of the volume in which the named file exists.<br><br>There are two legal choices for a volume identifier, either a DSID or a UUID.<br><br>DSIDs are formatted as 18-character strings composed of 16 hex characters, zero filled if required and prefixed with '0x'.<br><br>Here is an example of an actual DSID:<br><br>0x0000000000000401<br><br>UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.<br><br>Here is an example of an actual UUID:<br><br>49e370d6-5b5a-11d9-9eb5-000100000529<br><br>Space reservations are not supported on any volume within a Vserver |

| | | | |
|---|---|---|---|
| | | | with Infinite Volume, whether on the Infinite Volume itself or any of its constituents. |

| Errno | Description |
|---|---|
| **EFILENOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ESETSPCRESERROR** | |
| **EONTAPI_ENOSPC** | |
| **EONTAPI_EROFS** | |
| **EVOLUMEBUSY** | |
| **EONTAPI_EISVDISK** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# file-truncate-file

[top]

Truncate a file. Any data past the truncation point will be lost, of course.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the file to truncate. The value is expected to begin with /vol/. |
| **size** | **[0..2^63-1]** | integer optional | If provided, the file size in bytes is set to this value. The default value is 0. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EONTAPI_EFTYPE** | |
| **EVOLUMEQUIESCED** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EAPIVSERVERMISSING** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# file-usage-get

[top]

Reports unique bytes held in a file.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **length** | | integer optional | Length of the range in bytes. If it is not specified, the range that is reported is from start-offset to end-of-file. Range : [0..2^63-1]. |
| **path** | | string | File name to generate report: E.g., /vol/vol1/file1 |
| **start-offset** | | integer optional | Start range of file in bytes. If this is not specified, it is assumed to be beginning of file (offset 0). Range : [0..2^63-1]. |

| | | | |
|---|---|---|---|

| Output Name | Range | Type | Description |
|---|---|---|---|
| **total-bytes** | | integer | Number of bytes held by this file. Range : [0..2^63-1]. |
| **unique-bytes** | | integer | Number of bytes 'uniquely' held by this file. Range : [0..2^63-1]. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EAGAIN** | |

# file-usage-result-get

[top]

Used to poll and retrieve results for a previous file-usage-start call. EINPROGRESS indicates that the background job has not finished yet.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cookie** | | string | Cookie that was returned in an earlier file-usage-start call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **total-bytes** | | integer | Number of bytes held by this file. Range : [0..2^63-1]. |
| **unique-bytes** | | integer | Number of bytes 'uniquely' held by this file. Range : [0..2^63-1]. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_ESTALE** | |
| **EONTAPI_EINPROGRESS** | |

# file-usage-start

[top]

Starts a background job to compute unique bytes held in a file. The result can be obtained by passing the cookie to file-usage-result-get call.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **length** | | integer optional | Length of the range in bytes. If it is not specified, the range that is reported is from start-offset to end-of-file. Range : [0..2^63-1]. |
| **path** | | string | File name to generate report: E.g., /vol/vol1/file1 |
| **start-offset** | | integer optional | Start range of file in bytes. If this is not specified, it is assumed to be beginning of file (offset 0). Range : [0..2^63-1]. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **cookie** | | string | Cookie to be used with subsequent file-usage-result-get call. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EAGAIN** | |

# file-write-file

[top]

Write data into a named file. If the file/stream does not previously exist, it will be created - the owner of the file will be root and it will be readable but not writable by non-root users. API will fail if data exceeds 1 MB. This API should only be used on normal files or streams associated with files. The results for other file types such as LUNs is undefined.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **data** | | string | Data to be written. The format of the data is ASCII hex characters, two characters representing one byte. Whitespace characters, for convenience in formatting, can be present in the value and are ignored. |
| **offset** | **[-1..2^63-1]** | integer | Offset into file at which to start writing. If the offset is -1, the data is appended to the file. The valid maximum value for (offset + data length) is the maximum total file size which is Data ONTAP version and file system dependent. If the value of the (offset + data length) is beyond the maximum total file size, the API will fail with EAPIERROR. |
| **overwrite** | | boolean optional | If false, and the file already exists, then the API will fail, with an errno of EEXIST. This allows the client to ensure that it was the exclusive creator of the file. The default value is true. |
| **path** | | string | Pathname of the file to write. For example: "/vol/<volume>/<file>". |
| **stream-name** | | string optional | A stream is an on disk structure which contains a sequence of bytes, analogous to a file. A stream is always associated with exactly one file. Characters that are valid for a file name are also valid for the stream-name. e.g., "meta", "resource1". Use this option if the data should be written to the named stream associated with file specified by <path> Default is empty stream name, in which case the data is written to file specified by <path> This field is available in Data ONTAP 8.2 or later. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **length** | **[0..1048576]** | integer | Number of bytes actually written. |

| Errno | Description |
|---|---|
| **EONTAPI_EACCES** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EFTYPE** | |
| **EBADFILELENGTH** | |
| **EVOLUMEQUIESCED** | |

| | |
|---|---|
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EAPIVSERVERMISSING** | |
| **EINTERNALERROR** | |
| **EAPIERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# Element definition: **file-info**

[top]

Information about a single file.

| Name | Range | Type | Description |
|---|---|---|---|
| **accessed-timestamp** | **[0..2^32-1]** | integer | Last asscess time of the file. The value is in seconds since January 1, 1970. |
| **acl-type** | | string | The type of access control list (acl) on the file. Possible values are: "no_acl", "nt_acl", "nfs_acl", and goddess forbid, "unknown". |
| **bytes-used** | **[0..2^63-1]** | integer optional | returns the number of bytes actually used on disk by this file |
| **changed-timestamp** | **[0..2^32-1]** | integer | Last changed time of the file. The value is in seconds since January 1, 1970. |
| **creation-timestamp** | **[0..2^32-1]** | integer | Creation time of the file. The value is in seconds since January 1, 1970. |
| **dsid** | **[0..2^64-1]** | integer optional | Data Set ID |
| **file-size** | **[0..2^63-1]** | integer | The size of the file in bytes. |
| **file-type** | | string | Type of the file. Possible values: file, directory, blockdev, chardev, symlink, socket, fifo, stream, lun. |
| **group-id** | **[0..2^32-1]** | integer | The integer id of the group owner of the file. |
| **hard-links-count** | **[0..2^32-1]** | integer | The number of hard links to the file. |
| **inode-gen-number** | **[0..2^32-1]** | integer optional | Inode generation number |
| **inode-number** | **[0..2^32-1]** | integer | The file node number. |
| **is-empty** | | boolean optional | This element tells whether directory is empty or not. Directory is considered empty if it only contains entries for "." and "..". This element is present if file is directory. In some special error cases like volume goes offline in between or directory is moved in the middle of getting this info, this field might not get set. |
| **is-junction** | | boolean optional | Returns true if the directory is a junction. |
| **is-snapshot** | | boolean optional | Returns true if the directory is a snapshot. |
| **is-vm-** | | boolean | Returns true if the file is vm-aligned. A vm-aligned file is a file which is padded with zero-filled data at the beginning so that it's actual data starts at a different offset instead of zero. This is done in VM environments so that reads/writes to this file are aligned to WAFL's 4k |

| | | | |
|---|---|---|---|
| **aligned** | | optional | block boundary. The amount by which the start offset is adjusted depends on the vm-align setting of the hosting volume. Use the volume-list-info or the volume-get-iter API to get this information. |
| **modified-timestamp** | **[0..2^32-1]** | integer | Last modification time of the file. The value is in seconds since January 1, 1970. |
| **msid** | **[0..2^64-1]** | integer optional | Mirror Set ID |
| **name** | | string optional | Name of the file. |
| **owner-id** | **[0..2^32-1]** | integer | The integer id of the owner of the file. |
| **perm** | | string | File permission bits. It's similar to Unix style permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. |

# Element definition: **filer-id**

[top]

Filer UUID

[none]

# Element definition: **fingerprint-info**

[top]

FingerPrint info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-uuid** | | string optional | An Universal Unique IDentifier (UUID) for the aggregate containing the volume. Attributes: non-creatable, non-modifiable |
| **file-metadata** | | file-fingerprint-info optional | File fingerprint info |
| **filer-id** | | uuid optional | ID (NVRAM ID) of owner. Attributes: non-creatable, non-modifiable |
| **filer-name** | | string | Specifies the name of the filer. If the filer name has not been written to the disks, this will not be returned. Attributes: non- |

| | | | |
|---|---|---|---|
| | | optional | creatable, non-modifiable |
| **fingerprint-algorithm** | | fingerprintalgo optional | The digest algorithm which was used for the fingerprint computation. Fingerprint is computed using md5 or sha-256 digest algorithm. The digest algorithm to be used for the fingerprint computation can be specified when the fingerprint operation is started using the file-fingerprint-start API. If no algorithm was specified during file fingerprint start, then by default, we compute fingerprint of the file using the sha-256 digest alogorithm. Attributes: non-creatable, non-modifiable Possible values:<br>• "md5" ,<br>• "sha256" |
| **fingerprint-end-time** | **[0..2^64-1]** | integer optional | End time of fingerprint computation in seconds since January 1, 1970. Time is taken out of system clock. Range : [0..2^64-1]. Attributes: non-creatable, non-modifiable |
| **fingerprint-input-path** | | string optional | Full path of the file on which fingerprint is calculated. The value begins with /vol/. Attributes: non-creatable, non-modifiable |
| **fingerprint-scope** | | fingerprintscope optional | The file scope which was used for the fingerprint computation. Fingerprint is computed over the file data or metadata or both data and metadata depending on the scope selected when starting the fingerprint operation. If no scope was specified during file fingerprint start, then by default, we compute fingerprint of the file over both data and metadata. Attributes: non-creatable, non-modifiable Possible values:<br>• "data_and_metadata" ,<br>• "data_only" ,<br>• "metadata_only" |
| **fingerprint-start-time** | **[0..2^64-1]** | integer optional | Start time of fingerprint computation in seconds since January 1, 1970. This time is calculated using the system clock. Attributes: non-creatable, non-modifiable |
| **fingerprint-version** | | string optional | Version of the fingerprint output format. Attributes: non-creatable, non-modifiable |
| **formatted-fingerprint-end-time** | | string optional | End time of fingerprint computation in a human readable format :: in GMT timezone.Time is taken out of system clock. Attributes: non-creatable, non-modifiable |
| **formatted-fingerprint-start-time** | | string optional | Start time of fingerprint computation in a human readable format: :: in GMT timezone. This time is calculated using the system clock. Attributes: non-creatable, non-modifiable |
| **formatted-snaplock-system-compliance-clock** | | string optional | If System Compliance Clock is initialized then human readable time :: in GMT timezone. A value of 'not_initalized' indicates that System Compliance Clock has not been initialized. Attributes: non-creatable, non-modifiable |
| **formatted-snaplock-volume-compliance-clock** | | string optional | Volume Compliance Clock time for SnapLock volumes in human readable format. :: in GMT timezone. This field is not included for Non-SnapLock volumes. Attributes: non-creatable, non-modifiable |
| | | | Expiry date of the SnapLock volume in a human-readable format :: in GMT timezone. A value of 'infinite' indicates that the volume has an infinite expiry date. A value of 'indefinite' indicates that the volume has an indefinite expiry date. A value of 'unspecified' indicates that the volume has an |

| | | | |
|---|---|---|---|
| **formatted-volume-expiry-date** | | string optional | unspecified expiry date. A value of 'scan_in_progress' indicates that expiry date is not displayed since WORM scan on the volume is in progress. A value of 'no_expiry_date' indicates that expiry date is not displayed since the SnapLock volume has no WORM files and WORM Snapshot copies. This field is not included if the volume is offline or the volume is regular volume. Attributes: non-creatable, non-modifiable |
| **is-volume-expiry-date-wraparound** | | boolean optional | True if the date represented in the field volume-expiry-date is a wraparound format. The wraparound format indicates that dates after 01/19/2038 are mapped from 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. The field is not included if volume-expiry-date is not included. Attributes: non-creatable, non-modifiable |
| **session-id** | **[0..2^32-1]** | integer optional | An unique identifier for the fingerprint operation. This session-id is returned when the fingerprint operation is started on a file. The session-id of the fingerprint operation can be used to get the progress of an ongoing fingerprint operation as well as the complete fingerprint output for the file once the operation is completed. Attributes: key, non-creatable, non-modifiable |
| **snaplock-license** | | snaplocklicense optional | Status of SnapLock license. Attributes: non-creatable, non-modifiable Possible values:<br>• "available" ,<br>• "not_available" |
| **snaplock-system-compliance-clock** | **[0..2^64-1]** | integer optional | If System Compliance Clock is initialized then time in seconds in the standard UNIX format (since 01/01/1970 00:00:00) in GMT timezone. Range:[0..2^64-1]. Attributes: non-creatable, non-modifiable |
| **snaplock-volume-compliance-clock** | **[0..2^64-1]** | integer optional | Volume Compliance Clock time in seconds for the SnapLock volumes.The time is in the standard UNIX format (since 01/01/1970 00:00:00) in GMT timezone. This field is not included for Non-SnapLock volumes. Range:[0..2^64-1]. Attributes: non-creatable, non-modifiable |
| **volume-containing-aggregate** | | string optional | Specifies the name of the aggregate in which the given volume resides Attributes: non-creatable, non-modifiable |
| **volume-dsid** | **[0..2^64-1]** | integer optional | The DSID (Data Set IDentifier) of the volume containing the given file. Attributes: non-creatable, non-modifiable |
| **volume-expiry-date** | **[0..2^64-1]** | integer optional | Expiry date of the SnapLock volume in seconds in the standard UNIX format(since 01/01/1970 00:00:00).Range: [0..2^64-1]. This field is not included if<br>• Volume is non-SnapLock volume, or<br>• SnapLock volume has an infinite expiry date, or<br>• SnapLock volume has an indefinite expiry date, or<br>• SnapLock volume has an unspecified expiry date, or<br>• SnapLock volume has no WORM files or WORM Snapshot copies, or<br>• SnapLock volume has WORM scanner in progress<br><br>The volume expiry date can be in wraparound format.The wraparound format indicates that dates after 01/19/2038 are mapped from 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. Attributes: non-creatable, non-modifiable |
| **volume-msid** | **[0..2^64-1]** | integer optional | Volume's Mirror Set ID. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **volume-name** | | volume-name optional | Specifies the name of the volume on which the file resides. Attributes: non-creatable, non-modifiable |
| **volume-snaplock-type** | | snaplocktype optional | The type of the SnapLock volume. This value is only given for SnapLock volumes. The possible values are :<br>• compliance<br>• enterprise<br>Attributes: non-creatable, non-modifiable Possible values:<br>• "non_snaplock" - Non SnapLock,<br>• "compliance" - SnapLock Compliance,<br>• "enterprise" - SnapLock Enterprise |
| **vserver-id** | | uuid optional | An Universal Unique IDentifier (UUID) for the vserver owning the volume Attributes: non-creatable, non-modifiable |
| **vserver-name** | | vserver-name optional | Specifies the name of the vserver which owns the volume on which the file resides. Attributes: non-creatable, non-modifiable |

# Element definition: **fingerprint-status-info**

[top]

Fingerprint Status Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **file** | | string optional | Full path of the file on which fingerprint is calculated. The value begins with /vol/. Attributes: non-creatable, non-modifiable |
| **operation-status** | | wormopstatus optional | Specifies the operation status of the fingerprint operation. The operation-status of the fingerpirnt operation can be one of the following:<br>• In-progress<br>• Completed<br>• Failed<br>• Aborting<br>• Unknown<br>Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "in_progress" ,<br>• "failed" ,<br>• "aborting" ,<br>• "completed" |
| | | | Specifies the amount of progress that has been made on an ongoing fingerprint operation. If the operation-status of the |

| | | | |
|---|---|---|---|
| **progress-percentage** | **[0..2^32-1]** | integer optional | fingerprint operation is 'Completed' then the progress-percentage is always 100 and if the operation-status of the fingerprint operation is 'Failed' then the progress-percentage is always 0. Attributes: non-creatable, non-modifiable |
| **session-id** | **[0..2^32-1]** | integer optional | An unique identifier for the fingerprint operation. This session-id is returned when the fingerprint operation is started on a file. The session-id of the fingerprint operation can be used to get the progress of an ongoing fingerprint operation as well as the complete fingerprint output for the file once the operation is completed. Attributes: key, non-creatable, non-modifiable |
| **volume** | | volume-name optional | Specifies the name of the volume on which the file resides. If using this parameter, the following parameters should also be specified:<br>• vserver-name : Name of the vserver to which this volume belongs.<br><br>Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Specifies the name of the vserver which owns the volume on which the file resides. If using this parameter, the following parameters should also be specified:<br>• volume-name : Name of the volume on which the file resides<br><br>Attributes: key, non-creatable, non-modifiable |

# Element definition: **hole-range-info**

[top]

The hole start need not be an integral multiple of the block size. It will be rounded up to the start of the next block. The hole-size does not need to be the size of a block. It will be rounded down to the beginning of the block. It is possible that after the adjustments there is nothing to punch. That is ok and will be treated as success. Note that presently in WAFL small files are entirely within the inode. It is possible to "hole punch" those however nothing happens. The data is left alone. Considering the use case fot this ZAPI and the amount of effort to code the "correct" solution this is deemed an acceptable condition. If the file is vm-aligned then the range chosen to hole-punch could be rounded down by a block to ensure that we don't punch block containing valid user data.

| Name | Range | Type | Description |
|---|---|---|---|
| **hole-size** | | integer | Size of the hole in terms of bytes. If punching a hole WAFL presently limits this value to 4MB. Range : [0..2^63-1] |
| **hole-start** | | integer | Starting offset of the hole. Range : [0..2^63-1] |

# Element definition: **inode-info**

[top]

Inode Information.

When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **dsid** | **[0..2^64-1]** | integer optional | The DSID (Data Set IDentifier) of the volume containing the given inode. Exactly one of volume or dsid must be specified in query.<br><br>Attributes: key, non-creatable, non-modifiable |
| **file-name** | | string optional | Name of the file associated with inode.<br><br>Attributes: non-creatable, non-modifiable |
| **file-path** | | string optional | Full path name of the file associated with the inode number.<br><br>Attributes: key, non-creatable, non-modifiable |
| **inode-number** | **[0..2^32-1]** | integer | The inode number for which information is desired.<br><br>Attributes: key, non-creatable, non-modifiable |
| **parent-dir-index** | **[0..2^64-1]** | integer optional | The index of the directory entry of the file in its parent directory.<br><br>Attributes: non-creatable, non-modifiable |
| **parent-inode-number** | **[0..2^64-1]** | integer optional | Inode number of the parent directory of the file.<br><br>Attributes: non-creatable, non-modifiable |
| **snapshot-id** | **[0..255]** | integer optional | The snapshot number within the given volume in which the given inode is to be referenced. At most, one of snaphot-id or snapshot-name can be provided in query. If neither is provided, we reference the given inode within the active file system of the given volume. A value of 0 will refer to the active file system of the given volume.<br><br>Attributes: non-creatable, modifiable |
| **snapshot-name** | | string optional | The snapshot name within the given volume in which the given inode is to be referenced. At most, one of snapshot-id or snapshot-name can be provided in query. If neither is provided, we reference the given inode within the active file system of the given volume.<br><br>Attributes: non-creatable, modifiable |
| **volume** | | volume-name optional | The name of the volume containing the given inode. Exactly one of volume or dsid must be specified in query.<br><br>Attributes: key, non-creatable, non-modifiable |

# Element definition: **inode-parent-info**

[top]

Inode's path and parent information.

| Name | Range | Type | Description |
|---|---|---|---|
| **inode-name** | | string optional | Name of inode in parent directory. |
| **inode-parent-** | | integer optional | The opaque readdir cookie to determine the index of the inode in the parent directory tree. Note that this value is used as a testing hook, we do not |

| | | | |
|---|---|---|---|
| **cookie** | | | plan to support its semantics and those semantics might change over time. |
| **inode-parent-inode-number** | | integer optional | Inode number of the parent directory. |
| **inode-path** | | string optional | Full path to inode |

# Element definition: **snapshot-id**

[top]

Snapshot Id

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **file-fingerprint-info**

[top]

File fingerprint info

| Name | Range | Type | Description |
|---|---|---|---|
| **access-time** | **[0..2^64-** | integer | Access Time Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| | **1]** | optional | |
| **changed-time** | **[0..2^64-1]** | integer optional | Changed Time Attributes: non-creatable, non-modifiable |
| **creation-time** | **[0..2^64-1]** | integer optional | Creation Time Attributes: non-creatable, non-modifiable |
| **data-fingerprint** | | string optional | The digest value of data of the file. The fingerprint is base64 encoded. This field is not included if scope is 'metadata-only'. Attributes: non-creatable, non-modifiable |
| **file** | | string optional | Full path of the file on which fingerprint is calculated. The value begins with /vol/. Attributes: non-creatable, non-modifiable |
| **file-size** | **[0..2^64-1]** | integer optional | The size of the file in bytes. Range : [0..2^64-1]. Attributes: non-creatable, non-modifiable |
| **file-type** | | string optional | Type of the file. Possible values:<br>• 'worm',<br>• 'worm_appendable',<br>• 'worm_active_log',<br>• 'worm_log' and<br>• 'regular'<br><br>Attributes: non-creatable, non-modifiable |
| **fileid** | **[0..2^32-1]** | integer optional | A unique number within filesystem identifying the file for fingerprint. Range : [0..2^31-1] Attributes: non-creatable, non-modifiable |
| **formatted-access-time** | | string optional | Last access time of the file formatted in a human-readable format :: in GMT timezone. The field is included for regular files and files on Non-SnapLock volumes. Attributes: non-creatable, non-modifiable |
| **formatted-changed-time** | | string optional | Last changed time of the file formatted in a human-readable format. :: in GMT timezone. Attributes: non-creatable, non-modifiable |
| **formatted-creation-time** | | string optional | Creation time of the file formatted in a human-readable format. :: in GMT timezone. Attributes: non-creatable, non-modifiable |
| **formatted-modified-time** | | string optional | Last modification time of the file formatted in a human-readable format. :: in GMT timezone. Attributes: non-creatable, non-modifiable |
| **formatted-retention-time** | | string optional | Expiry date of the file protected by SnapLock formatted in a human-readable format. This takes care of wraparound dates and prints the expiry date of the file in the format :: in GMT timezone. A value of 'infinite' indicates that this file has infinite retention time. A value of 'indefinite' indicates that this file has indefinite retention time. A value of 'unspecified' indicates that this file has unspecified retention time. This field is not included for regular files that are not protected by SnapLock and files on Non-SnapLock volumes. Attributes: non-creatable, non-modifiable |
| **fsid** | **[0..2^32-1]** | integer optional | Filesystem ID. Range : [0..2^31-1] Attributes: non-creatable, non-modifiable |
| **group-id** | **[0..2^32-1]** | integer optional | The integer id of the group owner of the file. Range : [0..2^31-1] Attributes: non-creatable, non-modifiable |
| **is-changed-time-wraparound** | | boolean optional | This field is included for WORM files when changed-time is in wraparound format. This field is true if the date represented in changed-time is in wraparound format and false if changed-time is not is not in wraparound format. The wraparound format indicates that dates after 01/19/2038 are mapped from 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. This field is not included for regular files. Attributes: non-creatable, non-modifiable |
| | | | True if the date represented in retention-time is in wraparound format.The wraparound format indicates that dates after 01/19/2038 |

| | | | |
|---|---|---|---|
| **is-wraparound** | | boolean optional | are mapped from 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. This field is not included if retention-time is not included Attributes: non-creatable, non-modifiable |
| **litigation-count** | **[0..255]** | integer optional | The number of litigations on the file. Attributes: non-creatable, non-modifiable |
| **metadata-fingerprint** | | string optional | The digest value of metadata of the file. The metadata fingerprint is calculated for file size, file ctime, file mtime, file crtime, file retention time, file uid, gid and file type. The fingerprint is base64 encoded. This field is not included if scope is 'data-only'. Attributes: non-creatable, non-modifiable |
| **modified-time** | **[0..2^64-1]** | integer optional | Modification Time Attributes: non-creatable, non-modifiable |
| **owner-id** | **[0..2^32-1]** | integer optional | The integer id of the owner of the file. Range : [0..2^31-1] Attributes: non-creatable, non-modifiable |
| **owner-sid** | | string optional | The owner SID of the file. This field is included in the case when file has NTFS security style. Attributes: non-creatable, non-modifiable |
| **retention-time** | **[0..2^64-1]** | integer optional | Retention Time Attributes: non-creatable, non-modifiable |

# Element definition: **fingerprintalgo**

[top]

MD5|SHA256 Possible values:

- "md5" ,
- "sha256"

[none]

# Element definition: **fingerprintscope**

[top]

data-and-metadata|data-only|metadata-only Possible values:

- "data_and_metadata" ,
- "data_only" ,
- "metadata_only"

[none]

# Element definition: **snaplocklicense**

[top]

available|not_available Possible values:

- "available" ,
- "not_available"

[none]

## Element definition: **snaplocktype**

[top]

non-snaplock|compliance|enterprise Possible values:

- "non_snaplock" - Non SnapLock,
- "compliance" - SnapLock Compliance,
- "enterprise" - SnapLock Enterprise

[none]

## Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

## Element definition: **wormopstatus**

[top]

Unknown|In-Progress|Failed|Aborting|Completed Possible values:

- "unknown" ,
- "in_progress" ,
- "failed" ,
- "aborting" ,
- "completed"

[none]

# APIs in Category: **file-directory-security**


file-directory-effective-permissions-get
file-directory-security-get
file-directory-security-ntfs-create
file-directory-security-ntfs-dacl-add
file-directory-security-ntfs-dacl-get-iter
file-directory-security-ntfs-dacl-modify
file-directory-security-ntfs-dacl-remove
file-directory-security-ntfs-delete
file-directory-security-ntfs-get-iter
file-directory-security-ntfs-modify
file-directory-security-ntfs-sacl-add
file-directory-security-ntfs-sacl-get-iter
file-directory-security-ntfs-sacl-modify
file-directory-security-ntfs-sacl-remove
file-directory-security-policy-create
file-directory-security-policy-delete
file-directory-security-policy-get-iter
file-directory-security-policy-task-add
file-directory-security-policy-task-get-iter
file-directory-security-policy-task-modify
file-directory-security-policy-task-remove
file-directory-security-remove-slag
file-directory-security-set


This set of ZAPIs allows to view or set file security settings. To view security of a file/folder, pass the file/folder path name as argument to show command. To set security on a file/folder, policy needs to be created. Policy has set of tasks and each task has a file/folder path name and the security descriptor identifier which will be applied on the file/folder.

## file-directory-effective-permissions-get

[top]

Gives information about the maximal access for the mentioned user on given path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-ip-address** | | ip-address optional | This optional parameter specifies the incoming CIFS or UNIX user client ip address. |
| **expand-mask** | | boolean optional | Specifies whether to expand the bit mask of ACE. |
| **path** | | string | Specifies UNIX style file or folder path for which the effective permission has to be found out. |
| **share-name** | | cifs-share-name optional | This optional parameter specifies that the given path name lookup starts from cifs share map path. |
| **unix-user-name** | | string optional | Specifies name of the UNIX user for which the effective permission has to be found out. |
| **win-user-name** | | string optional | Specifies name of the Windows user for which the effective permission has to be found out. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **permission** | | fsecurity-acl[] | Specifies the resultant NT style effective permission. |
| **share-path** | | string optional | The CIFS share path. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-get

[top]

Returns security information of a file/folder

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cifs-share-name** | | cifs-share-name optional | Specifies that the given path name lookup starts from cifs share map path. Mutually exclusive with volume-name field. |
| **expand-mask** | | boolean optional | Specifies whether to expand the bit mask of DOS attributes, security descriptor's control flags and every ACE. |
| **inode** | | integer optional | File Inode Number |
| **lookup-names** | | boolean optional | Specifies whether the SID needs to be converted to user/group name. |
| **path** | | string optional | Specifies the file or folder path whose security information needs to be read. If volume-name or cifs-share-name is not specified, path name lookup starts from the root path of the vserver |
| **sddl** | | boolean optional | Specifies whether to show the acls in windows sddl format. |
| **textual-mask** | | boolean optional | Specifies whether to show the mask in textual format. |
| **volume-name** | | volume-name optional | Specifies that the given path name lookup starts from volume junction path. Mutually exclusive with cifs-share-name field. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **acls** | | fsecurity-acl[] optional | NTFS or NFSV4 Security descriptor ACLs. |
| **dos-attributes** | | integer optional | DOS Attributes |
| **effective-style** | | security-style-enum | Effective security style of the file/folder. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to file/folder security. |
| **expanded-dos-attr** | | string optional | Bitwise expanded DOS Attributes of the specified file/folder path. This field returns value if expand mask is true. Example follows,<br>DOS Attributes:<br>...0 .... .... .... = Offline<br>.... ..0. .... .... = Sparse<br>.... .... 0... .... = Normal<br>.... .... ..0. .... = Archive<br>.... .... ...1 .... = Directory<br>.... .... .... .0.. = System<br>.... .... .... ..0. = Hidden<br>.... .... .... ...0 = Read Only |
| **inode** | | integer optional | File Inode Number |
| **path** | | string optional | Specifies the file or folder path whose security information needs to be read. If volume-name or cifs-share-name is not specified, path name lookup starts from the root path of the vserver |
| **security-style** | | security-style-enum | Security style of the file/folder. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to file/folder security. |
| **text-dos-attr** | | string optional | DOS Attributes in Text |
| **unix-group-id** | | integer optional | UNIX Group Id |
| **unix-mode-bits** | | integer optional | Unix mode permission bits in octal value. |
| **unix-user-id** | | integer optional | UNIX User Id |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-ntfs-create

[top]

Creates a new NTFS security descriptor

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Specifies the security descriptor control flags in hexa decimal. The following are the bit fields of control flags.<br>1... .... .... .... = Self Relative<br>.0.. .... .... .... = RM Control Valid<br>..0. .... .... .... = SACL Protected |

| | | | |
|---|---|---|---|
| **control-flags-raw** | **[0..2^32-1]** | integer optional | ...0 .... .... .... = DACL Protected<br>.... 0... .... .... = SACL Inherited<br>.... .0.. .... .... = DACL Inherited<br>.... ..0. .... .... = SACL Inherit Required<br>.... ...0 .... .... = DACL Inherit Required<br>.... .... ..0. .... = SACL Defaulted<br>.... .... ...0 .... = SACL Present<br>.... .... .... 0... = DACL Defaulted<br>.... .... .... .1.. = DACL Present<br>.... .... .... ..0. = Group Defaulted<br>.... .... .... ...0 = Owner Defaulted<br><br>At present only the following flags are honored. Others are ignored.<br>..0. .... .... .... = SACL Protected<br>...0 .... .... .... = DACL Protected<br>.... .... ..0. .... = SACL Defaulted<br>.... .... .... 0... = DACL Defaulted<br>.... .... .... ..0. = Group Defaulted<br>.... .... .... ...0 = Owner Defaulted |
| **group** | | name-or-sid optional | Specifies group's SID or domain account name of NTFS security descriptor. |
| **ntfs-sd** | | file-security-ntfs-sd | Specifies NTFS security descriptor identifier. |
| **owner** | | name-or-sid optional | Specifies owner's SID or domain account name of NTFS security descriptor. |
| **return-record** | | boolean optional | If set to true, returns the file-directory-security-ntfs on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | file-directory-security-ntfs optional | The file-directory-security-ntfs created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# file-directory-security-ntfs-dacl-add

[top]

Add a discretionary access control entry to NTFS security descriptor.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-type** | | access-type | Specifies DACL ACE's access type. Possible values:<br>• "deny" ,<br>• "allow" |
| **account** | | name-or-sid | Specifies DACL ACE's SID or domain account name of NTFS security descriptor. |
| | | | Specifies DACL ACE's Advanced access rights. Mutually exclusive with rights and rights-raw fields. Possible values:<br>• "read_data" ,<br>• "write_data" , |

| | | | |
|---|---|---|---|
| **advanced-rights** | | advanced-access-rights[] optional | • "append_data" ,<br>• "read_ea" ,<br>• "write_ea" ,<br>• "execute_file" ,<br>• "delete_child" ,<br>• "read_attr" ,<br>• "write_attr" ,<br>• "delete" ,<br>• "read_perm" ,<br>• "write_perm" ,<br>• "write_owner" ,<br>• "full_control" |
| **apply-to** | | inheritance-level[] optional | Specifies apply DACL entry. Possible values:<br>• "this_folder" ,<br>• "sub_folders" ,<br>• "files" |
| **ntfs-sd** | | file-security-ntfs-sd | Specifies NTFS security descriptor identifier. |
| **rights** | | access-rights optional | Specifies DACL ACE's access rights. Mutually exclusive with advanced-rights and rights-raw fields. Possible values:<br>• "no_access" ,<br>• "full_control" ,<br>• "modify" ,<br>• "read_and_execute" ,<br>• "read" ,<br>• "write" |
| **rights-raw** | **[0..2^32-1]** | integer optional | Specifies DACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-ntfs-dacl-get-iter

[top]

Returns information about one or more discretionary access control entries

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | file-directory-security-ntfs-dacl optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | file-directory- | A query that specifies which objects to return. A query could be |

| | | | |
|---|---|---|---|
| **query** | | security-ntfs-dacl optional | specified on any number of attributes in the file-directory-security-ntfs-dacl object. All file-directory-security-ntfs-dacl objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | file-directory-security-ntfs-dacl[] optional | The list of attributes of file-directory-security-ntfs-dacl objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more file-directory-security-ntfs-dacl objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# file-directory-security-ntfs-dacl-modify

[top]

Modify a discretionary access control entry of a file security descriptor

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-type** | | access-type | Specifies DACL ACE's access type. Possible values:<br>• "deny" ,<br>• "allow" |
| **account** | | name-or-sid | Specifies DACL ACE's SID or domain account name of NTFS security descriptor. |
| **advanced-rights** | | advanced-access-rights[] optional | Specifies DACL ACE's Advanced access rights. Mutually exclusive with rights and rights-raw fields. Possible values:<br>• "read_data" ,<br>• "write_data" ,<br>• "append_data" ,<br>• "read_ea" ,<br>• "write_ea" ,<br>• "execute_file" ,<br>• "delete_child" ,<br>• "read_attr" ,<br>• "write_attr" ,<br>• "delete" ,<br>• "read_perm" ,<br>• "write_perm" ,<br>• "write_owner" ,<br>• "full_control" |
| | | | Specifies this ACE has to be applied on. Possible values: |

| | | | |
|---|---|---|---|
| **apply-to** | | inheritance-level[] optional | • "this_folder" ,<br>• "sub_folders" ,<br>• "files" |
| **ntfs-sd** | | file-security-ntfs-sd | Specifies NTFS security descriptor identifier. |
| **rights** | | access-rights optional | Specifies DACL ACE's access rights. Mutually exclusive with advanced-rights and rights-raw fields. Possible values:<br>• "no_access" ,<br>• "full_control" ,<br>• "modify" ,<br>• "read_and_execute" ,<br>• "read" ,<br>• "write" |
| **rights-raw** | **[0..2^32-1]** | integer optional | Specifies DACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-ntfs-dacl-remove

[top]

Remove a discretionary access control entry from NTFS security descriptor.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-type** | | access-type | Specifies DACL ACE's access type. Possible values:<br>• "deny" ,<br>• "allow" |
| **account** | | name-or-sid | Specifies DACL ACE's SID or domain account name of NTFS security descriptor. |
| **ntfs-sd** | | file-security-ntfs-sd | Specifies NTFS security descriptor identifier. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-ntfs-delete

[top]

Deletes an NTFS security descriptor information

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ntfs-sd** | | file-security-ntfs-sd | Specifies NTFS security descriptor identifier. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-ntfs-get-iter

[top]

Returns information about one or more NTFS security descriptor

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | file-directory-security-ntfs optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | file-directory-security-ntfs optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the file-directory-security-ntfs object. All file-directory-security-ntfs objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | file-directory-security-ntfs[] optional | The list of attributes of file-directory-security-ntfs objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more file-directory-security-ntfs objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# file-directory-security-ntfs-modify

[top]

Modifies an NTFS security descriptor

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Specifies the security descriptor control flags in hexa decimal. The |

| | | | |
|---|---|---|---|
| **control-flags-raw** | **[0..2^32-1]** | integer optional | following are the bit fields of control flags.<br>1... .... .... .... = Self Relative<br>.0.. .... .... .... = RM Control Valid<br>..0. .... .... .... = SACL Protected<br>...0 .... .... .... = DACL Protected<br>.... 0... .... .... = SACL Inherited<br>.... .0.. .... .... = DACL Inherited<br>.... ..0. .... .... = SACL Inherit Required<br>.... ...0 .... .... = DACL Inherit Required<br>.... .... ..0. .... = SACL Defaulted<br>.... .... ...0 .... = SACL Present<br>.... .... .... 0... = DACL Defaulted<br>.... .... .... .1.. = DACL Present<br>.... .... .... ..0. = Group Defaulted<br>.... .... .... ...0 = Owner Defaulted<br><br>At present only the following flags are honored. Others are ignored.<br>..0. .... .... .... = SACL Protected<br>...0 .... .... .... = DACL Protected<br>.... .... ..0. .... = SACL Defaulted<br>.... .... .... 0... = DACL Defaulted<br>.... .... .... ..0. = Group Defaulted<br>.... .... .... ...0 = Owner Defaulted |
| **group** | | name-or-sid optional | Specifies group's SID or domain account name of NTFS security descriptor. |
| **ntfs-sd** | | file-security-ntfs-sd | Specifies NTFS security descriptor identifier. |
| **owner** | | name-or-sid optional | Specifies owner's SID or domain account name of NTFS security descriptor. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-ntfs-sacl-add

[top]

Add a system/audit access control entry to NTFS security descriptor.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **account** | | name-or-sid | Specifies SACL ACE's SID or domain account name of NTFS security descriptor. |
| **advanced-** | | advanced-access- | Specifies SACL ACE's access rights. Mutually exclusive with rights-raw field. Possible values:<br>• "read_data" ,<br>• "write_data" ,<br>• "append_data" ,<br>• "read_ea" ,<br>• "write_ea" ,<br>• "execute_file" , |

| | | | |
|---|---|---|---|
| **rights** | | rights[] optional | "delete_child" ,<br>• "read_attr" ,<br>• "write_attr" ,<br>• "delete" ,<br>• "read_perm" ,<br>• "write_perm" ,<br>• "write_owner" ,<br>• "full_control" |
| **apply-to** | | inheritance-level[] optional | Specifies how this ACE has to be applied on this folder and it's subfolders and files. This field is ignored if the security is mapped with a path which is not a folder. Possible values:<br>• "this_folder" ,<br>• "sub_folders" ,<br>• "files" |
| **audit-access-type** | | audit-access-type | Specifies SACL ACE's access type. Possible values:<br>• "failure" ,<br>• "success" |
| **ntfs-sd** | | file-security-ntfs-sd | Specifies NTFS security descriptor identifier. |
| **rights** | | access-rights optional | Specifies SACL ACE's access rights. Possible values:<br>• "no_access" ,<br>• "full_control" ,<br>• "modify" ,<br>• "read_and_execute" ,<br>• "read" ,<br>• "write" |
| **rights-raw** | **[0..2^32-1]** | integer optional | Specifies SACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-ntfs-sacl-get-iter

[top]

Returns information about one or more system/audit access control entries

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | file-directory-security-ntfs-sacl optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | file-directory-security-ntfs-sacl optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the file-directory-security-ntfs-sacl object. All file-directory-security-ntfs-sacl objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | file-directory-security-ntfs-sacl[] optional | The list of attributes of file-directory-security-ntfs-sacl objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more file-directory-security-ntfs-sacl objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# file-directory-security-ntfs-sacl-modify

[top]

Modify an system/audit access control entry of a file security descriptor

| Input Name | Range | Type | Description |
|---|---|---|---|
| **account** | | name-or-sid | Specifies SACL ACE's SID or domain account name of NTFS security descriptor. |
| **advanced-rights** | | advanced-access-rights[] optional | Specifies SACL ACE's access rights. Mutually exclusive with rights-raw field. Possible values:<br>• "read_data" ,<br>• "write_data" ,<br>• "append_data" ,<br>• "read_ea" ,<br>• "write_ea" ,<br>• "execute_file" ,<br>• "delete_child" ,<br>• "read_attr" ,<br>• "write_attr" ,<br>• "delete" ,<br>• "read_perm" ,<br>• "write_perm" ,<br>• "write_owner" ,<br>• "full_control" |
| **apply-to** | | inheritance-level[] | Specifies how this ACE has to be applied on this folder and it's subfolders and files. This field is ignored if the security is mapped with a path which is not a folder. Possible values:<br>• "this_folder" , |

| | | | |
|---|---|---|---|
| | | optional | • "sub_folders" ,<br>• "files" |
| **audit-access-type** | | audit-access-type | Specifies SACL ACE's access type. Possible values:<br>• "failure" ,<br>• "success" |
| **ntfs-sd** | | file-security-ntfs-sd | Specifies NTFS security descriptor identifier. |
| **rights** | | access-rights optional | Specifies SACL ACE's access rights. Possible values:<br>• "no_access" ,<br>• "full_control" ,<br>• "modify" ,<br>• "read_and_execute" ,<br>• "read" ,<br>• "write" |
| **rights-raw** | **[0..2^32-1]** | integer optional | Specifies SACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-ntfs-sacl-remove

[top]

Remove an system/audit access control entry from NTFS security descriptor.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **account** | | name-or-sid | Specifies SACL ACE's SID or domain account name of NTFS security descriptor. |
| **audit-access-type** | | audit-access-type | Specifies SACL ACE's access type. Possible values:<br>• "failure" ,<br>• "success" |
| **ntfs-sd** | | file-security-ntfs-sd | Specifies NTFS security descriptor identifier. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-policy-create

[top]

Creates a new file/folder security policy configuration. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | file-security-policy-name | Specifies the name of the policy. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path. |
| **return-record** | | boolean optional | If set to true, returns the file-directory-security-policy on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | file-directory-security-policy optional | The file-directory-security-policy created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# file-directory-security-policy-delete

[top]

Deletes a file/folder security policy. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | file-security-policy-name | Specifies the name of the policy. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-policy-get-iter

[top]

Returns information about one or more security policies. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | file-directory-security-policy optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | file-directory-security-policy optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the file-directory-security-policy object. All file-directory-security-policy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | file-directory-security-policy[] optional | The list of attributes of file-directory-security-policy objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more file-directory-security-policy objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# file-directory-security-policy-task-add

[top]

Add a file security policy task. A task maps security descriptor with a file or folder.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-control** | | access-control optional | Specifies the access control of task to be applied. Its value can be file-directory or slag respectively. The slag value is not supported on FlexGroups. Default value will be file-directory. Possible values:<br>• "file_directory" ,<br>• "slag" |
| | | ntfs- | Specifies NTFS propagation mode. Possible values: |

| | | | |
|---|---|---|---|
| **ntfs-mode** | | propagation-mode optional | "propagate" ,<br>• "ignore" ,<br>• "replace" |
| **ntfs-sd** | | file-security-ntfs-sd[] optional | Specifies NTFS security descriptor identifier. |
| **path** | | string | Specifies the file or folder path of the task. In case of SLAG this path specify the volume or qtree mounted path. |
| **policy-name** | | file-security-policy-name | Specifies the name of the policy to which the task needs to be added. |
| **security-type** | | security-type optional | Specifies the type of security. Possible values:<br>• "ntfs" ,<br>• "nfsv4" |
| **task-index-number** | **[1..10000]** | integer optional | Specifies the target index/position of this task in the policy. If a policy has already 5 tasks and this is the 6th task you are adding and you want to add this task as 2nd task, you can specifiy the index 2. By default the task gets added as last task. If the index number exceeds the number of positions, it will go at the end. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-policy-task-get-iter

[top]

Returns information about one or more policy tasks. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | file-directory-security-policy-task optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | file-directory-security-policy-task optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the file-directory-security-policy-task object. All file-directory-security-policy-task objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| | | | |
|---|---|---|---|

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | file-directory-security-policy-task[] optional | The list of attributes of file-directory-security-policy-task objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more file-directory-security-policy-task objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# file-directory-security-policy-task-modify

[top]

Modify a file security policy task

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ntfs-mode** | | ntfs-propagation-mode optional | NTFS Propagation Mode Possible values:<br>• "propagate" ,<br>• "ignore" ,<br>• "replace" |
| **ntfs-sd** | | file-security-ntfs-sd[] optional | NTFS Security Descriptor Name |
| **path** | | string | Path |
| **policy-name** | | file-security-policy-name | Policy Name |
| **security-type** | | security-type optional | Security Type Possible values:<br>• "ntfs" ,<br>• "nfsv4" |
| **task-index-number** | **[1..10000]** | integer optional | Position |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-policy-task-remove

[top]

Remove a task from the policy of a vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Specifies the file or folder path of the task. |
| **policy-** | | file-security-policy- | Specifies the name of the policy from which the task has |

| | | | |
|---|---|---|---|
| **name** | | name | been removed. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-remove-slag

[top]

Removes SLAG from the specified volume or qtree path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Specifies the path of the volume or qtree from which slag to be removed. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# file-directory-security-set

[top]

Apply security descriptors on files and directories defined in a policy to a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ignore-broken-symlinks** | | boolean optional | Skip Broken Symlinks |
| **ismodify** | | boolean optional | Modify SD op through REST |
| **policy-name** | | file-security-policy-name | Specifies the name of the policy whose security settings have to be applied. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **access-control**

[top]

file-directory|slag Possible values:

- "file_directory" ,
- "slag"

[none]

# Element definition: **access-rights**

[top]

no-access|full-control|modify|read-and-execute|read|write Possible values:

- "no_access" ,
- "full_control" ,
- "modify" ,
- "read_and_execute" ,
- "read" ,
- "write"

[none]

# Element definition: **access-type**

[top]

deny|allow Possible values:

- "deny" ,
- "allow"

[none]

# Element definition: **advanced-access-rights**

[top]

Advanced access right Possible values:

- "read_data" ,
- "write_data" ,
- "append_data" ,
- "read_ea" ,
- "write_ea" ,
- "execute_file" ,
- "delete_child" ,
- "read_attr" ,
- "write_attr" ,
- "delete" ,
- "read_perm" ,
- "write_perm" ,
- "write_owner" ,
- "full_control"

[none]

# Element definition: **audit-access-type**

[top]

failure|success Possible values:

- "failure" ,
- "success"

[none]

## Element definition: **cifs-share-name** [top]

The name of the CIFS share. The CIFS share name is a Unicode string with the following characters being illegal: control characters from 0x00 to 0x1F, both inclusive, 0x22 (double quotes) and the characters \/[]:|<>+=;,?

[none]

## Element definition: **file-directory-security-ntfs** [top]

NTFS security descriptor management When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **control-flags-raw** | **[0..2^32-1]** | integer optional | Specifies the security descriptor control flags in hexa decimal. The following are the bit fields of control flags.<br>1... .... .... .... = Self Relative<br>.0.. .... .... .... = RM Control Valid<br>..0. .... .... .... = SACL Protected<br>...0 .... .... .... = DACL Protected<br>.... 0... .... .... = SACL Inherited<br>.... .0.. .... .... = DACL Inherited<br>.... ..0. .... .... = SACL Inherit Required<br>.... ...0 .... .... = DACL Inherit Required<br>.... .... ..0. .... = SACL Defaulted<br>.... .... ...0 .... = SACL Present<br>.... .... .... 0... = DACL Defaulted<br>.... .... .... .1.. = DACL Present<br>.... .... .... ..0. = Group Defaulted<br>.... .... .... ...0 = Owner Defaulted<br><br>At present only the following flags are honored. Others are ignored.<br>..0. .... .... .... = SACL Protected<br>...0 .... .... .... = DACL Protected<br>.... .... ..0. .... = SACL Defaulted<br>.... .... .... 0... = DACL Defaulted<br>.... .... .... ..0. = Group Defaulted<br>.... .... .... ...0 = Owner Defaulted Attributes: optional-for-create, |

| | | | |
|---|---|---|---|
| | | | modifiable |
| **group** | | name-or-sid optional | Specifies group's SID or domain account name of NTFS security descriptor. Attributes: optional-for-create, modifiable |
| **ntfs-sd** | | file-security-ntfs-sd optional | Specifies NTFS security descriptor identifier. Attributes: key, required-for-create, non-modifiable |
| **owner** | | name-or-sid optional | Specifies owner's SID or domain account name of NTFS security descriptor. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **file-directory-security-ntfs-dacl**

[top]

fsecurity SACL configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **access-type** | | access-type optional | Specifies DACL ACE's access type. Attributes: key, required-for-create, non-modifiable Possible values:<br>• "deny" ,<br>• "allow" |
| **account** | | name-or-sid optional | Specifies DACL ACE's SID or domain account name of NTFS security descriptor. Attributes: key, required-for-create, non-modifiable |
| **advanced-rights** | | advanced-access-rights[] optional | Specifies DACL ACE's Advanced access rights. Mutually exclusive with rights and rights-raw fields. Attributes: optional-for-create, modifiable Possible values:<br>• "read_data" ,<br>• "write_data" ,<br>• "append_data" ,<br>• "read_ea" ,<br>• "write_ea" ,<br>• "execute_file" ,<br>• "delete_child" ,<br>• "read_attr" ,<br>• "write_attr" ,<br>• "delete" ,<br>• "read_perm" ,<br>• "write_perm" ,<br>• "write_owner" ,<br>• "full_control" |

| | | | |
|---|---|---|---|
| **apply-to** | | inheritance-level[] optional | Specifies this ACE has to be applied on. Attributes: optional-for-create, modifiable Possible values:<br>• "this_folder" ,<br>• "sub_folders" ,<br>• "files" |
| **ntfs-sd** | | file-security-ntfs-sd optional | Specifies NTFS security descriptor identifier. Attributes: key, required-for-create, non-modifiable |
| **readable-access-rights** | | string optional | Specifies the current access rights. The access rights must be set to one among rights,advanced-rights,rights-raw. Attributes: non-creatable, non-modifiable |
| **rights** | | access-rights optional | Specifies DACL ACE's access rights. Mutually exclusive with advanced-rights and rights-raw fields. Attributes: optional-for-create, modifiable Possible values:<br>• "no_access" ,<br>• "full_control" ,<br>• "modify" ,<br>• "read_and_execute" ,<br>• "read" ,<br>• "write" |
| **rights-raw** | **[0..2^32-1]** | integer optional | Specifies DACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **file-directory-security-ntfs-sacl**

[top]

fsecurity SACL configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **account** | | name-or-sid optional | Specifies SACL ACE's SID or domain account name of NTFS security descriptor. Attributes: key, required-for-create, non-modifiable |
| | | | Specifies SACL ACE's access rights. Mutually exclusive with rights-raw field. Attributes: optional-for-create, modifiable Possible values:<br>• "read_data" ,<br>• "write_data" , |

| | | | |
|---|---|---|---|
| **advanced-rights** | | advanced-access-rights[] optional | • "append_data" ,<br>• "read_ea" ,<br>• "write_ea" ,<br>• "execute_file" ,<br>• "delete_child" ,<br>• "read_attr" ,<br>• "write_attr" ,<br>• "delete" ,<br>• "read_perm" ,<br>• "write_perm" ,<br>• "write_owner" ,<br>• "full_control" |
| **apply-to** | | inheritance-level[] optional | Specifies how this ACE has to be applied on this folder and it's subfolders and files. This field is ignored if the security is mapped with a path which is not a folder. Attributes: optional-for-create, modifiable Possible values:<br>• "this_folder" ,<br>• "sub_folders" ,<br>• "files" |
| **audit-access-type** | | audit-access-type optional | Specifies SACL ACE's access type. Attributes: key, required-for-create, non-modifiable Possible values:<br>• "failure" ,<br>• "success" |
| **ntfs-sd** | | file-security-ntfs-sd optional | Specifies NTFS security descriptor identifier. Attributes: key, required-for-create, non-modifiable |
| **readable-access-rights** | | string optional | Specifies the current access rights. Access rights can be specified by one of the following fields, rights, advanced-rights and rights-raw. These fields are mutually exclusive fields. If rights field is set and other two fields (advanced-rights, rights-raw) cant be set and so readable-access-rights field has the value of rights field. If rights-raw field is set and other two fields (advanced-rights, rights) are not set then readable-access-rights field has the value of rights-raw field. If advanced-rights field is set and other two fields (rights, rights-raw) are not set then readable-access-rights field has the value of advanced-rights field. Attributes: non-creatable, non-modifiable |
| **rights** | | access-rights optional | Specifies SACL ACE's access rights. Attributes: optional-for-create, modifiable Possible values:<br>• "no_access" ,<br>• "full_control" ,<br>• "modify" ,<br>• "read_and_execute" ,<br>• "read" ,<br>• "write" |
| **rights-raw** | **[0..2^32-1]** | integer optional | Specifies SACL ACE's access rights in raw. This field is similar to advanced-rights fields. 'advanced-rights' specifies the value in enum but rights-raw specifies the access rights in integer format. Mutually exclusive with rights and advanced-rights fields. Attributes: optional-for-create, modifiable |
| **vserver** | | vserver-name | Vserver Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| | | optional | |

# Element definition: **file-directory-security-policy**

[top]

File/folder security policy management When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | file-security-policy-name optional | Specifies the name of the policy. To preserve the security configuration of a file(or, folder) or set of files(or, folders) security policy has been defined. Policy is a container for tasks and a task associates a file/folder path name and the security descriptor that needs to be set on the file/folder. Every task in a policy is uniquely identified by the file/folder path. Policy can't have duplicate task entries and there is only one task per path. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **file-directory-security-policy-task**

[top]

File security policy task management When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **access-control** | | access-control optional | Access Control Level Attributes: non-creatable, non-modifiable Possible values:<br>• "file_directory" ,<br>• "slag" |
| **ntfs-mode** | | ntfs-propagation-mode optional | NTFS Propagation Mode Attributes: non-creatable, non-modifiable Possible values:<br>• "propagate" ,<br>• "ignore" ,<br>• "replace" |

| | | | |
|---|---|---|---|
| **ntfs-sd** | | file-security-ntfs-sd[] optional | NTFS Security Descriptor Name Attributes: non-creatable, non-modifiable |
| **path** | | string optional | Path Attributes: key, non-creatable, non-modifiable |
| **policy-name** | | file-security-policy-name optional | Policy Name Attributes: key, non-creatable, non-modifiable |
| **security-type** | | security-type optional | Security Type Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "ntfs" ,<br>• "nfsv4" |
| **task-index-number** | **[1..10000]** | integer optional | Position Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **file-security-ntfs-sd**

[top]

NTFS file security descriptor identifier. This can be any valid text input.

[none]

# Element definition: **file-security-policy-name**

[top]

The file/folder security policy identifier. This can be any valid text.

[none]

# Element definition: **fsecurity-acl**

[top]

Security access control list.

[none]

# Element definition: **inheritance-level**

[top]

this-folder|sub-folders|files Possible values:

- "this_folder" ,
- "sub_folders" ,
- "files"

[none]

## Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

## Element definition: **name-or-sid** [top]

An user or group name that is specified in the form of valid username/groupname with domain or valid SID string

[none]

## Element definition: **ntfs-propagation-mode** [top]

propagate|ignore|replace Possible values:

- "propagate" ,
- "ignore" ,
- "replace"

[none]

## Element definition: **security-style-enum** [top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

## Element definition: **security-type** [top]

ntfs|nfsv4 Possible values:

- "ntfs" ,
- "nfsv4"

[none]

## Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

## Element definition: **access-control**

[top]

file-directory|slag Possible values:

- "file_directory" ,
- "slag"

[none]

## Element definition: **access-rights**

[top]

no-access|full-control|modify|read-and-execute|read|write Possible values:

- "no_access" ,
- "full_control" ,
- "modify" ,
- "read_and_execute" ,
- "read" ,
- "write"

[none]

## Element definition: **access-type**

[top]

deny|allow Possible values:

- "deny" ,
- "allow"

[none]

## Element definition: **advanced-access-rights**

[top]

Advanced access right Possible values:

- "read_data" ,
- "write_data" ,
- "append_data" ,
- "read_ea" ,
- "write_ea" ,
- "execute_file" ,
- "delete_child" ,
- "read_attr" ,
- "write_attr" ,
- "delete" ,
- "read_perm" ,
- "write_perm" ,
- "write_owner" ,
- "full_control"

[none]

## Element definition: **audit-access-type**

[top]

failure|success Possible values:

- "failure" ,
- "success"

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **fileservice-audit**


fileservice-audit-config-create
fileservice-audit-config-get
fileservice-audit-config-get-iter
fileservice-audit-config-get-total-records
fileservice-audit-config-modify
fileservice-audit-disable
fileservice-audit-enable
fileservice-audit-remove
fileservice-audit-repair
fileservice-audit-rotate-log


This set of ZAPIs help manage the File Service Audit settings for auditing file access over CIFS and NFS, CIFS logon, logoff and management events.

## fileservice-audit-config-create

[top]

Create audit configuration for a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination** | | string | Audit log destination path. The path where consolidated audit logs are stored. If the path is not valid, the api returns error |
| **events** | | audit-events[] optional | The Categories of events that will be audited. Default: file_ops,cifs_logon_logoff,audit-policy-change Possible values:<br>• "file_ops" - File Operation Events,<br>• "cifs_logon_logoff" - CIFS Logon and Logoff Events,<br>• "cap_staging" - Central Access Policy Staging Events,<br>• "file_share" - File Share Category Events,<br>• "audit_policy_change" - Audit Policy Change Events,<br>• "user_account" - Local User Account Management Events,<br>• "authorization_policy_change" - Authorization Policy Change Events,<br>• "security_group" - Local Security Group Management Events,<br>• "async_delete" - Volume File Async Delete Events |
| **format** | | audit-format optional | The format in which the logs would be generated by consolidation process. Default: evtx Possible values:<br>• "xml" - Data ONTAP-Specific XML Log Format,<br>• "evtx" - Microsoft Windows EVTX Log Format |
| **retention-duration** | | elapsed-time-ext optional | Audit log files retention duration. A value of 0d0h0m0s indicates that all the files will be retained. This parameter is mutually exclusive with rotate-limit. Do not use this parameter along with rotate-limit parameter. Default: 0s |

| | | | |
|---|---|---|---|
| **return-record** | | boolean optional | If set to true, returns the fileservice-audit-config on successful creation. Default: false |
| **rotate-limit** | **[0..2^32-1]** | integer optional | Audit log files rotation Limit. A value of 0 indicates that all the files will be retained. This parameter is mutually exclusive with retention-duration. Do not use this parameter along with retention-duration parameter. Default: 0 |
| **rotate-schedule-day** | | cron-day-of-month[] optional | Audit log rotation schedule: Day. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| **rotate-schedule-dayofweek** | | cron-day-of-week[] optional | Audit log rotation schedule: Day of Week. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| **rotate-schedule-hour** | | cron-hour[] optional | Audit log rotation schedule: Hour. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| **rotate-schedule-minute** | | cron-minute[] optional | Audit Log rotation schedule: Minute. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| **rotate-schedule-month** | | cron-month[] optional | Audit log rotation schedule: Month. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| **rotate-size** | | audit-rotate-size-or-dash optional | Audit log file size limit. By default rotation is done based on size. This parameter is mutually exclusive with time related rotate parameters. If time based rotation is needed use the time based rotation parameters(rotate-schedule-month, rotate-schedule-dayofweek, rotate-schedule-day... etc). Default: 100MB |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | fileservice-audit-config optional | The fileservice-audit-config created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# fileservice-audit-config-get

[top]

Show Audit configuration details for a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fileservice-audit-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | fileservice-audit-config | The attributes of the fileservice-audit-config. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# fileservice-audit-config-get-iter

[top]

Show Audit configuration details for all Vservers

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | fileservice-audit-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | fileservice-audit-config optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fileservice-audit-config object. All fileservice-audit-config objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | fileservice-audit-config[] optional | The list of attributes of fileservice-audit-config objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more fileservice-audit-config objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# fileservice-audit-config-get-total-records

[top]

Return the total number of records

| Output Name | Range | Type | Description |
|---|---|---|---|
| count | [0..2^64-1] | integer | The total number of fileservice-audit-config objects. |

# fileservice-audit-config-modify

[top]

Modify audit configuration for a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **audit-guarantee** | | boolean optional | Strict guarantee of auditing for a Vserver. If this is true, file access is denied if audit record can not be generated and if this is false, auditing is done on a best effort basis. Default: true |
| **destination** | | string optional | Audit log destination path. The path where consolidated audit logs are stored. If the path is not valid, the api returns error |
| **events** | | audit-events[] optional | The Categories of events that will be audited. Default: file_ops,cifs_logon_logoff,audit-policy-change Possible values:<br>• "file_ops" - File Operation Events,<br>• "cifs_logon_logoff" - CIFS Logon and Logoff Events,<br>• "cap_staging" - Central Access Policy Staging Events,<br>• "file_share" - File Share Category Events,<br>• "audit_policy_change" - Audit Policy Change Events,<br>• "user_account" - Local User Account Management Events,<br>• "authorization_policy_change" - Authorization Policy Change Events,<br>• "security_group" - Local Security Group Management Events,<br>• "async_delete" - Volume File Async Delete Events |
| **format** | | audit-format optional | The format in which the logs would be generated by consolidation process. Default: evtx Possible values:<br>• "xml" - Data ONTAP-Specific XML Log Format,<br>• "evtx" - Microsoft Windows EVTX Log Format |
| **retention-duration** | | elapsed-time-ext optional | Audit log files retention duration. A value of 0d0h0m0s indicates that all the files will be retained. This parameter is mutually exclusive with rotate-limit. Do not use this parameter along with rotate-limit parameter. Default: 0s |
| **rotate-limit** | **[0..2^32-1]** | integer optional | Audit log files rotation Limit. A value of 0 indicates that all the files will be retained. This parameter is mutually exclusive with retention-duration. Do not use this parameter along with retention-duration parameter. Default: 0 |
| **rotate-schedule-day** | | cron-day-of-month[] optional | Audit log rotation schedule: Day. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| **rotate-schedule-dayofweek** | | cron-day-of-week[] optional | Audit log rotation schedule: Day of Week. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| **rotate-schedule-hour** | | cron-hour[] optional | Audit log rotation schedule: Hour. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| **rotate-schedule-minute** | | cron-minute[] optional | Audit Log rotation schedule: Minute. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| **rotate-schedule-month** | | cron-month[] optional | Audit log rotation schedule: Month. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter |
| | | audit-rotate- | Audit log file size limit. By default rotation is done based on size. This parameter is mutually exclusive with time related rotate parameters. |

| | | | |
|---|---|---|---|
| **rotate-size** | | size-or-dash optional | If time based rotation is needed use the time based rotation parameters(rotate-schedule-month, rotate-schedule-dayofweek, rotate-schedule-day... etc). Default: 100MB |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# fileservice-audit-disable

[top]

Disable Auditing for specified Vserver

| Errno | Description |
|---|---|
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# fileservice-audit-enable

[top]

Enable Auditing for specified Vserver.

Events on FlexGroup volumes will not be emitted to the audit log.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force Enable |

| Errno | Description |
|---|---|
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **ENOSTAGINGVOLUME** | |

# fileservice-audit-remove

[top]

Disable Audit Configuration for specified vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force Delete |

| Errno | Description |
|---|---|
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# fileservice-audit-repair

[top]

Repair the audit infrastructure

| Errno | Description |
|---|---|
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# fileservice-audit-rotate-log

[top]

Rotate audit log for specified vserver

| Errno | Description |
|---|---|
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **audit-events**

[top]

file-ops|cifs-logon-logoff|cap-staging|file-share|audit-policy-change|user-account|authorization-policy-change|security-group|async-delete Possible values:

- "file_ops" - File Operation Events,
- "cifs_logon_logoff" - CIFS Logon and Logoff Events,
- "cap_staging" - Central Access Policy Staging Events,
- "file_share" - File Share Category Events,
- "audit_policy_change" - Audit Policy Change Events,
- "user_account" - Local User Account Management Events,
- "authorization_policy_change" - Authorization Policy Change Events,
- "security_group" - Local Security Group Management Events,
- "async_delete" - Volume File Async Delete Events

[none]

# Element definition: **audit-format**

[top]

xml|evtx Possible values:

- "xml" - Data ONTAP-Specific XML Log Format,
- "evtx" - Microsoft Windows EVTX Log Format

[none]

## Element definition: **audit-rotate-size-or-dash** [top]

[none]

## Element definition: **cron-day-of-month** [top]

Job Manager cron scheduling day of month. -1 represents all days of a month from 1 to 31, and only supported for cron schedule create and modify. Range : [-1..31].

[none]

## Element definition: **cron-day-of-week** [top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

## Element definition: **cron-hour** [top]

Job Manager cron scheduling hour. -1 represents all hours and only supported for cron schedule create and modify. Range : [-1..23].

[none]

## Element definition: **cron-minute** [top]

Job Manager cron scheduling minute. -1 represents all minutes and only supported for cron schedule create and modify. Range : [-1..59].

[none]

## Element definition: **cron-month** [top]

Job Manager cron scheduling month. -1 represents all months and only supported for cron schedule create and modify. Range : [-1..11].

[none]

# Element definition: **elapsed-time-ext**

[top]

The difference between the two points in time.

[none]

# Element definition: **fileservice-audit-config**

[top]

Vserver Audit configuration and management on name When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **audit-guarantee** | | boolean optional | Strict guarantee of auditing for a Vserver. If this is true, file access is denied if audit record can not be generated and if this is false, auditing is done on a best effort basis. Default: true Attributes: non-creatable, modifiable |
| **destination** | | string optional | Audit log destination path. The path where consolidated audit logs are stored. If the path is not valid, the api returns error Attributes: required-for-create, modifiable |
| **events** | | audit-events[] optional | The Categories of events that will be audited. Default: file_ops,cifs_logon_logoff,audit-policy-change Attributes: optional-for-create, modifiable Possible values:<br>• "file_ops" - File Operation Events,<br>• "cifs_logon_logoff" - CIFS Logon and Logoff Events,<br>• "cap_staging" - Central Access Policy Staging Events,<br>• "file_share" - File Share Category Events,<br>• "audit_policy_change" - Audit Policy Change Events,<br>• "user_account" - Local User Account Management Events,<br>• "authorization_policy_change" - Authorization Policy Change Events,<br>• "security_group" - Local Security Group Management Events,<br>• "async_delete" - Volume File Async Delete Events |
| **format** | | audit-format optional | The format in which the logs would be generated by consolidation process. Default: evtx Attributes: optional-for-create, modifiable Possible values:<br>• "xml" - Data ONTAP-Specific XML Log Format,<br>• "evtx" - Microsoft Windows EVTX Log Format |

| | | | |
|---|---|---|---|
| **is-enabled** | | boolean optional | Auditing State. Default: false Attributes: non-creatable, non-modifiable |
| **retention-duration** | | elapsed-time-ext optional | Audit log files retention duration. A value of 0d0h0m0s indicates that all the files will be retained. This parameter is mutually exclusive with rotate-limit. Do not use this parameter along with rotate-limit parameter. Default: 0s Attributes: optional-for-create, modifiable |
| **rotate-limit** | **[0..2^32-1]** | integer optional | Audit log files rotation Limit. A value of 0 indicates that all the files will be retained. This parameter is mutually exclusive with retention-duration. Do not use this parameter along with retention-duration parameter. Default: 0 Attributes: optional-for-create, modifiable |
| **rotate-schedule-day** | | cron-day-of-month[] optional | Audit log rotation schedule: Day. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable |
| **rotate-schedule-dayofweek** | | cron-day-of-week[] optional | Audit log rotation schedule: Day of Week. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable |
| **rotate-schedule-hour** | | cron-hour[] optional | Audit log rotation schedule: Hour. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable |
| **rotate-schedule-minute** | | cron-minute[] optional | Audit Log rotation schedule: Minute. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable |
| **rotate-schedule-month** | | cron-month[] optional | Audit log rotation schedule: Month. By Default rotation is done based on size. This parameter is mutually exclusive with rotate-size. Do not use this parameter along with rotate-size parameter Attributes: optional-for-create, modifiable |
| **rotate-size** | | audit-rotate-size-or-dash optional | Audit log file size limit. By default rotation is done based on size. This parameter is mutually exclusive with time related rotate parameters. If time based rotation is needed use the time based rotation parameters(rotate-schedule-month, rotate-schedule-dayofweek, rotate-schedule-day... etc). Default: 100MB Attributes: optional-for-create, modifiable |
| **rotation-schedule-description** | | string optional | Rotation schedules derived from rotation time related parameters Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **audit-events**

[top]

file-ops|cifs-logon-logoff|cap-staging|file-share|audit-policy-change|user-account|authorization-policy-change|security-group|async-delete Possible values:

- "file_ops" - File Operation Events,
- "cifs_logon_logoff" - CIFS Logon and Logoff Events,
- "cap_staging" - Central Access Policy Staging Events,
- "file_share" - File Share Category Events,
- "audit_policy_change" - Audit Policy Change Events,
- "user_account" - Local User Account Management Events,

"authorization_policy_change" - Authorization Policy Change Events,
- "security_group" - Local Security Group Management Events,
- "async_delete" - Volume File Async Delete Events

[none]

## Element definition: **audit-format** [top]

xml|evtx Possible values:

- "xml" - Data ONTAP-Specific XML Log Format,
- "evtx" - Microsoft Windows EVTX Log Format

[none]

## Element definition: **audit-rotate-size-or-dash** [top]

[none]

## Element definition: **cron-day-of-month** [top]

Job Manager cron scheduling day of month. -1 represents all days of a month from 1 to 31, and only supported for cron schedule create and modify. Range : [-1..31].

[none]

## Element definition: **cron-day-of-week** [top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

## Element definition: **cron-hour** [top]

Job Manager cron scheduling hour. -1 represents all hours and only supported for cron schedule create and modify. Range : [-1..23].

[none]

## Element definition: **cron-minute**

[top]

Job Manager cron scheduling minute. -1 represents all minutes and only supported for cron schedule create and modify. Range : [-1..59].

[none]

## Element definition: **cron-month**

[top]

Job Manager cron scheduling month. -1 represents all months and only supported for cron schedule create and modify. Range : [-1..11].

[none]

## Element definition: **elapsed-time-ext**

[top]

The difference between the two points in time.

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **flash**


flash-get-thresholds
flash-thresholds-get-iter


The Flash Management Module (FMM) is the management interface to access information about flash devices in the system.

## flash-get-thresholds

[top]

Get threshold profiles available in Flash Management Module.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | The name of the system to which the flash thresholds apply. |
| **profile** | | string optional | Name of the threshold profile. If not provided, all available profiles will be printed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **flash-threshold-profile** | | flash-threshold-profile[] optional | A collection of failure threshold entries. |

## flash-thresholds-get-iter

[top]

Iterate over a list of Flash Cache threshold profiles objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | flash-threshold-profile optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | flash-threshold-profile optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Flash Cache threshold profiles object. All Flash Cache threshold profiles objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | flash-threshold-profile[] optional | The list of attributes of Flash Cache threshold profiles objects. |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Flash Cache threshold profiles objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **flash-threshold-profile**

[top]

A definition for a threshold element

| Name | Range | Type | Description |
|---|---|---|---|
| **flash-threshold** | | flash-threshold[] | The list of threshold entries for this profile. |
| **node** | | string | The name of the system to which the flash thresholds apply. |
| **profile** | | string | The name of the profile in plain text. |

# Element definition: **flash-threshold**

[top]

A definition for a threshold element. Each threshold specifies what level of errors or failures the specified domain can sustain before the specified action is taken.

| Name | Range | Type | Description |
|---|---|---|---|
| **action** | | string | Action to be taken if this threshold is exceeded. Possible values: "log an EMS event", "log an EMS_event, and disable the 'domain'", "log an EMS event, and send an AutoSupport message", "log an EMS event, send an AutoSupport message, and disable the 'domain'" |
| **domain** | | string | The type of domain. Possible values: "card", "bank", "chip" (in Data ONTAP 7.3.x to 8.1) or "lun" (from Data ONTAP 8.2 onwards). |
| **threshold-units** | | string | The metric for threshold. Possible values: "count", or "percentage". |
| **threshold-value** | **[0..2^31-1]** | integer | Threshold value in 'threshold-units'. |
| **time-slice** | | string | The time slice. Available if the 'threshold-unit' is "count". If not, output will say 'none'. Possible values: "none", "seconds", "minutes", or "hours". |

# APIs in Category: **flash-device**


flash-device-get-iter
flash-device-list-info


Flash Cache is the caching device. This interface is used to access information about Flash Cache devices in the system.

## flash-device-get-iter

[top]

Iterate over a list of Flash Cache device info objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | flash-device-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | flash-device-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Flash Cache device info object. All Flash Cache device info objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | flash-device-info[] optional | The list of attributes of Flash Cache device info objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Flash Cache device info objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## flash-device-list-info

[top]

Get a collection of Flash Cache device info objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node |
| **slot-number** | | integer | Slot |

| | | | |
|---|---|---|---|
| | | optional | |
| **subslot-number** | | integer optional | Subslot |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **flash-device-info** | | flash-device-info[] optional | Information about Flash Cache devices |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **flash-device-info**

[top]

Information about Flash Cache devices When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **average-erase-cycle-count** | **[0..2^64-1]** | integer optional | Avg Erase Cycle Count Attributes: non-creatable, non-modifiable |
| **capacity** | **[0..2^32-1]** | integer optional | Capacity Attributes: non-creatable, non-modifiable |
| **device-id** | **[0..2^32-1]** | integer optional | Device ID Attributes: key, non-creatable, non-modifiable |
| **firmware-file** | | string optional | Firmware Filename Attributes: non-creatable, non-modifiable |
| **firmware-revision** | | string optional | Firmware Version Attributes: non-creatable, non-modifiable |
| **hardware-revision** | | string optional | Hardware Revision Attributes: non-creatable, non-modifiable |
| **last-change-time** | **[0..2^32-1]** | integer optional | Time Last State Change Attributes: non-creatable, non-modifiable |
| **model-name** | | string optional | Model Number Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **part-number** | | string optional | Part Number Attributes: non-creatable, non-modifiable |
| **percent-online** | **[0..2^32-1]** | integer optional | Percent Online Attributes: non-creatable, non-modifiable |
| **serial-number** | | string optional | Serial Number Attributes: non-creatable, non-modifiable |
| **service-time** | **[0..2^64-** | integer | Service Time Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| | **1]** | optional | |
| **slot-number** | **[0..2^32-1]** | integer optional | Slot Attributes: key, non-creatable, non-modifiable |
| **slot-string** | | string optional | Slot String Attributes: non-creatable, non-modifiable |
| **status** | | fc-dev-status optional | Device State Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "ok" ,<br>• "erasing" ,<br>• "erased" ,<br>• "failed" ,<br>• "removed" ,<br>• "online" ,<br>• "offline_failed" ,<br>• "degraded" ,<br>• "offline_threshold" |
| **subslot-number** | **[0..2^32-1]** | integer optional | Subslot Attributes: key, non-creatable, non-modifiable |
| **threshold-profile** | | string optional | Threshold Profile Attributes: non-creatable, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **fc-dev-status**

[top]

ok|erasing|erased|failed|removed|online|offline_failed|degraded|offline_threshold Possible values:

- "ok" ,
- "erasing" ,
- "erased" ,
- "failed" ,
- "removed" ,
- "online" ,
- "offline_failed" ,
- "degraded" ,
- "offline_threshold"

[none]

# APIs in Category: **flexcache**


flexcache-connected-cache-get-iter
flexcache-create-async
flexcache-default-size-get
flexcache-destroy-async
flexcache-get-iter
flexcache-origin-cleanup-cache-relationship
flexcache-origin-config-get-iter
flexcache-origin-config-modify
flexcache-usage-get


This set of APIs allow configuring and managing FlexCache on Data ONTAP Cluster-Mode environment.

## flexcache-connected-cache-get-iter

[top]

Retrieve connected cache information. This must be run at the origin cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | flexcache-origin-connected-cache-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | flexcache-origin-connected-cache-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the flexcache-origin object. All flexcache-origin objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | flexcache-origin-connected-cache-info[] optional | The list of attributes of flexcache-origin objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more flexcache-origin objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EVSERVERNOTFOUND | |
| EINTERNALERROR | |

# flexcache-create-async

[top]

Create a cache relationship. This must be run at the cache cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| aggr-list | | aggr-name[] optional | The array of aggregates which are used for FlexGroup constituents. Each aggregate in the array will host at least one FlexGroup constituent. |
| aggr-list-multiplier | | integer optional | Aggregate list repeat count |
| auto-provision-as | | autoprovisionvolumetype optional | Automatically provision as volume of type |
| is-disconnected-mode-off-for-locks | | boolean optional | Specifies if the origin will honor the cache side locks when doing the lock checks in the disconnected mode. The default value will be set to false to allow origin to skip such lock checks with the disconnected cache and go ahead with processing of the conflicting locks. If set to true the origin denies the lock operation (open or byte-range) if it conflicts with the authority granted to the disconnected cache. |
| is-global-file-locking-enabled | | boolean optional | Global file locking mode |
| is-writeback-enabled | | boolean optional | Writeback for FlexCache |
| junction-path | | junction-path optional | Junction path of the cache volume |
| origin-volume | | volume-name | The name of the origin volume for the cache volume. |
| origin-vserver | | xc-vs-name optional | The name of origin Vserver where the origin volume resides |
| per-inode-dirty-limit | | integer optional | Flexcache Per Inode Dirty Limit |
| size | | size optional | Size of cache volume |
| space-guarantee | | space-guarantee-enum optional | Flexcache volume space guarantee type |
| use-tiered-aggregate | | boolean optional | Flexcache volume uses fabricpool aggregate |
| volume | | volume-name | The name of the cache volume. |
| writeback-scrub-watermark | | integer optional | Flexcache Writeback Scrub Watermark |
| writeback-transfer-limit | | integer optional | Flexcache Writeback Transfer Limit |

| Output Name | Range | Type | Description |
|---|---|---|---|
| result-error-code | [0..2^32-1] | integer optional | Error code, if the operation caused an error. |
| result-error-message | | string optional | Error description, if the operation caused an error. |
| result-jobid | [0..2^64-1] | integer optional | The ID of the job that was spawned to create this flexcache. |
| result-status | | string optional | The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| ESERVICENOTLICENSED | |
| EVSERVERNOTFOUND | |
| EVOLUMENAMEINVALID | |
| EINVALIDINPUTERROR | |
| EVSERVER_OP_NOT_ALLOWED | |
| EOBJECTNOTFOUND | |
| EVOLALREADYMOUNTED | |
| EINSUFFICIENTAGGREGATES | |
| E_OLV_FLEXGROUP_PROVISIONING_AGGR_NOT_ENOUGH_FREE_SPACE | |
| E_OLV_CANT_CALCULATE_MAX_CONSTITUENT_SIZE | |
| E_OLV_CONSTITUENT_SIZE_TOO_BIG | |
| E_OLV_CONSTITUENT_SIZE_TOO_SMALL | |
| E_OLV_AGGR_OFFLINE | |
| EOP_DISALLOWED_ON_SNAPLOCK_AGGR | |
| EOP_DISALLOWED_ON_UNKNOWN_STATE_AGGR | |
| E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE | |
| E_OLV_FG_MCC_UNSUPPORTED | |
| E_OLV_FG_TOO_MANY_CONSTITUENTS | |
| E_OLV_OPERATIONS_CONFLICT | |
| E_OLV_FG_MAX_CONSTITUENT_SIZE_TOO_SMALL | |
| E_OLV_FLEXGROUP_CREATE_SIZE_UNDER_MINIMUM | |
| E_OLV_FLEXGROUP_CREATE_SIZE_OVER_MAXIMUM | |
| EVOLEXISTS | |

# flexcache-default-size-get

[top]

Get recommended FlexCache size

| Input Name | Range | Type | Description |
|---|---|---|---|
| origin-size | [0..2^64-1] | integer | Origin Size |

| Output Name | Range | Type | Description |
|---|---|---|---|
| flexcache-size | [0..2^64-1] | integer | FlexCache Size |

| | | optional | |
|---|---|---|---|

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# flexcache-destroy-async

[top]

Delete a cache relationship. This must be run at the cache cluster. A job will be spawned to operate on the flexcache and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| volume | | volume-name | The name of the cache volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| result-error-code | [0..2^32-1] | integer optional | Error code, if the operation caused an error. |
| result-error-message | | string optional | Error description, if the operation caused an error. |
| result-jobid | [0..2^64-1] | integer optional | Job Id, if this operation was performed via a job. |
| result-status | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# flexcache-get-iter

[top]

Get a set of cache relationships. This must be run at the cache cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | flexcache-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | flexcache-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the flexcache object. All flexcache objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | flexcache-info[] optional | The list of attributes of flexcache objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more flexcache objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# flexcache-origin-cleanup-cache-relationship

[top]

Cleanup cache relationship. This must be run at the origin cluster.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **FEATURE/COMMAND_NOT_SUPPORTED** | |

# flexcache-origin-config-get-iter

[top]

Get FlexCache origin configuration for all origin volume. This must be run at the origin cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | flexcache-origin-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | flexcache-origin-config optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the flexcache-origin-config object. All flexcache-origin-config objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | flexcache-origin-config[] optional | The list of attributes of flexcache-origin-config objects. |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more flexcache-origin-config objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# flexcache-origin-config-modify

[top]

Modify the FlexCache origin configuration. This must be run at the origin cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-bli-enabled** | | boolean optional | Is BLI Enabled. |
| **is-global-file-locking-enabled** | | boolean optional | Is Global File Locking Enabled. |
| **origin-volume** | | volume-name | Name of the origin volume. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# flexcache-usage-get

[top]

Get the capacity used by FlexCache

| Output Name | Range | Type | Description |
|---|---|---|---|
| **used-size** | **[0..2^64-1]** | integer optional | Total FlexCache Size |
| **used-size-pct** | **[0..2^64-1]** | integer optional | Percentage of Licensed Capacity Used |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **autoprovisionvolumetype** [top]

FlexGroup Possible values:

- "flexgroup"

[none]

# Element definition: **flexcache-info** [top]

Information about the cache relationship When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] optional | The array of aggregates which are used for FlexGroup constituents. Each aggregate in the array will host at least one FlexGroup constituent. Attributes: optional-for-create, non-modifiable |
| **create-time** | | date optional | FlexCache Volume Create Time Attributes: non-creatable, non-modifiable |
| **flexgroup-msid** | **[0..2^64-1]** | integer optional | Cache volume's FlexGroup MSID Attributes: non-creatable, non-modifiable |
| **junction-path** | | junction-path optional | Junction path of the cache volume Attributes: optional-for-create, non-modifiable |
| **origin-cluster** | | cluster-name optional | The name of the origin cluster, where the origin Vserver and origin volume reside Attributes: non-creatable, non-modifiable |
| **origin-volume** | | volume-name optional | The name of the origin volume for the cache volume. Attributes: required-for-create, non-modifiable |
| **origin-volume-msid** | **[0..2^64-1]** | integer optional | Origin volume's MSID Attributes: non-creatable, non-modifiable |
| **origin-vserver** | | xc-vs-name optional | The name of origin Vserver where the origin volume resides Attributes: optional-for-create, non-modifiable |
| **origin-vserver-uuid** | | uuid optional | Origin Vserver UUID Attributes: non-creatable, non-modifiable |
| **size** | | size optional | Size of cache volume Attributes: optional-for-create, non-modifiable |
| | | space- | Flexcache volume space guarantee type Attributes: optional-for-create, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **space-guarantee** | | guarantee-enum optional | • "none" ,<br>• "volume" |
| **volume** | | volume-name optional | The name of the cache volume. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | The name of the Vserver which owns the volume. Attributes: key, non-creatable, non-modifiable |

# Element definition: **flexcache-origin-config**

[top]

FlexCache Origin Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-bli-enabled** | | boolean optional | Is BLI Enabled. Attributes: non-creatable, modifiable |
| **is-global-file-locking-enabled** | | boolean optional | Is Global File Locking Enabled. Attributes: non-creatable, modifiable |
| **origin-volume** | | volume-name optional | Name of the origin volume. Attributes: key, non-creatable, non-modifiable |
| **origin-vserver** | | vserver-name optional | Name of the origin Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **flexcache-origin-connected-cache-info**

[top]

Information of caches connected to the origin When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cache-** | | cluster-name | Name of the cache cluster. Attributes: non-creatable, non- |

| | | | |
|---|---|---|---|
| **cluster** | | optional | modifiable |
| **cache-volume** | | volume-name optional | Name of the cache volume. Attributes: key, non-creatable, non-modifiable |
| **cache-vserver** | | xc-vs-name optional | Name of the cache Vserver. Attributes: key, non-creatable, non-modifiable |
| **origin-volume** | | volume-name optional | Name of the origin volume. Attributes: key, non-creatable, non-modifiable |
| **origin-vserver** | | vserver-name optional | Name of the origin Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **junction-path**

[top]

The Junction Path.

The fully-qualified pathname in the owning Vserver's namespace at which a volume is mounted. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'.

An example of a valid FlexVol or FlexGroup junction path is: '/user/my_volume'. An example of a valid Infinite Volume junction path is: '/repository'.

Only one volume can be mounted at any given junction path.

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **space-guarantee-enum**

[top]

none|volume Possible values:

- "none" ,
- "volume"

[none]

[top]

# Element definition: **volume-name**

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **xc-vs-name**

[top]

Cross Cluster Vserver Name

[none]

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

# Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **fpolicy**


fpolicy-create-policy
fpolicy-destroy-policy
fpolicy-disable
fpolicy-disable-policy
fpolicy-enable
fpolicy-enable-policy
fpolicy-extensions
fpolicy-extensions-list-info
fpolicy-get-policy-options
fpolicy-get-required-info
fpolicy-get-secondary-servers-info
fpolicy-list-info
fpolicy-operations-list-set
fpolicy-passthrough-read-connection-get-iter
fpolicy-policy-create
fpolicy-policy-delete
fpolicy-policy-event-create
fpolicy-policy-event-delete
fpolicy-policy-event-get-iter
fpolicy-policy-event-modify
fpolicy-policy-external-engine-create
fpolicy-policy-external-engine-delete
fpolicy-policy-external-engine-get-iter
fpolicy-policy-external-engine-modify
fpolicy-policy-get-iter
fpolicy-policy-modify
fpolicy-policy-scope-create
fpolicy-policy-scope-delete
fpolicy-policy-scope-get-iter
fpolicy-policy-scope-modify
fpolicy-policy-status-get-iter
fpolicy-server-connect
fpolicy-server-disconnect
fpolicy-server-list-info
fpolicy-server-status-get-


This set of APIs enables programmatic control of policy life cycle including: creation, enablement, configuration, monitoring, and deletion. Also, it includes commands for server monitoring and control, as well as notification filtering based on file extension. FPolicy APIs provided for Data ONTAP Clustered-Mode environment enables in creating/modifying/deleting/retrieving following FPolicy entities:

1. Event: This collectively specifies the protocols, fileops, for which notification is generated.

2. Scope: This specifies the scope on which FPolicy will be working on. A scope can be on a volume, share, or a export policy. Scope also contains the file extensions.

3. External-Engine: This specifies the attributes required for a notification to be sent to external FPolicy servers.

4. Policy: Once an event and external engine is created, it can be attached to a policy. A scope has to be defined for a policy before it is enabled to run.

iter
fpolicy-server-stop
fpolicy-set-policy-options
fpolicy-set-required
fpolicy-set-secondary-servers
fpolicy-status
fpolicy-volume-list-info
fpolicy-volume-list-set

# fpolicy-create-policy

[top]

Creates a new policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | Name of the policy. |
| **policy-type** | | string | Type of the policy. Possible values: "screen". |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-destroy-policy

[top]

Destroys existing policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | Name of the policy. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-disable

[top]

Sets options fpolicy enable to off.

| Errno | Description |
| --- | --- |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

# fpolicy-disable-policy

[top]

Disables a specific named policy.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| policy-name | | string | Name of the policy. |

| Errno | Description |
| --- | --- |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |
| EVSERVERNOTFOUND | |
| ELOWMEMORY | |
| EPOLICYNOTFOUND | |

| Vfiler-enabled |
| --- |
| Yes |

# fpolicy-enable

[top]

Sets options fpolicy enable to on. Events on FlexGroup volumes will not notify the FPolicy server

| Errno | Description |
| --- | --- |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

# fpolicy-enable-policy

[top]

Enables a specific named policy. The operation will fail if the policy doesn't exist.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| policy-name | | string | Name of the policy. |

| | | | |
|---|---|---|---|
| **sequence-number** | | integer | Policy Sequence Number |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ELOWMEMORY** | |
| **EPOLICYNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-extensions

[top]

Manipulates with list of extensions in exclude or include set. Exlude set defines extension patterns that won't trigger fpolicy processing.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **command** | | string | Command to be applied on the specified set. Supported values: "add", "remove", "set", "reset". |
| **extensions** | | extension-list-info[] optional | List of extensions. This element is required if the the command input value is "add", "set" or "remove". |
| **policy-name** | | string | Name of the policy. |
| **set-name** | | string | Defines to which set (exclude or include) a command (add, remove, etc) will be applied to. For instance, command = add, set-name = include will add specified list of extensions to the include set. Possible values: "exclude", "include". |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-extensions-list-info

[top]

Returns information on existing extension sets.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | Name of the policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **exclude-extensions** | | extension-list-info[] | List of file extensions that are excluded from the file policy. |
| **include-extensions** | | extension-list-info[] | List of file extensions that are included in the file policy. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-get-policy-options

[top]

Shows value of policy options.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | Name of the policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-ads-monitored** | | boolean optional | Indicator if the policy monitors the cifs operations on Alternate Data Streams. |
| **is-cifs-disconnect-check-enabled** | | boolean | 'true' if requests associated with disconnected CIFS sessions must not be screened, 'false' otherwise. |
| **is-cifs-setattr-enabled** | | boolean | Indicator whether cifs-setattr support is enabled on this policy or not. If set to true, cifs setattr operations will be screened. |
| **is-required** | | boolean | Indicator if the screening with this policy is required, i.e. will it fail if the server is not registered. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. |
| **reqcancel-timeout** | | integer | Timeout (in secs) for a screen request to be processed by an FPolicy server. Range : [0..4294967]. |
| **secondary-servers** | | secondary-server-info[] | List of server's IP addresses. Servers registered from these IP will be considered as secondary servers. |
| **serverprogress-timeout** | | integer | Timeout (in secs) in which a throttled FPolicy server must complete at least one screen request. Range : [0..4294967]. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-get-required-info

[top]

Shows current options for the policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | Name of the policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-required** | | boolean | Indicator if the policy is required, i.e. will it fail if the server is not responding. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-get-secondary-servers-info

[top]

Shows current options for the policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | Name of the policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **secondary-servers** | | secondary-server-info[] | List of servers' IP addresses. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-list-info

[top]

Returns a list of existing policies.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string optional | Name of the policy. If this parameter is set, policies will have information pertaining to the policy named. If there is no such a policy, policies will be empty. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **policies** | | policy-info[] | List of policies. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-operations-list-set

[top]

Manipulate a list of operations and network protocols for a policy. This determines which user requests cause the filer to notify fpolicy servers for this policy. The list provided will replace the list currently in place, if any. Note that this can be confusing to a server which has already connected to a policy and provided a list of operations. For example, it may have requested notifications when users open files, but start receiving notifications when users create symlinks. This API is provided in support of "native file blocking" in which there is no server connected to the filer for a policy. Note that it is possible to get the list of operations and protocols currently set for a policy with the fpolicy-list-info API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | If a server is connected to the filer and has already set the list of operations, should this API override the server's setting? If "force" is "true", the policy's set of operations will be dropped and replaced with the values provided by this API. Default value is false. |
| **monitored-operations** | | monitored-operation-info[] | List of operations related values. |
| **monitored-protocols** | | monitored-protocol-info[] | List of protocol related values. |
| **offline-only** | | boolean optional | Sets the state of offline filtering. If offline filtering is set, then only user requests for files which are marked "offline" cause notifications. Default value is false. |
| **policy-name** | | string | Name of the policy. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-passthrough-read-connection-get-iter

[top]

Returns passthrough-read connection status information.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **desired-attributes** | | fpolicy-passthrough-read-connection-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fpolicy-passthrough-read-connection-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-passthrough-read-connection object. All fpolicy-passthrough-read-connection objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fpolicy-passthrough-read-connection-info[] optional | The list of attributes of fpolicy-passthrough-read-connection objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more fpolicy-passthrough-read-connection objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ESERVERNOTFOUND** | |
| **ENODENOTFOUND** | |
| **EPOLICYNOTFOUND** | |

# fpolicy-policy-create

[top]

Create a policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allow-privileged-access** | | boolean optional | Indicator if privileged access should be given to FPolicy servers registered for the policy. Default Value is no. |
| **engine-name** | | engine-name | Name of the Engine. Default Engine is 'native'. |
| **events** | | event-name[] | Events for file access monitoring. |
| | | | Indicator if the screening with this policy is required, i.e. it will fail if no |

| | | | |
|---|---|---|---|
| **is-mandatory** | | boolean optional | servers are able process the notification registered as a part of external engine. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. Default value is true. |
| **is-passthrough-read-enabled** | | boolean optional | Indicator if passthrough-read should be allowed to FPolicy servers registered for the policy. Default value is false. |
| **policy-name** | | policy-name | Name of the policy. |
| **privileged-user-name** | | string optional | User name for privileged access. No default value is set for this attribute. |
| **return-record** | | boolean optional | If set to true, returns the fpolicy-policy on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | fpolicy-policy-info optional | The fpolicy-policy created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EPOLICYEXISTS** | |
| **EEVENTNOTFOUND** | |
| **EENGINENOTFOUND** | |
| **E_PASSTHRU_READ_ENABLE_IN_POLICY** | |
| **E_PASSTHRU_READ_CAPABILITY_NOT_ENABLED** | |

# fpolicy-policy-delete

[top]

Delete a policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | policy-name | Name of the policy. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EPOLICYNOTFOUND** | |

# fpolicy-policy-event-create

[top]

Create FPolicy Event.

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **event-name** | | event-name | Name of the Event. |
| **file-operations** | | fpolicy-operation[] optional | Name of file operations. By default no operations are monitored. Possible values:<br>• "close" - File close operation,<br>• "create" - File create operation,<br>• "create_dir" - File create directory operation,<br>• "delete" - File delete operation,<br>• "delete_dir" - Directory delete operation,<br>• "getattr" - Get attribute operation,<br>• "link" - Link operation,<br>• "lookup" - Lookup operation,<br>• "open" - File open operation,<br>• "read" - File read operation,<br>• "write" - File write operation,<br>• "rename" - File rename operation,<br>• "rename_dir" - Directory rename operation,<br>• "setattr" - Set attribute operation,<br>• "symlink" - Symbolic link operation |
| **filter-string** | | fpolicy-filter[] optional | Name of filters. It is notification filtering parameters. By default no filters are selected. Possible values:<br>• "monitor_ads" - Monitor alternate data stream,<br>• "close_with_modification" - Filter close with modification,<br>• "close_without_modification" - Filter close without modification,<br>• "first_read" - Filter first read,<br>• "first_write" - Filter first write,<br>• "offline_bit" - Filter offline bit set,<br>• "open_with_delete_intent" - Filter open with delete intent,<br>• "open_with_write_intent" - Filter open with write intent,<br>• "write_with_size_change" - Filter write with size change,<br>• "close_with_read" - Filter close with read,<br>• "setattr_with_owner_change" - Filter file owner change,<br>• "setattr_with_group_change" - Filter file group change,<br>• "setattr_with_sacl_change" - Filter file sacl change,<br>• "setattr_with_dacl_change" - Filter file dacl change,<br>• "setattr_with_modify_time_change" - Filter file modify time change,<br>• "setattr_with_access_time_change" - Filter file access time change,<br>• "setattr_with_creation_time_change" - Filter file creation time change,<br>• "setattr_with_mode_change" - Filter file mode change,<br>• "setattr_with_size_change" - Filter file size change,<br>• "setattr_with_allocation_size_change" - Filter allocation size change,<br>• "exclude_directory" - Filter to exclude directory operations |
| **protocol** | | fpolicy-proto optional | Name of protocol for which event is created. By default no protocol is selected. Possible values:<br>• "cifs" - CIFS protocol,<br>• "nfsv3" - NFSv3 protocol,<br>• "nfsv4" - NFSv4 protocol |

| | | | |
|---|---|---|---|
| **return-record** | | boolean optional | If set to true, returns the fpolicy-policy-event on successful creation. Default: false |
| **volume-operation** | | boolean optional | Indicator if the volume operation required for the event.Default Value is false. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | fpolicy-event-options-config optional | The fpolicy-policy-event created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EEVENTEXISTS** | |

# fpolicy-policy-event-delete

[top]

Delete FPolicy event.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **event-name** | | event-name | Name of the Event. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EEVENTNOTFOUND** | |

# fpolicy-policy-event-get-iter

[top]

Get a list of rows for FPolicy event options. FPolicy event is consist of protocol, file operations, vo lume operation and filters.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fpolicy-event-options-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fpolicy-event-options-config optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy-event object. All fpolicy-policy-event objects matching this query up to 'max-records' will be returned. |

| | | | |
|---|---|---|---|
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fpolicy-event-options-config[] optional | The list of attributes of fpolicy-policy-event objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more fpolicy-policy-event objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EEVENTNOTFOUND** | |

# fpolicy-policy-event-modify

[top]

Set FPolicy event options. FPolicy event is consist of protocol, file operation, volume operation and f ilters.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **event-name** | | event-name | Name of the Event. |
| **file-operations** | | fpolicy-operation[] optional | Name of file operations. By default no operations are monitored. Possible values:<br>• "close" - File close operation,<br>• "create" - File create operation,<br>• "create_dir" - File create directory operation,<br>• "delete" - File delete operation,<br>• "delete_dir" - Directory delete operation,<br>• "getattr" - Get attribute operation,<br>• "link" - Link operation,<br>• "lookup" - Lookup operation,<br>• "open" - File open operation,<br>• "read" - File read operation,<br>• "write" - File write operation,<br>• "rename" - File rename operation,<br>• "rename_dir" - Directory rename operation,<br>• "setattr" - Set attribute operation,<br>• "symlink" - Symbolic link operation |
| | | | Name of filters. It is notification filtering parameters. By default no filters are selected. Possible values:<br>• "monitor_ads" - Monitor alternate data stream,<br>• "close_with_modification" - Filter close with modification,<br>• "close_without_modification" - Filter close without |

| | | | |
|---|---|---|---|
| **filter-string** | | fpolicy-filter[] optional | modification,<br>• "first_read" - Filter first read,<br>• "first_write" - Filter first write,<br>• "offline_bit" - Filter offline bit set,<br>• "open_with_delete_intent" - Filter open with delete intent,<br>• "open_with_write_intent" - Filter open with write intent,<br>• "write_with_size_change" - Filter write with size change,<br>• "close_with_read" - Filter close with read,<br>• "setattr_with_owner_change" - Filter file owner change,<br>• "setattr_with_group_change" - Filter file group change,<br>• "setattr_with_sacl_change" - Filter file sacl change,<br>• "setattr_with_dacl_change" - Filter file dacl change,<br>• "setattr_with_modify_time_change" - Filter file modify time change,<br>• "setattr_with_access_time_change" - Filter file access time change,<br>• "setattr_with_creation_time_change" - Filter file creation time change,<br>• "setattr_with_mode_change" - Filter file mode change,<br>• "setattr_with_size_change" - Filter file size change,<br>• "setattr_with_allocation_size_change" - Filter allocation size change,<br>• "exclude_directory" - Filter to exclude directory operations |
| **protocol** | | fpolicy-proto optional | Name of protocol for which event is created. By default no protocol is selected. Possible values:<br>• "cifs" - CIFS protocol,<br>• "nfsv3" - NFSv3 protocol,<br>• "nfsv4" - NFSv4 protocol |
| **volume-operation** | | boolean optional | Indicator if the volume operation required for the event.Default Value is false. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EEVENTNOTFOUND** | |

# fpolicy-policy-external-engine-create

[top]

Create an external engine.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **certificate-ca** | | string optional | Certificate authority name. No default value is set for this field. |
| **certificate-common-name** | | common-name optional | FQDN or custom common name of certificate. No default value is set for this field. |
| **certificate-serial** | | string optional | Serial number of certificate. No default value is set for this field. |
| **engine-name** | | engine-name | Name of the external engine. |

| | | | |
|---|---|---|---|
| **extern-engine-format** | | external-engine-format optional | External engine format. This decides the format for the Fpolicy notification messages and can be one of 'xml' or 'protobuf', which is a binary format. Default value set for this field is 'xml'. Possible values:<br>• "xml" - XML Format,<br>• "protobuf" - Protobuf Format |
| **extern-engine-type** | | external-engine-type optional | External engine type. If the engine is asynchronous, no reply is sent from FPolicy servers. Default value set for this field is synchronous. Possible values:<br>• "synchronous" - Synchronous External Engine,<br>• "asynchronous" - Asynchronous External Engine |
| **is-resiliency-enabled** | | boolean optional | Indicates if the resiliency with this engine is required. If set to true, the notifications will be stored in a path as resiliency-directory-path for the duration specified in max-retention-duration if all the servers are disconnected. If it is false, the notifications will not be stored. Default value is false. |
| **keep-alive-interval** | **[0..2^32-1]** | integer optional | Interval time in seconds for storage appliance to send keep-alive message to FPolicy server. Default value set for this field is 10 seconds. |
| **max-connection-retries** | **[0..2^32-1]** | integer optional | Number of times storage appliance will attempt to establish a broken connection to FPolicy server. Default value set for this field is 5. |
| **max-server-requests** | **[0..2^32-1]** | integer optional | Maximum number of outstanding screen requests that will be queued for an FPolicy Server. Default value set for this field is 50. |
| **port-number** | **[1..65535]** | integer | Port number of the FPolicy server application. |
| **primary-servers** | | ip-address[] | Primary FPolicy servers. |
| **recv-buffer-size** | **[0..2^32-1]** | integer optional | Receive buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb). |
| **request-abort-timeout** | **[0..2^32-1]** | integer optional | Timeout in seconds for a screen request to be aborted by storage appliance. Default value set for this field is 40 seconds. |
| **request-cancel-timeout** | **[0..2^32-1]** | integer optional | Timeout in seconds for a screen request to be processed by an FPolicy server. Default value set for this field is 20 seconds. |
| **resiliency-directory-path** | | string optional | Directory path under Vserver for storing file access notifications. File access notifications will be stored in a generated file during the outage time. The path is the full, user visible path relative to the Vserver root, and it might be crossing junction mount points. Example: '/path1' where '/' is the root of the Vserver and 'path1' is the directory where to store notifications. |
| **resiliency-max-retention-duration** | | time-interval optional | Maximum retention duration for which the notifications will be stored. After this time window further notifications will not be stored. Default value set for this field is 180 seconds. Maximum retention duration can be 600 seconds. |
| **return-record** | | boolean optional | If set to true, returns the fpolicy-policy-external-engine on successful creation. Default: false |
| **secondary-servers** | | ip-address[] optional | Secondary FPolicy servers. No default value is set for this field. |
| **send-buffer-size** | **[0..2^32-1]** | integer optional | Send buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb). |
| **server-** | | | Timeout in seconds in which a throttled FPolicy server must |

| | | | |
|---|---|---|---|
| **progress-timeout** | **[0..2^32-1]** | integer optional | complete at least one screen request. If no request is processed within the timeout, connection to FPolicy server is terminated. Default value set for this field is 60 seconds. |
| **session-timeout** | | time-interval optional | Session Id purge timeout during FPolicy server reconnection. Default value set for this field is 10 seconds. |
| **ssl-option** | | fpolicy-ssl-opts | SSL option for external communication. No default value is set for this field. Possible values:<br>• "no_auth" - Communication over TCP,<br>• "server_auth" - Authentication of FPolicy server only,<br>• "mutual_auth" - Mutual authentication of storage system and FPolicy server |
| **status-request-interval** | **[0..2^32-1]** | integer optional | Interval time in seconds for storage appliance to query status request from FPolicy server. Default value set for this field is 10 seconds. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | fpolicy-external-engine-info optional | The fpolicy-policy-external-engine created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EENGINEEXISTS** | |
| **ESERVEREXISTS** | |

# fpolicy-policy-external-engine-delete

[top]

Delete an external engine.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **engine-name** | | engine-name | Name of the external engine. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EENGINENOTFOUND** | |
| **EPOLICYNOTFOUND** | |
| **ERESOURCEINUSE** | |

# fpolicy-policy-external-engine-get-iter

[top]

Returns information on external engines.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fpolicy-external-engine-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fpolicy-external-engine-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy-external-engine object. All fpolicy-policy-external-engine objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fpolicy-external-engine-info[] optional | The list of attributes of fpolicy-policy-external-engine objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more fpolicy-policy-external-engine objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EENGINENOTFOUND** | |

# fpolicy-policy-external-engine-modify

[top]

Modify an external engine. External engine can be modified only when none of the enabled policies are using it.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **certificate-ca** | | string optional | Certificate authority name. No default value is set for this field. |
| **certificate-common-name** | | common-name optional | FQDN or custom common name of certificate. No default value is set for this field. |
| **certificate-serial** | | string optional | Serial number of certificate. No default value is set for this field. |
| **engine-** | | engine- | Name of the external engine. |

| | | | |
|---|---|---|---|
| **name** | | name | |
| **extern-engine-format** | | external-engine-format optional | External engine format. This decides the format for the Fpolicy notification messages and can be one of 'xml' or 'protobuf', which is a binary format. Default value set for this field is 'xml'. Possible values:<br>• "xml" - XML Format,<br>• "protobuf" - Protobuf Format |
| **extern-engine-type** | | external-engine-type optional | External engine type. If the engine is asynchronous, no reply is sent from FPolicy servers. Default value set for this field is synchronous. Possible values:<br>• "synchronous" - Synchronous External Engine,<br>• "asynchronous" - Asynchronous External Engine |
| **is-resiliency-enabled** | | boolean optional | Indicates if the resiliency with this engine is required. If set to true, the notifications will be stored in a path as resiliency-directory-path for the duration specified in max-retention-duration if all the servers are disconnected. If it is false, the notifications will not be stored. Default value is false. |
| **keep-alive-interval** | **[0..2^32-1]** | integer optional | Interval time in seconds for storage appliance to send keep-alive message to FPolicy server. Default value set for this field is 10 seconds. |
| **max-connection-retries** | **[0..2^32-1]** | integer optional | Number of times storage appliance will attempt to establish a broken connection to FPolicy server. Default value set for this field is 5. |
| **max-server-requests** | **[0..2^32-1]** | integer optional | Maximum number of outstanding screen requests that will be queued for an FPolicy Server. Default value set for this field is 50. |
| **port-number** | **[1..65535]** | integer optional | Port number of the FPolicy server application. |
| **primary-servers** | | ip-address[] optional | Primary FPolicy servers. |
| **recv-buffer-size** | **[0..2^32-1]** | integer optional | Receive buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb). |
| **request-abort-timeout** | **[0..2^32-1]** | integer optional | Timeout in seconds for a screen request to be aborted by storage appliance. Default value set for this field is 40 seconds. |
| **request-cancel-timeout** | **[0..2^32-1]** | integer optional | Timeout in seconds for a screen request to be processed by an FPolicy server. Default value set for this field is 20 seconds. |
| **resiliency-directory-path** | | string optional | Directory path under Vserver for storing file access notifications. File access notifications will be stored in a generated file during the outage time. The path is the full, user visible path relative to the Vserver root, and it might be crossing junction mount points. Example: '/path1' where '/' is the root of the Vserver and 'path1' is the directory where to store notifications. |
| **resiliency-max-retention-duration** | | time-interval optional | Maximum retention duration for which the notifications will be stored. After this time window further notifications will not be stored. Default value set for this field is 180 seconds. Maximum retention duration can be 600 seconds. |
| **secondary-servers** | | ip-address[] optional | Secondary FPolicy servers. No default value is set for this field. |
| **send-** | **[0..2^32-** | integer | Send buffer size of connected socket for FPolicy Server. Default |

| | | | |
|---|---|---|---|
| **buffer-size** | **1]** | optional | value set for this field is 256 kilobytes (256Kb). |
| **server-progress-timeout** | **[0..2^32-1]** | integer optional | Timeout in seconds in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to FPolicy server is terminated. Default value set for this field is 60 seconds. |
| **session-timeout** | | time-interval optional | Session Id purge timeout during FPolicy server reconnection. Default value set for this field is 10 seconds. |
| **ssl-option** | | fpolicy-ssl-opts optional | SSL option for external communication. No default value is set for this field. Possible values:<br>• "no_auth" - Communication over TCP,<br>• "server_auth" - Authentication of FPolicy server only,<br>• "mutual_auth" - Mutual authentication of storage system and FPolicy server |
| **status-request-interval** | **[0..2^32-1]** | integer optional | Interval time in seconds for storage appliance to query status request from FPolicy server. Default value set for this field is 10 seconds. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EENGINENOTFOUND** | |
| **E_FPOLICY_EXT_ENG_MODIFY_FAILED_ENABLED_POLICY** | |
| **E_PASSTHRU_READ_MODIFY_EXT_ENGINE** | |
| **ESERVEREXISTS** | |

# fpolicy-policy-get-iter

[top]

Returns information about policies.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fpolicy-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fpolicy-policy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy object. All fpolicy-policy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fpolicy-policy-info[] | The list of attributes of fpolicy-policy objects. |

| | | | |
|---|---|---|---|
| | | optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more fpolicy-policy objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EPOLICYNOTFOUND** | |

# fpolicy-policy-modify

[top]

Modify a policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allow-privileged-access** | | boolean optional | Indicator if privileged access should be given to FPolicy servers registered for the policy. Default Value is no. |
| **engine-name** | | engine-name optional | Name of the Engine. Default Engine is 'native'. |
| **events** | | event-name[] optional | Events for file access monitoring. |
| **is-mandatory** | | boolean optional | Indicator if the screening with this policy is required, i.e. it will fail if no servers are able process the notification registered as a part of external engine. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. Default value is true. |
| **is-passthrough-read-enabled** | | boolean optional | Indicator if passthrough-read should be allowed to FPolicy servers registered for the policy. Default value is false. |
| **policy-name** | | policy-name | Name of the policy. |
| **privileged-user-name** | | string optional | User name for privileged access. No default value is set for this attribute. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EPOLICYNOTFOUND** | |
| **E_PASSTHRU_READ_ENABLE_IN_POLICY** | |
| **E_PASSTHRU_READ_CAPABILITY_NOT_ENABLED** | |

# fpolicy-policy-scope-create

[top]

Set FPolicy scope options. FPolicy Scope is consist of share, volume, export policy, volume, file extention.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **check-extensions-on-directories** | | boolean optional | Indicates whether directory names are also subjected to extensions check, similar to file names. By default, the value is true if policy is configured with Native engine, false otherwise. |
| **export-policies-to-exclude** | | string[] optional | Export Policies to exclude for file access monitoring. By default no export policy is selected. |
| **export-policies-to-include** | | string[] optional | Export policies to include for file access monitoring. By default no export policy is selected. |
| **file-extensions-to-exclude** | | string[] optional | File extensions excluded for screening. By default no file extension is selected. |
| **file-extensions-to-include** | | string[] optional | File extensions included for screening. By default no file extension is selected. |
| **is-monitoring-of-objects-with-no-extension-enabled** | | boolean optional | Indicates whether monitoring of Objects with no extension is required. By default, the value is false. |
| **policy-name** | | policy-name | Name of the policy. |
| **return-record** | | boolean optional | If set to true, returns the fpolicy-policy-scope on successful creation. Default: false |
| **shares-to-exclude** | | string[] optional | Shares to exclude for file access monitoring. By default no share is selected. |
| **shares-to-include** | | string[] optional | Shares to include for file access monitoring. By default no share is selected. |
| **volumes-to-exclude** | | string[] optional | Volumes that are inactive for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer when processing user requests. By default no volume is selected. |
| **volumes-to-include** | | string[] optional | Volumes that are active for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. By default no volume is selected. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | fpolicy-scope-config optional | The fpolicy-policy-scope created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ESCOPEEXISTS** | |

# fpolicy-policy-scope-delete

[top]

Delete a scope.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | policy-name | Name of the policy. |

| Errno | Description |
|---|---|
| **ESCOPENOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# fpolicy-policy-scope-get-iter

[top]

Get a list of rows for FPolicy scope options. FPolicy Scope consists of share, volume, export policy, volume, file extention.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fpolicy-scope-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fpolicy-scope-config optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy-scope object. All fpolicy-policy-scope objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fpolicy-scope-config[] optional | The list of attributes of fpolicy-policy-scope objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more fpolicy-policy-scope objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **ESCOPENOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| | |

| EVSERVERNOTFOUND | |
|---|---|

# fpolicy-policy-scope-modify

[top]

Set FPolicy scope options. FPolicy Scope is consist of share, volume, export policy, volume, file extention.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **check-extensions-on-directories** | | boolean optional | Indicates whether directory names are also subjected to extensions check, similar to file names. By default, the value is true if policy is configured with Native engine, false otherwise. |
| **export-policies-to-exclude** | | string[] optional | Export Policies to exclude for file access monitoring. By default no export policy is selected. |
| **export-policies-to-include** | | string[] optional | Export policies to include for file access monitoring. By default no export policy is selected. |
| **file-extensions-to-exclude** | | string[] optional | File extensions excluded for screening. By default no file extension is selected. |
| **file-extensions-to-include** | | string[] optional | File extensions included for screening. By default no file extension is selected. |
| **is-monitoring-of-objects-with-no-extension-enabled** | | boolean optional | Indicates whether monitoring of Objects with no extension is required. By default, the value is false. |
| **policy-name** | | policy-name | Name of the policy. |
| **shares-to-exclude** | | string[] optional | Shares to exclude for file access monitoring. By default no share is selected. |
| **shares-to-include** | | string[] optional | Shares to include for file access monitoring. By default no share is selected. |
| **volumes-to-exclude** | | string[] optional | Volumes that are inactive for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer when processing user requests. By default no volume is selected. |
| **volumes-to-include** | | string[] optional | Volumes that are active for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. By default no volume is selected. |

| Errno | Description |
|---|---|
| **ESCOPENOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# fpolicy-policy-status-get-iter

[top]

Returns FPolicy policy status information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fpolicy-policy-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fpolicy-policy-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-policy-status object. All fpolicy-policy-status objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fpolicy-policy-status-info[] optional | The list of attributes of fpolicy-policy-status objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more fpolicy-policy-status objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EPOLICYNOTFOUND** | |

# fpolicy-server-connect

[top]

Make a connection to FPolicy server

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Cluster node name. |
| **policy-name** | | policy-name | Name of the policy. |
| **server** | | ip-address | FPolicy server. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EVSERVERNOTFOUND | |
| EPOLICYNOTFOUND | |
| ESERVERNOTFOUND | |
| E_POLICY_DISABLED | |

# fpolicy-server-disconnect

[top]

Terminate connection to FPolicy server

| Input Name | Range | Type | Description |
|---|---|---|---|
| node | | string | Cluster node name. |
| policy-name | | policy-name | Name of the policy. |
| server | | ip-address | FPolicy server. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |
| EVSERVERNOTFOUND | |
| EPOLICYNOTFOUND | |
| ESERVERNOTFOUND | |
| E_POLICY_DISABLED | |

# fpolicy-server-list-info

[top]

Shows a list of primary servers serving the policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| policy-name | | string | Name of the policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| servers | | server-info[] | List of the servers' IP addresses. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |

| Vfiler-enabled |
|---|
| Yes |

# fpolicy-server-status-get-iter

[top]

Returns FPolicy server status information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | fpolicy-server-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | fpolicy-server-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the fpolicy-server-status object. All fpolicy-server-status objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | fpolicy-server-status-info[] optional | The list of attributes of fpolicy-server-status objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more fpolicy-server-status objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ESERVERNOTFOUND** | |
| **ENODENOTFOUND** | |
| **EPOLICYNOTFOUND** | |

# fpolicy-server-stop

[top]

Stops specific primary server serving the policy. Effectively, this will unregister the fpolicy server.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | Name of the policy. |
| **server-ip** | | ip-address | The ip address, in dotted-decimal format, of the server. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
| --- |
| Yes |

# fpolicy-set-policy-options

[top]

Sets policy's options to on/off.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **is-ads-monitored** | | boolean optional | Indicates if the policy monitors the cifs operations on Alternate Data Streams. Default is false. |
| **is-cifs-disconnect-check-enabled** | | boolean optional | 'true' if requests associated with disconnected CIFS sessions must not be screened, 'false' otherwise. |
| **is-cifs-setattr-enabled** | | boolean optional | Indicator whether cifs-setattr support is enabled on this policy or not. If set to true, cifs setattr operations will be screened. Default is false. |
| **is-required** | | boolean optional | Indicator if the screening with this policy is required, i.e. will it fail if the server is not registered. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. Default is false. |
| **policy-name** | | string | Name of the policy. |
| **reqcancel-timeout** | | integer optional | Timeout (in secs) for a screen request to be processed by an FPolicy server. Range : [0..4294967]. |
| **secondary-servers** | | secondary-server-info[] optional | List of server's IP addresses. Servers registered from these IP will be considered as secondary servers. |
| **serverprogress-timeout** | | integer optional | Timeout (in secs) in which a throttled FPolicy server must complete at least one screen request. Range : [0..4294967]. |

| Errno | Description |
| --- | --- |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
| --- |
| Yes |

# fpolicy-set-required

[top]

Sets policy's "required" option to on/off.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **policy-name** | | string | Name of the policy. |
| **required** | | boolean | Indicator if the policy is required. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. |

| | |
| --- | --- |

| Errno | Description |
| --- | --- |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

# fpolicy-set-secondary-servers

[top]

Sets secondary servers information in a form of a list of ip addresses. These servers will be used if all primary servers are not available, thus increasing system availabilty.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| policy-name | | string | Name of the policy. |
| secondary-servers | | secondary-server-info[] | List of servers' IP addresses. |

| Errno | Description |
| --- | --- |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

# fpolicy-status

[top]

Returns status of options fpolicy enable.

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| is-enabled | | boolean | Shows if the fpolicy mechanism is enabled or not. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

# fpolicy-volume-list-info

[top]

Returns a volume-regular-expression list for an exclude or include set. The list describes limits to the set of volumes for which client requests trigger (include) or suppress (exclude) fpolicy processing for the provided policy.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |

| | | | |
|---|---|---|---|
| **policy-name** | | string | Name of the policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **exclude-volumes** | | fpolicy-volumes-list-info[] | List of volumes that are inactive for the file policy. The list can include items which are regular expressions, such as "vol*" or "user?". Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer when processing user requests. |
| **include-volumes** | | fpolicy-volumes-list-info[] | List of volumes that are active for the file policy. The list can include items which are regular expressions, such as "vol*" or "user?". |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# fpolicy-volume-list-set

[top]

Manipulate a list of volumes in an exclude or include set. This limits the set of volumes for which client requests trigger (include) or suppress (exclude) fpolicy processing for the provided policy. The list provided will replace the list currently in place, if any. Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **list-type** | | string | Defines to which set (exclude or include) a list will be applied. Possible values: "exclude", "include". |
| **policy-name** | | string | Name of the policy. |
| **volumes** | | fpolicy-volumes-list-info[] | List of volume specifications. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# Element definition: **common-name**

[top]

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

# Element definition: **engine-name**

[top]

Engine name

[none]

# Element definition: **event-name**

[top]

Event name

[none]

# Element definition: **extension-list-info**

[top]

Structure containing extension information.

| Name | Range | Type | Description |
|---|---|---|---|
| **name-spec** | | string | Extension specification (including wild cards). Allowed are only DOS like, three character long extensions. The extensions are case insensitive. Supported wild card values: "???" to match any extension and "?" to match any character. Examples of allowed extension specifications: EXE ??? ?XT P?? |

# Element definition: **external-engine-format**

[top]

xml|protobuf Possible values:

- "xml" - XML Format,
- "protobuf" - Protobuf Format

[none]

# Element definition: **external-engine-type**

[top]

External Engine Type Possible values:

- "synchronous" - Synchronous External Engine,
- "asynchronous" - Asynchronous External Engine

[none]

# Element definition: **fpolicy-event-options-config**

[top]

Vserver FPolicy Event configuration and management on name When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **event-name** | | event-name optional | Name of the Event. Attributes: key, required-for-create, non-modifiable |
| **file-operations** | | fpolicy-operation[] optional | Name of file operations. By default no operations are monitored. Attributes: optional-for-create, modifiable Possible values:<br>• "close" - File close operation,<br>• "create" - File create operation,<br>• "create_dir" - File create directory operation,<br>• "delete" - File delete operation,<br>• "delete_dir" - Directory delete operation,<br>• "getattr" - Get attribute operation,<br>• "link" - Link operation,<br>• "lookup" - Lookup operation,<br>• "open" - File open operation,<br>• "read" - File read operation,<br>• "write" - File write operation,<br>• "rename" - File rename operation,<br>• "rename_dir" - Directory rename operation,<br>• "setattr" - Set attribute operation,<br>• "symlink" - Symbolic link operation |
| **filter-string** | | fpolicy-filter[] optional | Name of filters. It is notification filtering parameters. By default no filters are selected. Attributes: optional-for-create, modifiable Possible values:<br>• "monitor_ads" - Monitor alternate data stream,<br>• "close_with_modification" - Filter close with modification,<br>• "close_without_modification" - Filter close without modification,<br>• "first_read" - Filter first read,<br>• "first_write" - Filter first write,<br>• "offline_bit" - Filter offline bit set,<br>• "open_with_delete_intent" - Filter open with delete intent,<br>• "open_with_write_intent" - Filter open with write intent,<br>• "write_with_size_change" - Filter write with size change,<br>• "close_with_read" - Filter close with read,<br>• "setattr_with_owner_change" - Filter file owner change,<br>• "setattr_with_group_change" - Filter file group change,<br>• "setattr_with_sacl_change" - Filter file sacl change,<br>• "setattr_with_dacl_change" - Filter file dacl change,<br>• "setattr_with_modify_time_change" - Filter file modify time change, |

| | | | |
|---|---|---|---|
| | | | • "setattr_with_access_time_change" - Filter file access time change,<br>• "setattr_with_creation_time_change" - Filter file creation time change,<br>• "setattr_with_mode_change" - Filter file mode change,<br>• "setattr_with_size_change" - Filter file size change,<br>• "setattr_with_allocation_size_change" - Filter allocation size change,<br>• "exclude_directory" - Filter to exclude directory operations |
| **protocol** | | fpolicy-proto optional | Name of protocol for which event is created. By default no protocol is selected. Attributes: optional-for-create, modifiable Possible values:<br>• "cifs" - CIFS protocol,<br>• "nfsv3" - NFSv3 protocol,<br>• "nfsv4" - NFSv4 protocol |
| **volume-operation** | | boolean optional | Indicator if the volume operation required for the event.Default Value is false. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **fpolicy-external-engine-info**

[top]

External engine configuration and management. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **certificate-ca** | | string optional | Certificate authority name. No default value is set for this field. Attributes: optional-for-create, modifiable |
| **certificate-common-name** | | common-name optional | FQDN or custom common name of certificate. No default value is set for this field. Attributes: optional-for-create, modifiable |
| **certificate-serial** | | string optional | Serial number of certificate. No default value is set for this field. Attributes: optional-for-create, modifiable |
| **engine-name** | | engine-name optional | Name of the external engine. Attributes: key, required-for-create, non-modifiable |
| **extern-engine-format** | | external-engine-format optional | External engine format. This decides the format for the Fpolicy notification messages and can be one of 'xml' or 'protobuf', which is a binary format. Default value set for this field is 'xml'. Attributes: optional-for-create, modifiable Possible values:<br>• "xml" - XML Format,<br>• "protobuf" - Protobuf Format |
| | | | External engine type. If the engine is asynchronous, no reply is |

| | | | |
|---|---|---|---|
| **extern-engine-type** | | external-engine-type optional | sent from FPolicy servers. Default value set for this field is synchronous. Attributes: optional-for-create, modifiable Possible values:<br>• "synchronous" - Synchronous External Engine,<br>• "asynchronous" - Asynchronous External Engine |
| **is-resiliency-enabled** | | boolean optional | Indicates if the resiliency with this engine is required. If set to true, the notifications will be stored in a path as resiliency-directory-path for the duration specified in max-retention-duration if all the servers are disconnected. If it is false, the notifications will not be stored. Default value is false. Attributes: optional-for-create, modifiable |
| **keep-alive-interval** | **[0..2^32-1]** | integer optional | Interval time in seconds for storage appliance to send keep-alive message to FPolicy server. Default value set for this field is 10 seconds. Attributes: optional-for-create, modifiable |
| **max-connection-retries** | **[0..2^32-1]** | integer optional | Number of times storage appliance will attempt to establish a broken connection to FPolicy server. Default value set for this field is 5. Attributes: optional-for-create, modifiable |
| **max-server-requests** | **[0..2^32-1]** | integer optional | Maximum number of outstanding screen requests that will be queued for an FPolicy Server. Default value set for this field is 50. Attributes: optional-for-create, modifiable |
| **port-number** | **[1..65535]** | integer optional | Port number of the FPolicy server application. Attributes: required-for-create, modifiable |
| **primary-servers** | | ip-address[] optional | Primary FPolicy servers. Attributes: required-for-create, modifiable |
| **recv-buffer-size** | **[0..2^32-1]** | integer optional | Receive buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb). Attributes: optional-for-create, modifiable |
| **request-abort-timeout** | **[0..2^32-1]** | integer optional | Timeout in seconds for a screen request to be aborted by storage appliance. Default value set for this field is 40 seconds. Attributes: optional-for-create, modifiable |
| **request-cancel-timeout** | **[0..2^32-1]** | integer optional | Timeout in seconds for a screen request to be processed by an FPolicy server. Default value set for this field is 20 seconds. Attributes: optional-for-create, modifiable |
| **resiliency-directory-path** | | string optional | Directory path under Vserver for storing file access notifications. File access notifications will be stored in a generated file during the outage time. The path is the full, user visible path relative to the Vserver root, and it might be crossing junction mount points. Example: '/path1' where '/' is the root of the Vserver and 'path1' is the directory where to store notifications. Attributes: optional-for-create, modifiable |
| **resiliency-max-retention-duration** | | time-interval optional | Maximum retention duration for which the notifications will be stored. After this time window further notifications will not be stored. Default value set for this field is 180 seconds. Maximum retention duration can be 600 seconds. Attributes: optional-for-create, modifiable |
| **secondary-servers** | | ip-address[] optional | Secondary FPolicy servers. No default value is set for this field. Attributes: optional-for-create, modifiable |
| **send-buffer-size** | **[0..2^32-1]** | integer optional | Send buffer size of connected socket for FPolicy Server. Default value set for this field is 256 kilobytes (256Kb). Attributes: optional-for-create, modifiable |
| **server-progress-** | **[0..2^32-1]** | integer optional | Timeout in seconds in which a throttled FPolicy server must complete at least one screen request. If no request is processed within the timeout, connection to FPolicy server is terminated. |

| | | | |
|---|---|---|---|
| **timeout** | | | Default value set for this field is 60 seconds. Attributes: optional-for-create, modifiable |
| **session-timeout** | | time-interval optional | Session Id purge timeout during FPolicy server reconnection. Default value set for this field is 10 seconds. Attributes: optional-for-create, modifiable |
| **ssl-option** | | fpolicy-ssl-opts optional | SSL option for external communication. No default value is set for this field. Attributes: required-for-create, modifiable Possible values:<br>• "no_auth" - Communication over TCP,<br>• "server_auth" - Authentication of FPolicy server only,<br>• "mutual_auth" - Mutual authentication of storage system and FPolicy server |
| **status-request-interval** | **[0..2^32-1]** | integer optional | Interval time in seconds for storage appliance to query status request from FPolicy server. Default value set for this field is 10 seconds. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **fpolicy-filter**

[top]

Filter Possible values:

- "monitor_ads" - Monitor alternate data stream,
- "close_with_modification" - Filter close with modification,
- "close_without_modification" - Filter close without modification,
- "first_read" - Filter first read,
- "first_write" - Filter first write,
- "offline_bit" - Filter offline bit set,
- "open_with_delete_intent" - Filter open with delete intent,
- "open_with_write_intent" - Filter open with write intent,
- "write_with_size_change" - Filter write with size change,
- "close_with_read" - Filter close with read,
- "setattr_with_owner_change" - Filter file owner change,
- "setattr_with_group_change" - Filter file group change,
- "setattr_with_sacl_change" - Filter file sacl change,
- "setattr_with_dacl_change" - Filter file dacl change,
- "setattr_with_modify_time_change" - Filter file modify time change,
- "setattr_with_access_time_change" - Filter file access time change,
- "setattr_with_creation_time_change" - Filter file creation time change,
- "setattr_with_mode_change" - Filter file mode change,
- "setattr_with_size_change" - Filter file size change,
- "setattr_with_allocation_size_change" - Filter allocation size change,
- "exclude_directory" - Filter to exclude directory operations

[none]

# Element definition: **fpolicy-operation**

[top]

File Operation Possible values:

- "close" - File close operation,
- "create" - File create operation,
- "create_dir" - File create directory operation,
- "delete" - File delete operation,
- "delete_dir" - Directory delete operation,
- "getattr" - Get attribute operation,
- "link" - Link operation,
- "lookup" - Lookup operation,
- "open" - File open operation,
- "read" - File read operation,
- "write" - File write operation,
- "rename" - File rename operation,
- "rename_dir" - Directory rename operation,
- "setattr" - Set attribute operation,
- "symlink" - Symbolic link operation

[none]

# Element definition: **fpolicy-passthrough-read-connection-info**

[top]

FPolicy passthrough-read connection status. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **connected-since** | | datetime optional | Date and time since passthrough-read channel is connected. This will be returned only if the server-status is connected. Attributes: non-creatable, non-modifiable |
| **control-session-id** | | string optional | Session ID of the control channel established with FPolicy server. Attributes: key, non-creatable, non-modifiable |
| **disconnect-reason** | | fpolicy-passthru-disconnect-reason optional | Reason for passthrough-read channel disconnection. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" - Not applicable,<br>• "control_conn_closed" - Control connection to the FPOlicy server is closed,<br>• "pipe_client_close" - Connection closed by pipe client (FPolicy server),<br>• "pipe_server_close" - Connection closed by pipe server (ONTAP) due to idle session, interface down etc.,<br>• "no_control_packet" - No control packet seen on this connection,<br>• "control_conn_vserver_ip_changed" - Control connection is established using different vserver ip,<br>• "fpolicy_process_restart" - FPolicy process has restarted |
| **disconnected-** | | datetime | Date and time since passthrough-read channel is disconnected. This will be returned only if the server-status is disconnected. |

| | | | |
|---|---|---|---|
| **since** | | optional | Attributes: non-creatable, non-modifiable |
| **fpolicy-server** | | ip-address optional | IP Address of the FPolicy server. Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Cluster node to which this connection is applicable. Attributes: key, non-creatable, non-modifiable |
| **policy-name** | | policy-name optional | Policy name of the policy for which passthrough-read connection is opened. Attributes: key, non-creatable, non-modifiable |
| **server-status** | | fpolicy-passthru-conn-status optional | Status of the passthrough-read connection. Attributes: non-creatable, non-modifiable Possible values:<br>• "connected" - Passthrough read channel connected,<br>• "disconnected" - Passtthrough read channel disconnected |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **fpolicy-policy-info**

[top]

FPolicy policy information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **allow-privileged-access** | | boolean optional | Indicator if privileged access should be given to FPolicy servers registered for the policy. Default Value is no. Attributes: optional-for-create, modifiable |
| **engine-name** | | engine-name optional | Name of the Engine. Default Engine is 'native'. Attributes: required-for-create, modifiable |
| **events** | | event-name[] optional | Events for file access monitoring. Attributes: required-for-create, modifiable |
| **is-mandatory** | | boolean optional | Indicator if the screening with this policy is required, i.e. it will fail if no servers are able process the notification registered as a part of external engine. If set to true, the request will fail if there is no server to evaluate it. If it's false, the request will succeed. Default value is true. Attributes: optional-for-create, modifiable |
| **is-passthrough-read-enabled** | | boolean optional | Indicator if passthrough-read should be allowed to FPolicy servers registered for the policy. Default value is false. Attributes: optional-for-create, modifiable |
| **policy-name** | | policy-name optional | Name of the policy. Attributes: key, required-for-create, non-modifiable |
| **privileged-user-name** | | string optional | User name for privileged access. No default value is set for this attribute. Attributes: optional-for-create, modifiable |
| | | string | |

| | | | |
|---|---|---|---|
| **vserver** | | optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **fpolicy-policy-status-info**

[top]

FPolicy Policy status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | policy-name optional | Name of the policy. Attributes: key, non-creatable, non-modifiable |
| **sequence-number** | **[1..10]** | integer optional | Sequence number(or priority) of the policy. 1 being highest and 10 being smallest. Default value is 1. Attributes: non-creatable, non-modifiable |
| **status** | | boolean optional | Status of the policy. When on, policy is active. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **fpolicy-proto**

[top]

Protocol Possible values:

- "cifs" - CIFS protocol,
- "nfsv3" - NFSv3 protocol,
- "nfsv4" - NFSv4 protocol

[none]

# Element definition: **fpolicy-scope-config**

[top]

Vserver FPolicy Scope configuration and management on name When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **check-extensions-on-directories** | | boolean optional | Indicates whether directory names are also subjected to extensions check, similar to file names. By default, the value is true if policy is configured with Native engine, false otherwise. Attributes: optional-for-create, modifiable |
| **export-policies-to-exclude** | | string[] optional | Export Policies to exclude for file access monitoring. By default no export policy is selected. Attributes: optional-for-create, modifiable |
| **export-policies-to-include** | | string[] optional | Export policies to include for file access monitoring. By default no export policy is selected. Attributes: optional-for-create, modifiable |
| **file-extensions-to-exclude** | | string[] optional | File extensions excluded for screening. By default no file extension is selected. Attributes: optional-for-create, modifiable |
| **file-extensions-to-include** | | string[] optional | File extensions included for screening. By default no file extension is selected. Attributes: optional-for-create, modifiable |
| **is-monitoring-of-objects-with-no-extension-enabled** | | boolean optional | Indicates whether monitoring of Objects with no extension is required. By default, the value is false. Attributes: optional-for-create, modifiable |
| **policy-name** | | policy-name optional | Name of the policy. Attributes: key, required-for-create, non-modifiable |
| **shares-to-exclude** | | string[] optional | Shares to exclude for file access monitoring. By default no share is selected. Attributes: optional-for-create, modifiable |
| **shares-to-include** | | string[] optional | Shares to include for file access monitoring. By default no share is selected. Attributes: optional-for-create, modifiable |
| **volumes-to-exclude** | | string[] optional | Volumes that are inactive for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. Note that if a policy has both an exclude list and an include list, the include list is ignored by the filer when processing user requests. By default no volume is selected. Attributes: optional-for-create, modifiable |
| **volumes-to-include** | | string[] optional | Volumes that are active for the file policy. The list can include items which are regular expressions, such as 'vol*' or 'user?'. By default no volume is selected. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **fpolicy-server-status-info**

[top]

External engine configuration and management. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **connected-since** | | datetime optional | Date and time since FPolicy server is connected. Attributes: non-creatable, non-modifiable |
| **disconnect-reason** | | string optional | Reason for FPolicy server disconnection. Attributes: non-creatable, non-modifiable |
| **disconnected-since** | | datetime optional | Date and time since FPolicy server is disconnected. Attributes: non-creatable, non-modifiable |
| **fpolicy-server** | | ip-address optional | FPolicy server. Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Cluster node name. Attributes: key, non-creatable, non-modifiable |
| **policy-name** | | policy-name optional | Name of the policy. Attributes: key, non-creatable, non-modifiable |
| **server-status** | | fpolicy-server-status optional | Status of the connection. Attributes: non-creatable, non-modifiable Possible values:<br>• "connected" - Server Connected,<br>• "disconnected" - Server Disconnected,<br>• "connecting" - Connecting Server,<br>• "disconnecting" - Disconnecting Server |
| **server-type** | | fpolicy-server-type optional | FPolicy server type. FPolicy server can be registered as primary or secondary server. Attributes: non-creatable, non-modifiable Possible values:<br>• "primary" - Primary Server,<br>• "secondary" - Secondary Server |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **fpolicy-ssl-opts**

[top]

no-auth|server-auth|mutual-auth Possible values:

- "no_auth" - Communication over TCP,
- "server_auth" - Authentication of FPolicy server only,
- "mutual_auth" - Mutual authentication of storage system and FPolicy server

[none]

# Element definition: **fpolicy-volumes-list-info**

[top]

Structure containing volumes information.

| Name | Range | Type | Description |
|---|---|---|---|
| **volume-spec** | | string | Volume specification (including wild cards). The volumes are case insensitive. If no volume-spec is provided, then the list will be reset to an empty list. Supported wild card values: "?" to match any character and "*" to match any number of characters. Example specifications: vol0 vol? users* |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **monitored-operation-info**

[top]

Structure containing information pertaining to monitored operations.

| Name | Range | Type | Description |
|---|---|---|---|
| **operation** | | string | Supported values: "file-create", "file- delete", "file-open", "file-close", "file-rename", "directory-create", "directory-delete", "directory-rename", "getattr", "setattr", "lookup", "read", "write", "link", "symlink" |

# Element definition: **monitored-protocol-info**

[top]

Structure containing information pertaining to monitored operations' protocols.

| Name | Range | Type | Description |
|---|---|---|---|
| **protocol** | | string | Supported values: "nfs", "cifs". |

# Element definition: **policy-info**

[top]

Structure containing information pertaining to policy.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-ads-monitored** | | boolean | True if the policy monitors the cifs operations on Alternate Data Streams. |
| **is-enabled** | | boolean | True if the policy is enabled. No matter whether the policy is enabled or disabled, values returned in other elements for the policy are always valid. |
| **is-i2p-enabled** | | boolean | True if inode to pathname translation for NFS requests is supported and enabled.If enabled fpolicy requests to fpolicy server will carry full file path for NFS requests. The fields which will carry full file path are AccessPath and RenamePath for FP_ScreenRequest RPC call and |

| | | | |
|---|---|---|---|
| | | | sr_accesspath for FP_ScreenRequest2 RPC call. |
| **is-offline-files-only** | | boolean optional | True if the file policy monitors only offlines files. Default is false. |
| **monitored-operations** | | monitored-operation-info[] | List of monitored operations. |
| **monitored-protocols** | | monitored-protocol-info[] | List of monitored protocols. |
| **name** | | string | Policy name. |
| **number-of-requests-blocked-locally** | | integer | Number of locally blocked(denied) screen requests. This value is reset each time the filer is rebooted or the policy is disabled. Range : [0..2^32-1]. |
| **number-of-screen-failures** | | integer | Number of failed (denied) screen requests. This value is reset each time the filer is rebooted or the policy is disabled. Range : [0..2^32-1]. |
| **number-of-screened-files** | | integer | Number of screened files since policy has been enabled. This value is reset each time the filer is rebooted or the policy is disabled. Range : [0..2^32-1]. |

# Element definition: **policy-name**

[top]

Policy name

[none]

# Element definition: **secondary-server-info**

[top]

Structure containing information pertaining to secondary servers.

| Name | Range | Type | Description |
|---|---|---|---|
| **server-ip** | | ip-address | The ip address, in dotted-decimal format, of the server. |

# Element definition: **server-info**

[top]

Structure containing information pertaining to servers.

| Name | Range | Type | Description |
|---|---|---|---|
| **idl-version** | | integer | Version of the Interface Definition Language(IDL) used by the Fpolicy server. Range : [0..2^32-1]. |
| **is-asynchronous** | | boolean optional | Shows if the server is registered as asynchronous, i.e. doesn't send reply to the filer. |
| | | | |

| | | | |
|---|---|---|---|
| **is-size-and-owner-required** | | boolean optional | True if the server is registered to receive file size and file owner information with every Fpolicy request. |
| **is-snapid-required** | | boolean optional | True if the server is registered to receive file snapshot ID with every Fpolicy request. |
| **is-version2** | | boolean optional | True if the server is registered with version2 support enabled. version2 refers to the version of the FP_ScreenRequest(). When version2 is true the FPolicy server is enabled to receive FP_ScreenRequest2() RPC. |
| **number-of-screen-failures** | | integer | Number of failed (denied) screens since server registrations. Range : [0..2^32-1]. |
| **number-of-screened-files** | | integer | Number of screened files since server registration. Range : [0..2^32-1]. |
| **offline-filter-bit** | | string optional | Shows the setting of offline filter. Supported values: "none", "on-set". |
| **server-id** | | integer | The unique server ID assigned to the Fpolicy server at the time of Fpolicy server registration. Range : [0..2^32-1]. |
| **server-ip** | | ip-address | The ip address, in dotted-decimal format, of the server. |
| **smb-req-pipe-name** | | string | The name of the FPolicy request pipe name on which FPolicy server is recieving the screen requests from the storage system. This name is sent by the FPolicy server at the time of the FPolicy server registration. |

## Element definition: **time-interval** [top]

Time interval in seconds Range : [0..2^32-1].

[none]

## Element definition: **common-name** [top]

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

## Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

## Element definition: **engine-name** [top]

Engine name

[none]

## Element definition: **event-name**

[top]

Event name

[none]

## Element definition: **external-engine-format**

[top]

xml|protobuf Possible values:

- "xml" - XML Format,
- "protobuf" - Protobuf Format

[none]

## Element definition: **external-engine-type**

[top]

External Engine Type Possible values:

- "synchronous" - Synchronous External Engine,
- "asynchronous" - Asynchronous External Engine

[none]

## Element definition: **fpolicy-passthru-conn-status**

[top]

Status of fpolicy passthrough-read connection Possible values:

- "connected" - Passthrough read channel connected,
- "disconnected" - Passtthrough read channel disconnected

[none]

## Element definition: **fpolicy-passthru-disconnect-reason**

[top]

Reason for fpolicy passthrough-read disconnection Possible values:

- "none" - Not applicable,
- "control_conn_closed" - Control connection to the FPOlicy server is closed,
- "pipe_client_close" - Connection closed by pipe client (FPolicy server),
- "pipe_server_close" - Connection closed by pipe server (ONTAP) due to idle session, interface down etc.,
- "no_control_packet" - No control packet seen on this connection,
- "control_conn_vserver_ip_changed" - Control connection is established using different vserver ip,
- "fpolicy_process_restart" - FPolicy process has restarted

[none]

# Element definition: **fpolicy-server-status**

[top]

Status Possible values:

- "connected" - Server Connected,
- "disconnected" - Server Disconnected,
- "connecting" - Connecting Server,
- "disconnecting" - Disconnecting Server

[none]

# Element definition: **fpolicy-server-type**

[top]

Server Type Possible values:

- "primary" - Primary Server,
- "secondary" - Secondary Server

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **monitored-operation-info**

[top]

Structure containing information pertaining to monitored operations.

| Name | Range | Type | Description |
|---|---|---|---|
| **operation** | | string | Supported values: "file-create", "file- delete", "file-open", "file-close", "file-rename", "directory-create", "directory-delete", "directory-rename", "getattr", "setattr", "lookup", "read", "write", "link", "symlink" |

# Element definition: **monitored-protocol-info**

[top]

Structure containing information pertaining to monitored operations' protocols.

| Name | Range | Type | Description |
|---|---|---|---|
| **protocol** | | string | Supported values: "nfs", "cifs". |

# Element definition: **node-name**

[top]

The node's name

[none]

# APIs in Category: **gpo**


gpo-applied-info-get-iter
gpo-get-iter
gpo-gpresult-info-get-iter
gpo-modify
gpo-restricted-group-applied-info-get-iter
gpo-restricted-group-defined-info-get-iter
gpo-update


Group Policy Object (GPO) configuration APIs. Group Policy is a central component of Microsoft's change and configuration strategy for Win2K. With Group Policy, you can define users' environments and system configurations from one location. It is implemented by associating a Group Policy Object (GPO) with an Active Directory container. A GPO is a collection of attribute settings that govern a user or a computer's configuration. These APIs enable user to obtain the values associated with the following GPO entities:

1. Vserver GPO gpresult Information: The resultant GPO information. This api displays RSoP(Resultant Set of Policy) that is defined on Active Directory for a CIFS-enabled VServer.

2. Vserver Applied GPO Information: The applied GPO Information. This api displays the set of GPO policy that has been applied on a CIFS-enabled Vserver.

## gpo-applied-info-get-iter

[top]

Get the list of entries of the applied GPO rules, organized on a per-Vserver basis.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | gpo-applied-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | gpo-applied-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | gpo-applied-info[] optional | The list of attributes of gpo objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more gpo objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|

| EINTERNALERROR | |
|---|---|

# gpo-get-iter

[top]

Retrieve the Vserver's group policy configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | gpo-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | gpo-config optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | gpo-config[] optional | The list of attributes of gpo objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more gpo objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# gpo-gpresult-info-get-iter

[top]

Get a list of entries of the GPO RSoP(Resultant Set of Policy) data, organized on a per-Vserver basis.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | gpo-gpresult-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | gpo-gpresult-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned. |

| | | | |
|---|---|---|---|
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | gpo-gpresult-info[] optional | The list of attributes of gpo objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more gpo objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# gpo-modify

[top]

Change the Vserver's group policy configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-gpo-enabled** | | true-false | Group Policy Zapi Status. |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# gpo-restricted-group-applied-info-get-iter

[top]

Applied Restricted Group Settings

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | gpo-restricted-group-applied-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | gpo-restricted-group-applied-info | A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned. |

| | | | |
|---|---|---|---|
| | | optional | |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | gpo-restricted-group-applied-info[] optional | The list of attributes of gpo objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more gpo objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# gpo-restricted-group-defined-info-get-iter

[top]

Defined Restricted Group Settings in DC

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | gpo-restricted-group-defined-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | gpo-restricted-group-defined-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the gpo object. All gpo objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | gpo-restricted-group-defined-info[] optional | The list of attributes of gpo objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more gpo objects to return. |

| | | | |
|---|---|---|---|
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# gpo-update

[top]

Download and apply the latest version of the group policy defined in Active Directory.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force-reapply-all-settings** | | boolean optional | Ignores all processing optimizations and re-applies all settings. |

| Errno | Description |
|---|---|
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# Element definition: **gpo-applied-info**

[top]

GPO information that is currently applied on a CIFS-enabled Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **adv-audit-cap-staging** | | string optional | This policy setting allows you to audit access requests where the permission granted or denied by a proposed policy differs from the current central access policy on an object. If you configure this policy setting, an audit event is generated each time a user accesses an object and the permission granted by the current central access policy on the object differs from that granted by the proposed policy. The resulting audit event will be generated as follows: 1) Success audits, when configured, records access attempts when the current central access policy grants access but the proposed policy denies access. 2) Failure audits when configured records access attempts when: a) The current central access policy does not grant access but the proposed policy grants access. b) A principal requests the maximum access rights they are allowed and the access rights granted by the current central access policy are different than the access rights granted by the proposed policy. Volume: Potentially high on a file server when the proposed policy differs significantly from the current central access policy. Default: No Auditing Attributes: non- |

| | | | |
|---|---|---|---|
| | | | creatable, non-modifiable |
| **cap-list** | | string[] optional | List of Central Access Policies. Attributes: non-creatable, non-modifiable |
| **dspath** | | string optional | LDAP DN path. Attributes: non-creatable, non-modifiable |
| **extension** | | string[] optional | List of the GPO extensions. Attributes: non-creatable, non-modifiable |
| **filesyspath** | | string optional | File System Path of a GPO policy file. Attributes: non-creatable, non-modifiable |
| **gpo-index** | **[0..2^32-1]** | integer optional | The index of the GPO in the GPO list of a Vserver. Attributes: key, non-creatable, non-modifiable |
| **gpo-name** | | string optional | GPO name in text format. Attributes: non-creatable, non-modifiable |
| **gpo-status** | | string optional | GPO status for each listed GPO: enabled or disabled. Attributes: non-creatable, non-modifiable |
| **gpo-uuid** | | string optional | GPO name in UUID format. Attributes: non-creatable, non-modifiable |
| **link** | | string optional | Type of the GPO. Attributes: non-creatable, non-modifiable |
| **registry-hash-publication-mode** | | string optional | Hash Publication Mode for BranchCache. Attributes: non-creatable, non-modifiable |
| **registry-hash-version** | | string optional | Hash Version Support for BranchCache. Attributes: non-creatable, non-modifiable |
| **registry-refresh-interval** | **[0..2^32-1]** | integer optional | Registry refreshint time interval. Attributes: non-creatable, non-modifiable |
| **registry-refresh-random-offset** | **[0..2^32-1]** | integer optional | Registry refreshing time random offset. Attributes: non-creatable, non-modifiable |
| **security-audit-log-ret-method** | | string optional | Security log retention method. Attributes: non-creatable, non-modifiable |
| **security-audit-logon-events** | | string optional | Log-on events to be audited. Attributes: non-creatable, non-modifiable |
| **security-audit-max-log-size** | **[0..2^32-1]** | integer optional | Maximum size of security log. Attributes: non-creatable, non-modifiable |
| **security-audit-object-access** | | string optional | Object access to be audited. Attributes: non-creatable, non-modifiable |
| **security-file-security** | | gpo-file-security-path[] optional | List of files or directories for which file security is applied. Attributes: non-creatable, non-modifiable |
| **security-kerberos-clock-skew** | **[0..2^32-1]** | integer optional | Kerberos maximum clock skew; Maximum tolerance for computer clock synchronization. Attributes: non-creatable, non-modifiable |
| **security-kerberos-** | **[0..2^32-** | integer | Kerberos maximum lifetime for user ticket renewal. Attributes: |

| | | | |
|---|---|---|---|
| **renewal-age** | **1]** | optional | non-creatable, non-modifiable |
| **security-kerberos-ticket-age** | **[0..2^32-1]** | integer optional | Kerberos maximum lifetime for user ticket. Attributes: non-creatable, non-modifiable |
| **security-privilege-rights-change-notify** | | gpo-user-group[] optional | List of users and/or groups which can traverse directory trees even though the users and/or groups may not have permissions on the traversed directory. Attributes: non-creatable, non-modifiable |
| **security-privilege-rights-security** | | gpo-user-group[] optional | List of users and/or groups that can specify object access auditing options for individual resources, such as files, Active Directory objects. Attributes: non-creatable, non-modifiable |
| **security-privilege-rights-take-ownership** | | gpo-user-group[] optional | List of users and/or groups that have the right to take ownership of any securable object in the system. Attributes: non-creatable, non-modifiable |
| **security-registry-signing-required** | | boolean optional | SMB Signing Required Attributes: non-creatable, non-modifiable |
| **security-restrict-anon-combined-restriction-for-anonymous-user** | | anonymous-restriction-level optional | Combined restriction for Anonymous User. This setting is derived from security-restrict-anon-noenum-for-sam, security-restrict-anon-noenum-for-samshare and security-restrict-anon-no-access. If no-access is set then this setting is set to no-access. If no-enumeration is set and no-access is not set then this setting is set to no-enumeration. If both no-enumeration and no-access are not set then this setting is set to no-restriction. Attributes: non-creatable, non-modifiable Possible values:<br>• "no_restriction" - No Access Restriction for Anonymous User.,<br>• "no_enumeration" - Only Enumeration Is Restricted.,<br>• "no_access" - Access Restricted for Anonymous User. |
| **security-restrict-anon-no-access** | | boolean optional | Restrict anonymous access to named pipes and shares. This setting is mapped to no-access value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable |
| **security-restrict-anon-noenum-sam** | | boolean optional | Do not allow anonymous enumeration of SAM accounts. This setting is mapped to no-enumeration value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable |
| **security-restrict-anon-noenum-sam-share** | | boolean optional | Do not allow anonymous enumeration of SAM accounts and shares. This setting is mapped to no-enumeration value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable |
| **security-restricted-groups** | | gpo-user-group[] optional | List of Restricted groups. Attributes: non-creatable, non-modifiable |
| **version** | **[0..2^32-1]** | integer optional | The individual GPO's update version. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver display name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **gpo-config**

[top]

Group Policy configuration for Vservers. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-gpo-enabled** | | true-false optional | Group Policy Zapi Status. Attributes: optional-for-create, modifiable |
| **vserver** | | vserver-name optional | The name of the Vserver associated with this group-policy. Attributes: key, non-creatable, non-modifiable |

# Element definition: **gpo-gpresult-info**

[top]

GPO RSoP(Resultant Set of Policy) that is currently defined on the Active Directory for a CIFS-enabled Vserver. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **adv-audit-cap-staging** | | string optional | This policy setting allows you to audit access requests where the permission granted or denied by a proposed policy differs from the current central access policy on an object. If you configure this policy setting, an audit event is generated each time a user accesses an object and the permission granted by the current central access policy on the object differs from that granted by the proposed policy. The resulting audit event will be generated as follows: 1) Success audits, when configured, records access attempts when the current central access policy grants access but the proposed policy denies access. 2) Failure audits when configured records access attempts when: a) The current central access policy does not grant access but the proposed policy grants access. b) A principal requests the maximum access rights they are allowed and the access rights granted by the current central access policy are different than the access rights granted by the proposed policy. Volume: Potentially high on a file server when the proposed policy differs significantly from the current |

| | | | |
|---|---|---|---|
| | | | central access policy. Default: No Auditing Attributes: non-creatable, non-modifiable |
| **cap-list** | | string[] optional | List of Central Access Policies. Attributes: non-creatable, non-modifiable |
| **dspath** | | string optional | LDAP DN path. Attributes: non-creatable, non-modifiable |
| **extension** | | string[] optional | List of the GPO extensions. Attributes: non-creatable, non-modifiable |
| **filesyspath** | | string optional | File System Path of a GPO policy file. Attributes: non-creatable, non-modifiable |
| **gpo-index** | **[0..2^32-1]** | integer optional | The index of the GPO in the GPO list of a Vserver. Attributes: key, non-creatable, non-modifiable |
| **gpo-name** | | string optional | GPO name in text format. Attributes: non-creatable, non-modifiable |
| **gpo-status** | | string optional | GPO status for each listed GPO: enabled or disabled. Attributes: non-creatable, non-modifiable |
| **gpo-uuid** | | string optional | GPO name in UUID format. Attributes: non-creatable, non-modifiable |
| **link** | | string optional | Type of the GPO. Attributes: non-creatable, non-modifiable |
| **registry-hash-publication-mode** | | string optional | Hash Publication Mode for BranchCache. Attributes: non-creatable, non-modifiable |
| **registry-hash-version** | | string optional | Hash Version Support for BranchCache. Attributes: non-creatable, non-modifiable |
| **registry-refresh-interval** | **[0..2^32-1]** | integer optional | Registry refreshint time interval. Attributes: non-creatable, non-modifiable |
| **registry-refresh-random-offset** | **[0..2^32-1]** | integer optional | Registry refreshing time random offset. Attributes: non-creatable, non-modifiable |
| **security-audit-log-ret-method** | | string optional | Security log retention method. Attributes: non-creatable, non-modifiable |
| **security-audit-logon-events** | | string optional | Log-on events to be audited. Attributes: non-creatable, non-modifiable |
| **security-audit-max-log-size** | **[0..2^32-1]** | integer optional | Maximum size of security log in kbytes. Attributes: non-creatable, non-modifiable |
| **security-audit-object-access** | | string optional | Object access to be audited. Attributes: non-creatable, non-modifiable |
| **security-file-security** | | gpo-file-security-path[] optional | List of files or directories for which file security is to be applied. Attributes: non-creatable, non-modifiable |
| **security-kerberos-clock-skew** | **[0..2^32-1]** | integer optional | Kerberos maximum clock skew; Maximum tolerance for computer clock synchronization. Attributes: non-creatable, non-modifiable |
| **security-** | | | |

| | | | |
|---|---|---|---|
| **kerberos-renewal-age** | **[0..2^32-1]** | integer optional | Kerberos maximum lifetime for user ticket renewal. Attributes: non-creatable, non-modifiable |
| **security-kerberos-ticket-age** | **[0..2^32-1]** | integer optional | Kerberos maximum lifetime for user ticket. Attributes: non-creatable, non-modifiable |
| **security-privilege-rights-change-notify** | | gpo-user-group[] optional | List of users and/or groups which can traverse directory trees even though the users and/or groups may not have permissions on the traversed directory. Attributes: non-creatable, non-modifiable |
| **security-privilege-rights-security** | | gpo-user-group[] optional | List of users and/or groups that can specify object access auditing options for individual resources, such as files, Active Directory objects. Attributes: non-creatable, non-modifiable |
| **security-privilege-rights-take-ownership** | | gpo-user-group[] optional | List of users and/or groups that have the right to take ownership of any securable object in the system. Attributes: non-creatable, non-modifiable |
| **security-registry-signing-required** | | boolean optional | SMB Signing Required Attributes: non-creatable, non-modifiable |
| **security-restrict-anon-combined-restriction-for-anonymous-user** | | anonymous-restriction-level optional | Combined restriction for Anonymous User. This setting is derived from security-restrict-anon-noenum-for-sam, security-restrict-anon-noenum-for-samshare and security-restrict-anon-no-access. If no-access is set then this setting is set to no-access. If no-enumeration is set and no-access is not set then this setting is set to no-enumeration. If both no-enumeration and no-access are not set then this setting is set to no-restriction. Attributes: non-creatable, non-modifiable Possible values:<br>• "no_restriction" - No Access Restriction for Anonymous User.,<br>• "no_enumeration" - Only Enumeration Is Restricted.,<br>• "no_access" - Access Restricted for Anonymous User. |
| **security-restrict-anon-no-access** | | boolean optional | Restrict anonymous access to named pipes and shares. This setting is mapped to no-access value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable |
| **security-restrict-anon-noenum-sam** | | boolean optional | Do not allow anonymous enumeration of SAM accounts. This setting is mapped to no-enumeration value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable |
| **security-restrict-anon-noenum-sam-share** | | boolean optional | Do not allow anonymous enumeration of SAM accounts and shares. This setting is mapped to no-enumeration value of restrict-anonymous CIFS option in Data ONTAP. Attributes: non-creatable, non-modifiable |
| **security-restricted-groups** | | gpo-user-group[] optional | List of Restricted groups. Attributes: non-creatable, non-modifiable |
| **version** | **[0..2^32-1]** | integer optional | The individual GPO's update version. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver display name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **gpo-restricted-group-applied-info**

[top]

Applied Restricted Group Settings When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | string optional | Group name associated with GPO group-policy-name. Attributes: key, non-creatable, non-modifiable |
| **group-policy-name** | | string optional | GPO name in text format. Attributes: non-creatable, non-modifiable |
| **link-type** | | string optional | GPO link type. Attributes: non-creatable, non-modifiable |
| **member-of** | | gpo-user-group[] optional | Groups in which group-name is a member of. Attributes: non-creatable, non-modifiable |
| **members** | | gpo-user-group[] optional | Members of the group group-name. Members can be users and/or groups. Attributes: non-creatable, non-modifiable |
| **version** | **[0..2^32-1]** | integer optional | GPO version. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Name of the vserver to which group-name is associated with. Attributes: key, non-creatable, non-modifiable |

# Element definition: **gpo-restricted-group-defined-info**

[top]

Defined Restricted Group Settings in DC When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | string optional | Group name associated with GPO group-policy-name. Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **group-policy-name** | | string optional | GPO name in text format. Attributes: non-creatable, non-modifiable |
| **link-type** | | string optional | GPO link type. Attributes: non-creatable, non-modifiable |
| **member-of** | | gpo-user-group[] optional | Groups in which group-name is a member of. Attributes: non-creatable, non-modifiable |
| **members** | | gpo-user-group[] optional | Members of the group group-name. Members can be users and/or groups. Attributes: non-creatable, non-modifiable |
| **version** | **[0..2^32-1]** | integer optional | GPO version. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Name of the vserver to which group-name is associated with. Attributes: key, non-creatable, non-modifiable |

# Element definition: **true-false** [top]

True/False

[none]

# Element definition: **anonymous-restriction-level** [top]

Classification of the CIFS null user restriction. Possible values:

- "no_restriction" - No Access Restriction for Anonymous User.,
- "no_enumeration" - Only Enumeration Is Restricted.,
- "no_access" - Access Restricted for Anonymous User.

[none]

# Element definition: **gpo-file-security-path** [top]

A group policy file security path string.

[none]

# Element definition: **gpo-user-group** [top]

A group name or a user name.

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **group-mapping**


group-mapping-create
group-mapping-delete
group-mapping-get-iter
group-mapping-insert
group-mapping-modify
group-mapping-swap


## group-mapping-create

[top]

This API is no longer supported as of ONTAP 9.5.0.

Create a new group mapping for a Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | name-mapping-direction | Direction in which the group mapping is applied. Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **pattern** | | string | Pattern to use to match the group while searching for a group that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. |
| **position** | **[1..1024]** | integer | Position of an existing group mapping in the list of group mappings for this Vserver. |
| **replacement** | | string | The group that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. |
| **return-record** | | boolean<br>optional | If set to true, returns the group-mapping on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | group-mapping-info<br>optional | The group-mapping created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# group-mapping-delete

[top]

This API is no longer supported as of ONTAP 9.5.0.

Delete an existing group mapping entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | name-mapping-direction | Direction in which the group mapping is applied. Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **position** | **[1..1024]** | integer | Position of an existing group mapping in the list of group mappings for this Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# group-mapping-get-iter

[top]

This API is no longer supported as of ONTAP 9.5.0.

Retrieve the list of group mappings in the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | group-mapping-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | group-mapping-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the group-mapping object. All group-mapping objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | group-mapping-info[] optional | The list of attributes of group-mapping objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more group-mapping objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# group-mapping-insert

[top]

This API is no longer supported as of ONTAP 9.5.0.

Insert a group mapping into the table at a specified position.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | name-mapping-direction | Direction in which the group mapping is applied. Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **pattern** | | string | Pattern to use to match the group while searching for a group that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. |
| **position** | **[1..1024]** | integer | Position within the set of group mappings that this new mapping will take. If a mapping already exists at this position, it will be moved to the next position in the list. |
| **replacement** | | string | The group that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# group-mapping-modify

[top]

This API is no longer supported as of ONTAP 9.5.0.

Modify an existing group mapping entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | name-mapping-direction | Direction in which the group mapping is applied. Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **pattern** | | string optional | Pattern to use to match the group while searching for a group that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. |
| **position** | **[1..1024]** | integer | Position of an existing group mapping in the list of group mappings for this Vserver. |
| **replacement** | | string optional | The group that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# group-mapping-swap

[top]

This API is no longer supported as of ONTAP 9.5.0.

Swap the position of one group mapping with another. The position is the place in the sequence of group mappings in which the mappings are applied.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | string | Direction in which the group mapping is applied. |
| **position** | **[1..1024]** | integer | Position of an existing group mapping in the list of group mappings for this Vserver. |
| **with-position** | **[0..2^32-1]** | integer | Position of an existing group mapping entry in the list of group mappings for this Vserver. This entry will be swapped with the entry at 'position'. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **group-mapping-info**

[top]

This type is no longer supported as of ONTAP 9.5.0.

group mapping configuration for Vservers. The possible sources of group mapping information and the order in which they are searched is determined by the Vserver's 'name-mapping-switch' option. If the 'name-mapping-switch' is set to 'file', the rules in this table are used to determine the mapping. Windows user groups, UNIX user groups and Kerberos principal groups can be three disjoint sets of groups. A mechanism is needed to map groups from one set to another when presenting ACLs across multiprotocol clients. Each group mapping entry represents one such map in a given direction. group mappings are done using standard UNIX style regular expressions for pattern replacement. For example if a configuration is required to convert any Windows user in the Windows domain name 'EXAMPLE' into a UNIX user with the same name in NIS, the direction entry should be set to 'win-unix', the pattern string should be set to '418 :+)' and the replacement string should be set to '\1'. The double backslash (\\) in the pattern matches a single backslash in the source name. The parentheses denote a subexpression but do not match any characters themselves. The 'period' matches any single character. The 'plus' matches one or more characters of the previous expression. The pattern 'EXAMPLE\\(.+)' matches 'EXAMPLE\' followed by one or more of any character. In the replacement, '\1' refers to the string that the first subexpression matched. Assuming the Windows user 'EXAMPLE\user1', the replacement evaluates to 'user1'. If a mapping is required from Windows to UNIX and none of the name mapping entries match, the domain name is stripped from the the username and it is directly mapped to the UNIX user of the same name. Similarly if a mapping is required from a UNIX user to a Windows user and none of the name mapping entries match, the domain name is prefixed to the username and it is directly mapped to a Windows user of the When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | name-mapping-direction optional | Direction in which the group mapping is applied. Attributes: key, required-for-create, non-modifiable Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **pattern** | | string optional | Pattern to use to match the group while searching for a group that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. Attributes: required-for-create, modifiable |
| **position** | **[1..1024]** | integer optional | Position of an existing group mapping in the list of group mappings for this Vserver. Attributes: key, required-for-create, non-modifiable |
| | | string | The group that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string |

| | | | |
|---|---|---|---|
| **replacement** | | optional | containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. Attributes: required-for-create, modifiable |
| **vserver** | | string<br>optional | Specifies the Vserver for the group mapping. Attributes: key, non-creatable, non-modifiable |

# Element definition: **name-mapping-direction**

[top]

Direction of the name mapping. Possible values:

- "krb_unix" - Kerberos principal name to UNIX user name mapping,
- "win_unix" - Windows user name to UNIX user name mapping,
- "unix_win" - UNIX user name to Windows user name mapping,
- "s3_unix" - S3 user name to UNIX user name mapping,
- "s3_win" - S3 user name to Windows user name mapping

[none]

# APIs in Category: **ha-interconnect**

This set of ZAPIs allows management of high-availability interconnect device and its links.


ha-interconnect-clear-port-counters
ha-interconnect-clear-port-symbol-errors
ha-interconnect-config-details-get-iter
ha-interconnect-connection-status-get-iter
ha-interconnect-flint-flash-details-get-iter
ha-interconnect-flint-image-details-get-iter
ha-interconnect-flint-verify-flash
ha-interconnect-flint-verify-image
ha-interconnect-flush-details-get-iter
ha-interconnect-get-config-details
ha-interconnect-get-connection-status
ha-interconnect-get-flint-flash-details
ha-interconnect-get-flint-image-details
ha-interconnect-get-flush-details
ha-interconnect-get-nvram-configuration
ha-interconnect-get-ood-status
ha-interconnect-get-performance-statistics
ha-interconnect-get-port-details
ha-interconnect-get-scatter-gather-list-statistics
ha-interconnect-get-timeout-values
ha-interconnect-link-off
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ha-interconnect-nic-reset
ha-interconnect-nvram-configuration-get-iter
ha-interconnect-ood-clear-error-statistics
ha-interconnect-ood-clear-performance-

statistics
ha-interconnect-ood-disable-statistics
ha-interconnect-ood-enable-statistics
ha-interconnect-ood-optimization-off
ha-interconnect-ood-optimization-on
ha-interconnect-ood-send-diagnostic-buffer
ha-interconnect-ood-status-get-iter
ha-interconnect-performance-statistics-get-iter
ha-interconnect-port-details-get-iter
ha-interconnect-scatter-gather-list-statistics-get-iter
ha-interconnect-timeout-values-get-iter

# ha-interconnect-clear-port-counters

[top]

Clear high-availability interconnect port counters of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-clear-port-symbol-errors

[top]

Clear high-availability interconnect port symbol errors of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-config-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device configuration information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-config-details optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ha-interconnect-config-details optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-config-details object. All ha-interconnect-config-details objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ha-interconnect-config-details[] optional | The list of attributes of ha-interconnect-config-details objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-config-details objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-connection-status-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect connection status

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | ha-interconnect-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-status-info object. All ha-interconnect-status-info objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ha-interconnect-status-info[] optional | The list of attributes of ha-interconnect-status-info objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-status-info objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EHAIC_INSUFFICIENT_DATA** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-flint-flash-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect binary firmware image information residing in the flash card attached to adapter

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-flint-flash-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ha-interconnect-flint-flash-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-flint-flash-info object. All ha-interconnect-flint-flash-info objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ha-interconnect-flint-flash-info[] optional | The list of attributes of ha-interconnect-flint-flash-info objects. |
| | | | |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-flint-flash-info objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-flint-image-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect binary firmware image information residing in the system

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-flint-image-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ha-interconnect-flint-image-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-flint-image-info object. All ha-interconnect-flint-image-info objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ha-interconnect-flint-image-info[] optional | The list of attributes of ha-interconnect-flint-image-info objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-flint-image-info objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-flint-verify-flash

[top]

Verify high-availability interconnect binary firmware image residing in flash card attached to adapter on the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |
| **EHAIC_FLINT_FAIL** | |

# ha-interconnect-flint-verify-image

[top]

Verify high-availability interconnect binary firmware image residing in system on the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |
| **EHAIC_FLINT_FAIL** | |

# ha-interconnect-flush-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device flush information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-flush-details optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ha-interconnect-flush-details optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-flush-details object. All ha-interconnect-flush-details objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | ha-interconnect- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | flush-details[] optional | The list of attributes of ha-interconnect-flush-details objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-flush-details objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |
| **EHAIC_FLUSHING_INACTIVE** | |

# ha-interconnect-get-config-details

[top]

Get high-availability interconnect device configuration information of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-config-details optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which this configuration information belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-config-details | The attributes of the ha-interconnect-config-details. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-get-connection-status

[top]

Get high-availability interconnect connection status of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which this connection status belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-status-info | The attributes of the ha-interconnect-status-info. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_INSUFFICIENT_DATA** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-get-flint-flash-details

[top]

Get high-availability interconnect binary firmware image information residing in the flash card attached to adapter of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-flint-flash-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which this device firmware image information belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-flint-flash-info | The attributes of the ha-interconnect-flint-flash-info. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-get-flint-image-details

[top]

Get high-availability interconnect binary firmware image information residing in the system of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-flint-image-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which this device firmware image information belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-flint-image-info | The attributes of the ha-interconnect-flint-image-info. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-get-flush-details

[top]

Get high-availability interconnect device flush information of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | ha-ic-nv-channel | High-availability interconnect device NVRAM channel name. Possible values:<br>• "wafl" - HA Interconnect WAFL NV Channel,<br>• "raid" - HA Interconnect RAID NV Channel,<br>• "misc" - HA Interconnect MISC NV Channel |
| **desired-attributes** | | ha-interconnect-flush-details optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which this flush information belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-flush-details | The attributes of the ha-interconnect-flush-details. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |
| **EHAIC_FLUSHING_INACTIVE** | |

# ha-interconnect-get-nvram-configuration

[top]

Get basic nvram configuration information of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-** | | ha-interconnect- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | nvram-info optional | present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-nvram-info | The attributes of the ha-interconnect-nvram-info. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_NO_NVRAM** | |

# ha-interconnect-get-ood-status

[top]

Get high-availability interconnect device out-of-order delivery information of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-ood-status optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which this out-of-order delivery capability information belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-ood-status | The attributes of the ha-interconnect-ood-status. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-get-performance-statistics

[top]

Get high-availability interconnect performance statistics of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-performance-statistics optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which this performance statistics belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-performance-statistics | The attributes of the ha-interconnect-performance-statistics. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ha-interconnect-get-port-details

[top]

Get high-availability interconnect device port information of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-port-details optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which this high-availability interconnect device port information belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-port-details | The attributes of the ha-interconnect-port-details. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-get-scatter-gather-list-statistics

[top]

Get high-availability interconnect device scatter-gather list entry statistics of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-scatter-gather-list-statistics optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which this scatter-gather list entry statistics belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **attributes** | | ha-interconnect-scatter-gather-list-statistics | The attributes of the ha-interconnect-scatter-gather-list-statistics. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ha-interconnect-get-timeout-values

[top]

Get high-availability interconnect software timeout values of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-timeout optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node to which these timeout values belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ha-interconnect-timeout | The attributes of the ha-interconnect-timeout. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ha-interconnect-link-off

[top]

Turn off selected interconnect link on the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **link-number** | | ha-ic-device-port | Interconnect link number (0-based) to turn off. |
| **node-name** | | filer-id | The node on which the link command executes. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_LINK_OPERATION_STATUS** | |

# ha-interconnect-link-on

[top]

Turn on selected interconnect link on the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **link-number** | | ha-ic-device-port | Interconnect link number (0-based) to turn on. |
| **node-name** | | filer-id | The node on which the link command executes. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_LINK_OPERATION_STATUS** | |

# ha-interconnect-modify-timeout-values

[top]

Change high-availability interconnect software timeout values of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ic-mvia-timeout** | | integer optional | Interconnect Read/write Timeout For Virtual Platforms(msecs) |
| **ic-timeout** | | integer optional | Interconnect Read/write Timeout (msecs) |
| **node-name** | | node-name | The node to which these timeout values belongs. |
| **ofw-mvia-timeout** | | integer optional | Firmware Read Timeout For Virtual Platforms(msecs) |
| **ofw-timeout** | | integer optional | Firmware Read Timeout (msecs) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ha-interconnect-nic-reset

[top]

Reset high-availability interconnect device of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

[top]

# ha-interconnect-nvram-configuration-get-iter

Iterate over list of nodes in the cluster to get their basic nvram configuration information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-nvram-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ha-interconnect-nvram-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-nvram-info object. All ha-interconnect-nvram-info objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ha-interconnect-nvram-info[] optional | The list of attributes of ha-interconnect-nvram-info objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-nvram-info objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EHAIC_NO_NVRAM** | |

# ha-interconnect-ood-clear-error-statistics

[top]

Clear high-availability interconnect device out-of-order delivery error statistics of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-ood-clear-performance-statistics

[top]

Clear high-availability interconnect device out-of-order delivery performance statistics of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-ood-disable-statistics

[top]

Disable high-availability interconnect device out-of-order delivery statistics collection for the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-ood-enable-statistics

[top]

Enable high-availability interconnect device out-of-order delivery statistics collection for the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-ood-optimization-off

[top]

Disable coalescing work requests on high-availability interconnect device of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | filer-id | Node |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EHAIC_COMMAND_UNSUPPORTED | |

# ha-interconnect-ood-optimization-on

[top]

Enable coalescing work requests on high-availability interconnect device of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| node-name | | filer-id | Node |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EHAIC_COMMAND_UNSUPPORTED | |

# ha-interconnect-ood-send-diagnostic-buffer

[top]

Send diagnostic buffer to the HA partner of the selected node

| Input Name | Range | Type | Description |
|---|---|---|---|
| node-name | | filer-id | Node |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EHAIC_COMMAND_UNSUPPORTED | |
| EHAIC_SEND_DIAG_FAIL | |

# ha-interconnect-ood-status-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device out-of-order delivery information

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | ha-interconnect-ood-status optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | ha- | A query that specifies which objects to return. A query could be |

| | | | |
|---|---|---|---|
| **query** | | interconnect-ood-status optional | specified on any number of attributes in the ha-interconnect-ood-status object. All ha-interconnect-ood-status objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ha-interconnect-ood-status[] optional | The list of attributes of ha-interconnect-ood-status objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-ood-status objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EHAIC_COMMAND_UNSUPPORTED** | |

# ha-interconnect-performance-statistics-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect performance statistics

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-performance-statistics optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ha-interconnect-performance-statistics optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-performance-statistics object. All ha-interconnect-performance-statistics objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ha-interconnect-performance-statistics[] optional | The list of attributes of ha-interconnect-performance-statistics objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-performance-statistics objects to return. |
| **num-records** | **[0..2^32-** | integer | The number of records returned in this call. |

| | | | |
|---|---|---|---|
| | 1] | | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# ha-interconnect-port-details-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device port information

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | ha-interconnect-port-details optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | ha-interconnect-port-details optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-port-details object. All ha-interconnect-port-details objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | ha-interconnect-port-details[] optional | The list of attributes of ha-interconnect-port-details objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-port-details objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# ha-interconnect-scatter-gather-list-statistics-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect device scatter-gather list entry statistics

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | ha-interconnect-scatter-gather-list- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is |

| | | | |
|---|---|---|---|
| | | statistics optional | available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ha-interconnect-scatter-gather-list-statistics optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-scatter-gather-list-statistics object. All ha-interconnect-scatter-gather-list-statistics objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ha-interconnect-scatter-gather-list-statistics[] optional | The list of attributes of ha-interconnect-scatter-gather-list-statistics objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-scatter-gather-list-statistics objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ha-interconnect-timeout-values-get-iter

[top]

Iterate over list of nodes in the cluster to get their high-availability interconnect software timeout values

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ha-interconnect-timeout optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ha-interconnect-timeout optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ha-interconnect-timeout object. All ha-interconnect-timeout objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ha-interconnect-timeout[] | The list of attributes of ha-interconnect-timeout objects. |

| | | | |
|---|---|---|---|
| | | optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ha-interconnect-timeout objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **filer-id**

[top]

Filer UUID

[none]

# Element definition: **ha-ic-device-port**

[top]

0|1 Possible values:

- "0" - HA Interconnect Device Port 0,
- "1" - HA Interconnect Device Port 1

[none]

# Element definition: **ha-ic-nv-channel**

[top]

wafl|raid|misc Possible values:

- "wafl" - HA Interconnect WAFL NV Channel,
- "raid" - HA Interconnect RAID NV Channel,
- "misc" - HA Interconnect MISC NV Channel

[none]

# Element definition: **ha-interconnect-config-details**

[top]

High-availability interconnect configuration information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **connection-request-initiator** | | ha-ic-initiator optional | The initiator of the connection request. Attributes: non-creatable, non-modifiable Possible values:<br>• "local" - HA Interconnect connections are initiated by the local node,<br>• "partner" - HA Interconnect connections are initiated by the partner |
| **interconnect-port-details** | | interconnect-port-info[] optional | Interconnect device ports information |
| **interface-type** | | ha-ic-interface-type optional | High-availability interconnect links connection interface. Attributes: non-creatable, non-modifiable Possible values:<br>• "backplane" - HA Interconnect is using backplane (internal) links,<br>• "external" - HA Interconnect is using external links |
| **local-node-sysid** | **[0..2^32-1]** | integer optional | Local system identifier. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The node to which this configuration information belongs. Attributes: key, non-creatable, non-modifiable |
| **partner-node-sysid** | **[0..2^32-1]** | integer optional | HA partner system identifier. Attributes: non-creatable, non-modifiable |
| **transport-type** | | string optional | High-availability interconnect type. Attributes: non-creatable, non-modifiable |

# Element definition: **ha-interconnect-flint-flash-info**

[top]

High-availability interconnect binary firmware image information residing in flash card attached to adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **board-id** | | string optional | Interconnect device board identifier. Attributes: non-creatable, non-modifiable |
| **chip-revision** | | string optional | Chip Revision Attributes: non-creatable, non-modifiable |
| **device-id** | **[0..2^32-1]** | integer optional | Device ID Attributes: non-creatable, non-modifiable |
| **fw-version** | | string optional | Firmware Version Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **hw-access-key** | | string optional | Hardware Access Key Attributes: non-creatable, non-modifiable |
| **image-type** | | ha-ic-flint-image-type optional | Image Type Attributes: non-creatable, non-modifiable Possible values:<br>• "connectx" - ConnectX device family,<br>• "fs2" - Flexible storage solutions device family,<br>• "failsafe" - Failsafe enabled device family,<br>• "short" - Non-Failsafe device family |
| **invariant-sector-version** | **[0..2^32-1]** | integer optional | Invariant Sector Version Attributes: non-creatable, non-modifiable |
| **node-guid** | | string optional | Node global unique identifier. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The node to which this device firmware image information belongs. Attributes: key, non-creatable, non-modifiable |
| **parameter-set-id** | | string optional | Parameter set identifier. Attributes: non-creatable, non-modifiable |
| **port1-guid** | | string optional | Port 1 global unique identifier. Attributes: non-creatable, non-modifiable |
| **port1-mac** | | string optional | Port 1 MAC address. Attributes: non-creatable, non-modifiable |
| **port2-guid** | | string optional | Port 2 GUID Attributes: non-creatable, non-modifiable |
| **port2-mac** | | string optional | Port 2 MAC address. Attributes: non-creatable, non-modifiable |
| **product-version** | | string optional | Product Version Attributes: non-creatable, non-modifiable |
| **sys-image-guid** | | string optional | System image global unique identifier. Attributes: non-creatable, non-modifiable |
| **vendor-specific-data** | | string optional | Vendor specific data. Attributes: non-creatable, non-modifiable |

# Element definition: **ha-interconnect-flint-image-info**

[top]

High-availability interconnect binary firmware image information residing in system When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **board-id** | | string optional | Interconnect device board identifier. Attributes: non-creatable, non-modifiable |
| **chip-revision** | | string optional | Chip Revision Attributes: non-creatable, non-modifiable |
| | **[0..2^32-** | integer | |

| | | | |
|---|---|---|---|
| **device-id** | **1]** | optional | Device ID Attributes: non-creatable, non-modifiable |
| **fw-version** | | string optional | Firmware Version Attributes: non-creatable, non-modifiable |
| **hw-access-key** | | string optional | Hardware Access Key Attributes: non-creatable, non-modifiable |
| **image-type** | | ha-ic-flint-image-type optional | Image Type Attributes: non-creatable, non-modifiable Possible values:<br>• "connectx" - ConnectX device family,<br>• "fs2" - Flexible storage solutions device family,<br>• "failsafe" - Failsafe enabled device family,<br>• "short" - Non-Failsafe device family |
| **invariant-sector-version** | **[0..2^32-1]** | integer optional | Invariant Sector Version Attributes: non-creatable, non-modifiable |
| **node-guid** | | string optional | Node global unique identifier. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The node to which this device firmware image information belongs. Attributes: key, non-creatable, non-modifiable |
| **parameter-set-id** | | string optional | Parameter set identifier. Attributes: non-creatable, non-modifiable |
| **port1-guid** | | string optional | Port 1 global unique identifier. Attributes: non-creatable, non-modifiable |
| **port1-mac** | | string optional | Port 1 MAC address. Attributes: non-creatable, non-modifiable |
| **port2-guid** | | string optional | Port 2 GUID Attributes: non-creatable, non-modifiable |
| **port2-mac** | | string optional | Port 2 MAC address. Attributes: non-creatable, non-modifiable |
| **product-version** | | string optional | Product Version Attributes: non-creatable, non-modifiable |
| **sys-image-guid** | | string optional | System image global unique identifier. Attributes: non-creatable, non-modifiable |
| **vendor-specific-data** | | string optional | Vendor specific data. Attributes: non-creatable, non-modifiable |

# Element definition: **ha-interconnect-flush-details**

[top]

High-availability interconnect flush information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | High-availability interconnect device NVRAM channel name. |

| | | | |
|---|---|---|---|
| **channel-name** | | ha-ic-nv-channel optional | Attributes: key, non-creatable, non-modifiable Possible values:<br>• "wafl" - HA Interconnect WAFL NV Channel,<br>• "raid" - HA Interconnect RAID NV Channel,<br>• "misc" - HA Interconnect MISC NV Channel |
| **node-name** | | node-name optional | The node to which this flush information belongs. Attributes: key, non-creatable, non-modifiable |
| **recv-flush-request-id** | **[0..2^64-1]** | integer optional | Flush receive request identifier. Attributes: non-creatable, non-modifiable |
| **recv-notify-complete-id** | **[0..2^64-1]** | integer optional | Flush receive request completion identifier. Attributes: non-creatable, non-modifiable |
| **sent-flush-request-id** | **[0..2^64-1]** | integer optional | Flush sent request identifier. Attributes: non-creatable, non-modifiable |
| **sent-notify-complete-id** | **[0..2^64-1]** | integer optional | Flush sent request completion identifier. Attributes: non-creatable, non-modifiable |

# Element definition: **ha-interconnect-nvram-info**

[top]

Basic nvram configuration information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **local-size** | | size optional | Amount of NVRAM used by Local Node Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **partition** | | string optional | NVRAM Partition Attributes: non-creatable, non-modifiable |
| **total-size** | | size optional | Total NVRAM Size Attributes: non-creatable, non-modifiable |

# Element definition: **ha-interconnect-ood-status**

[top]

High-availability interconnect device out-of-order delivery information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-coalescing-enabled** | | boolean optional | Is Coalescing Enabled Attributes: non-creatable, non-modifiable |
| **is-ood-enabled** | | boolean optional | Is OOD Enabled Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The node to which this out-of-order delivery capability information belongs. Attributes: key, non-creatable, non-modifiable |

# Element definition: **ha-interconnect-performance-statistics**

[top]

Display high-availability interconnect performance statistics When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **average-bytes-per-transfer** | **[0..2^64-1]** | integer optional | Average amount of bytes sent per transfer. Attributes: non-creatable, non-modifiable |
| **average-megabytes-per-second** | | string optional | Average megabytes (MB) transferred per second. Attributes: non-creatable, non-modifiable |
| **average-receive-queue-wait-time** | **[0..2^64-1]** | integer optional | Average amount of time (in usecs) the interconnect device waited to post an empty buffer into the receive queue. Attributes: non-creatable, non-modifiable |
| **average-remote-nv-msgs-time** | **[0..2^64-1]** | integer optional | Average time (in usecs) between two remote NV messages. Attributes: non-creatable, non-modifiable |
| **average-remote-nv-transfer-size** | **[0..2^64-1]** | integer optional | Average transfer size of a remote NV message. Attributes: non-creatable, non-modifiable |
| **average-remote-nv-transfer-time** | **[0..2^64-1]** | integer optional | Average transfer time taken (in usecs) by remote NV messages. Attributes: non-creatable, non-modifiable |
| **avg-misc-queue-length** | **[0..2^64-1]** | integer optional | Average MISC interconnect channel queue depth. Attributes: non-creatable, non-modifiable |
| **avg-nvlog-sync-time** | **[0..2^64-1]** | integer optional | Average time taken (in msecs) to sync NVLOG between HA partner nodes. Attributes: non-creatable, non-modifiable |
| **avg-raid-queue-length** | **[0..2^64-1]** | integer optional | Average RAID interconnect channel queue depth. Attributes: non-creatable, non-modifiable |
| **avg-wafl-queue-length** | **[0..2^64-1]** | integer optional | Average WAFL interconnect channel queue depth. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **elapsed-time** | **[0..2^32-1]** | integer optional | Elapsed time (in seconds) between statistics collection start time and end time. Attributes: non-creatable, non-modifiable |
| **ic-16k-writes** | **[0..2^64-1]** | integer optional | Total number of 16K or more size writes performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **ic-4k-writes** | **[0..2^64-1]** | integer optional | Total number of 4K size writes performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **ic-8k-writes** | **[0..2^64-1]** | integer optional | Total number of 8K size writes performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **ic-data-aligned** | **[0..2^64-1]** | integer optional | Total number of aligned data writes performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **ic-data-misaligned** | **[0..2^64-1]** | integer optional | Total number of misaligned data writes performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **ic-discontiguous-writes** | **[0..2^64-1]** | integer optional | Total number of times the interconnect device performs discontiguous writes spanned across memory pages. Attributes: non-creatable, non-modifiable |
| **ic-isdone** | **[0..2^64-1]** | integer optional | Total number of times the interconnect client checked for the completion of a given tranfer ID. Attributes: non-creatable, non-modifiable |
| **ic-isdone-fail** | **[0..2^64-1]** | integer optional | Total number of times the check for the completion of a given trasfer ID is not yet successful. Attributes: non-creatable, non-modifiable |
| **ic-isdone-pass** | **[0..2^64-1]** | integer optional | Total number of times the check for the completion of a given transfer ID is successful. Attributes: non-creatable, non-modifiable |
| **ic-metadata-aligned** | **[0..2^64-1]** | integer optional | Total number of aligned metadata writes performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **ic-metadata-misaligned** | **[0..2^64-1]** | integer optional | Total number of misaligned metadata writes performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **ic-small-writes** | **[0..2^64-1]** | integer optional | Total number of less than 4K size writes performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **ic-waitdone-time** | **[0..2^64-1]** | integer optional | Average time (in usecs) the interconnect device spent waiting for the IDs to be transferred successfully. Attributes: non-creatable, non-modifiable |
| **ic-waits** | **[0..2^64-1]** | integer optional | Total number of times the interconnect device waits until the transfer of a given ID is successful. Attributes: non-creatable, non-modifiable |
| **ic-xorder-reads** | **[0..2^64-1]** | integer optional | Total number of out-of-order reads performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **ic-xorder-writes** | **[0..2^64-1]** | integer optional | Total number of out-of-order writes performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **max-nvlog-sync-time** | **[0..2^64-1]** | integer optional | Maximum time taken (in msecs) to sync NVLOG between HA partner nodes. Attributes: non-creatable, non-modifiable |
| **max-sgl-length** | **[0..2^32-1]** | integer optional | Maximum length of scatter-gather list supported by the interconnect device. Attributes: non-creatable, non-modifiable |
| **misc-data-io** | **[0..2^64-1]** | integer optional | Total number of MISC data IOs made through the interconnect device. Attributes: non-creatable, non-modifiable |
| **misc-flush-io** | **[0..2^64-1]** | integer optional | Total number of MISC flush IOs made through the interconnect device. Attributes: non-creatable, non-modifiable |
| **misc-metadata-io** | **[0..2^64-1]** | integer optional | Total number of MISC metadata IOs made through the interconnect device. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The node to which this performance statistics belongs. Attributes: key, non-creatable, non-modifiable |
| **nonpreempt-** | **[0..2^64-** | integer | Total number of times polling on the given transfer ID stopped due to interconnect device read/write timeout. Attributes: non- |

| | | | |
|---|---|---|---|
| **timeout** | **1]** | optional | creatable, non-modifiable |
| **notify-timeout** | **[0..2^64-1]** | integer optional | Total number of times data transfer on the HA interconnect timed out. Attributes: non-creatable, non-modifiable |
| **nv-conn-failover-time** | **[0..2^64-1]** | integer optional | NV connection failover time (in msecs). Attributes: non-creatable, non-modifiable |
| **preempt-timeout** | **[0..2^64-1]** | integer optional | Total number of times polling on the given transfer ID is preempted. Attributes: non-creatable, non-modifiable |
| **queue-max-timeout** | **[0..2^64-1]** | integer optional | Total number of times the interconnect device timed out waiting to post requests on the send queue. Attributes: non-creatable, non-modifiable |
| **queue-max-wait-count** | **[0..2^64-1]** | integer optional | Total number of times the interconnect device waited to post requests on the send queue. Attributes: non-creatable, non-modifiable |
| **queue-max-wait-time** | **[0..2^64-1]** | integer optional | Average amount of time (in usecs) the interconnect device waited to post requests on the send queue. Attributes: non-creatable, non-modifiable |
| **raid-data-io** | **[0..2^64-1]** | integer optional | Total number of RAID data IOs made through the interconnect device. Attributes: non-creatable, non-modifiable |
| **raid-flush-io** | **[0..2^64-1]** | integer optional | Total number of RAID flush IOs made through the interconnect device. Attributes: non-creatable, non-modifiable |
| **raid-metadata-io** | **[0..2^64-1]** | integer optional | Total number of RAID metadata IOs made through the interconnect device. Attributes: non-creatable, non-modifiable |
| **rdma-read** | **[0..2^64-1]** | integer optional | Total number of RDMA reads performed by the interconnect device. Attributes: non-creatable, non-modifiable |
| **rdma-read-waitdone-time** | **[0..2^64-1]** | integer optional | Average time (in usecs) the interconnect device spent polling for transfer IDs on the RDMA-read channel. Attributes: non-creatable, non-modifiable |
| **remote-nv-transfers** | **[0..2^64-1]** | integer optional | Total number of remote NV transfers attempted. Attributes: non-creatable, non-modifiable |
| **total-receive-queue-waits** | **[0..2^64-1]** | integer optional | Total number of times the interconnect device waited to post an empty buffer into the receive queue. Attributes: non-creatable, non-modifiable |
| **total-transfers** | **[0..2^64-1]** | integer optional | Total number of transfers made through the interconnect device. Attributes: non-creatable, non-modifiable |
| **wafl-data-io** | **[0..2^64-1]** | integer optional | Total number of WAFL data IOs made through the interconnect device. Attributes: non-creatable, non-modifiable |
| **wafl-flush-io** | **[0..2^64-1]** | integer optional | Total number of WAFL flush IOs made through the interconnect device. Attributes: non-creatable, non-modifiable |
| **wafl-metadata-io** | **[0..2^64-1]** | integer optional | Total number of WAFL metadata IOs made through the interconnect device. Attributes: non-creatable, non-modifiable |

# Element definition: **ha-interconnect-port-details**

[top]

High-availability interconnect device port information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **device-port-details** | | device-port-info[] optional | Interconnect device port link state information |
| **link-monitor** | | boolean optional | Link monitor detection capability. On means link monitor detection is enabled on this device. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The node to which this high-availability interconnect device port information belongs. Attributes: key, non-creatable, non-modifiable |

# Element definition: **ha-interconnect-scatter-gather-list-statistics**

[top]

High-availability interconnect device scatter-gather list entry statistics When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | node-name optional | The node to which this scatter-gather list entry statistics belongs. Attributes: key, non-creatable, non-modifiable |
| **sgl-details** | | sgl-info[] optional | Interconnect device scatter-gather list statistics |

# Element definition: **ha-interconnect-status-info**

[top]

High-availability interconnect connection status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **command-revision** | **[0..2^32-1]** | integer optional | High-availability interconnect device command revision. Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **debug-firmware** | | boolean optional | High-availability interconnect device firmware debug capability status. Attributes: non-creatable, non-modifiable |
| **device-type** | | string optional | Device Type Attributes: non-creatable, non-modifiable |
| **driver-name** | | string optional | High-availability interconnect device driver name. Attributes: non-creatable, non-modifiable |
| **firmware** | | string optional | High-availability interconnect device firmware version. Attributes: non-creatable, non-modifiable |
| **hardware-revision** | **[0..2^32-1]** | integer optional | High-availability interconnect device hardware revision. Attributes: non-creatable, non-modifiable |
| **ic-connection** | | ha-ic-state optional | The status of failover monitor channel over the interconnect. up means channel is active. Attributes: non-creatable, non-modifiable Possible values:<br>• "up" - Indicate up status of a HA Interconnect entity,<br>• "down" - Indicate down status of a HA Interconnect entity,<br>• "error" - Indicate error status of a HA Interconnect entity |
| **is-link0-active** | | boolean optional | Link 0 active status. True means there are active channels over this interconnect link. Attributes: non-creatable, non-modifiable |
| **is-link1-active** | | boolean optional | Link 1 active status. True means there are active channels over this interconnect link. Attributes: non-creatable, non-modifiable |
| **link-status** | | ha-ic-state optional | High-availability interconnect link status. up means the link is online. Attributes: non-creatable, non-modifiable Possible values:<br>• "up" - Indicate up status of a HA Interconnect entity,<br>• "down" - Indicate down status of a HA Interconnect entity,<br>• "error" - Indicate error status of a HA Interconnect entity |
| **link0-status** | | ha-ic-state optional | High-availability interconnect link 0 status. up means the link is online. Attributes: non-creatable, non-modifiable Possible values:<br>• "up" - Indicate up status of a HA Interconnect entity,<br>• "down" - Indicate down status of a HA Interconnect entity,<br>• "error" - Indicate error status of a HA Interconnect entity |
| **link1-status** | | ha-ic-state optional | High-availability interconnect link 1 status. up means the link is online. Attributes: non-creatable, non-modifiable Possible values:<br>• "up" - Indicate up status of a HA Interconnect entity,<br>• "down" - Indicate down status of a HA Interconnect entity,<br>• "error" - Indicate error status of a HA Interconnect entity |
| **node-name** | | node-name optional | The node to which this connection status belongs. Attributes: key, non-creatable, non-modifiable |
| **nvlog-rdma** | | ha-ic-state optional | The status of NVRAM channels over the interconnect. up means channels are active. Attributes: non-creatable, non-modifiable Possible values:<br>• "up" - Indicate up status of a HA Interconnect entity,<br>• "down" - Indicate down status of a HA Interconnect entity,<br>• "error" - Indicate error status of a HA Interconnect entity |
| **port-number-1** | **[0..2^32-1]** | integer optional | High-availability interconnect device port 1. Attributes: non-creatable, non-modifiable |
| **port-number-2** | **[0..2^32-1]** | integer optional | High-availability interconnect device port 2. Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **port1-base-lid** | | string optional | High-availability interconnect device port 1 local identifier. Attributes: non-creatable, non-modifiable |
| **port1-data-rate** | | string optional | High-availability interconnect device port 1 supported data rate. Attributes: non-creatable, non-modifiable |
| **port1-gid** | | string optional | High-availability interconnect device port 1 global identifier. Attributes: non-creatable, non-modifiable |
| **port1-link-info** | | string optional | High-availability interconnect device port 1 link information. Attributes: non-creatable, non-modifiable |
| **port1-mtu** | **[0..2^32-1]** | integer optional | High-availability interconnect device port 1 maximum transmission unit size. Attributes: non-creatable, non-modifiable |
| **port1-port-name** | | string optional | High availability interconnect device port 1 port name. Attributes: non-creatable, non-modifiable |
| **port1-qsfp-part-number** | | string optional | High-availability interconnect device port 1 QSFP (Quad Small Form-factor Pluggable) part number. Attributes: non-creatable, non-modifiable |
| **port1-qsfp-serial-number** | | string optional | High-availability interconnect device port 1 QSFP (Quad Small Form-factor Pluggable) serial number. Attributes: non-creatable, non-modifiable |
| **port1-qsfp-type** | | string optional | High-availability interconnect device port 1 QSFP (Quad Small Form-factor Pluggable) cable type. Attributes: non-creatable, non-modifiable |
| **port1-qsfp-vendor** | | string optional | High-availability interconnect device port 1 QSFP (Quad Small Form-factor Pluggable) vendor name. Attributes: non-creatable, non-modifiable |
| **port1-remote-lid** | | string optional | High-availability interconnect device port 2 remote local identifier. Attributes: non-creatable, non-modifiable |
| **port2-base-lid** | | string optional | High-availability interconnect device port 2 local identifier. Attributes: non-creatable, non-modifiable |
| **port2-data-rate** | | string optional | High-availability interconnect device port 2 supported data rate. Attributes: non-creatable, non-modifiable |
| **port2-gid** | | string optional | High-availability interconnect device port 2 global identifier. Attributes: non-creatable, non-modifiable |
| **port2-link-info** | | string optional | High-availability interconnect device port 2 link information. Attributes: non-creatable, non-modifiable |
| **port2-mtu** | **[0..2^32-1]** | integer optional | High-availability interconnect device port 2 maximum transmission unit size. Attributes: non-creatable, non-modifiable |
| **port2-port-name** | | string optional | High availability interconnect device port 2 port name. Attributes: non-creatable, non-modifiable |
| **port2-qsfp-part-number** | | string optional | High-availability interconnect device port 2 QSFP (Quad Small Form-factor Pluggable) part number. Attributes: non-creatable, non-modifiable |
| **port2-qsfp-serial-number** | | string optional | High-availability interconnect device port 2 QSFP (Quad Small Form-factor Pluggable) serial number. Attributes: non-creatable, non-modifiable |
| **port2-qsfp-type** | | string optional | High-availability interconnect device port 2 QSFP (Quad Small Form-factor Pluggable) cable type. Attributes: non-creatable, non-modifiable |
| **port2-qsfp-vendor** | | string optional | High-availability interconnect device port 2 QSFP (Quad Small Form-factor Pluggable) vendor name. Attributes: non-creatable, non-modifiable |
| **serial-number** | | string optional | High-availability interconnect device serial number. Attributes: non-creatable, non-modifiable |
| **slot** | **[0..2^32-1]** | integer optional | High-availability interconnect device PCI slot number. Attributes: non-creatable, non-modifiable |
| | | string | High-availability interconnect device version number. Attributes: |

| | | | |
|---|---|---|---|
| **version** | | optional | non-creatable, non-modifiable |

# Element definition: **ha-interconnect-timeout**

[top]

High-availability interconnect software timeout values When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ic-mvia-timeout** | **[1000..34000]** | integer optional | Interconnect Read/write Timeout For Virtual Platforms(msecs) Attributes: non-creatable, modifiable |
| **ic-timeout** | **[1000..4000]** | integer optional | Interconnect Read/write Timeout (msecs) Attributes: non-creatable, modifiable |
| **node-name** | | node-name optional | The node to which these timeout values belongs. Attributes: key, non-creatable, non-modifiable |
| **ofw-mvia-timeout** | **[1000..34000]** | integer optional | Firmware Read Timeout For Virtual Platforms(msecs) Attributes: non-creatable, modifiable |
| **ofw-timeout** | **[1000..4000]** | integer optional | Firmware Read Timeout (msecs) Attributes: non-creatable, modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **device-port-info**

[top]

Interconnect device port link state information

| Name | Range | Type | Description |
|---|---|---|---|
| **is-active-link** | | boolean optional | Link active status. True means link on this given port is now active and used for the operations. Attributes: non-creatable, non-modifiable |
| | | ha-ic-cx- | High-availability interconnect link link layer state on a given port. Attributes: non-creatable, non-modifiable Possible values:<br>• "invalid" , |

| | | | |
|---|---|---|---|
| **link-layer-state** | | link-state optional | "down" ,<br>• "initialize" ,<br>• "armed" ,<br>• "active" ,<br>• "reserved" |
| **phy-layer-state** | | ha-ic-cx-phy-state optional | High-availability interconnect link physical layer state on a given port. Attributes: non-creatable, non-modifiable Possible values:<br>• "invalid" ,<br>• "sleep" ,<br>• "polling" ,<br>• "disabled" ,<br>• "port_configuration_testing" ,<br>• "linkup" ,<br>• "link_error_recovery" ,<br>• "phytest" ,<br>• "reserved" |
| **phy-link-down-count** | **[0..2^32-1]** | integer optional | Total number of times the link on a given port is transitioned down. Attributes: non-creatable, non-modifiable |
| **phy-link-up-count** | **[0..2^32-1]** | integer optional | Total number of times the link on a given port is transitioned up. Attributes: non-creatable, non-modifiable |
| **port** | **[0..2^32-1]** | integer optional | High-availability interconnect device port number. Attributes: non-creatable, non-modifiable |

# Element definition: **ha-ic-flint-image-type**

[top]

connectx|fs2|failsafe|short Possible values:

- "connectx" - ConnectX device family,
- "fs2" - Flexible storage solutions device family,
- "failsafe" - Failsafe enabled device family,
- "short" - Non-Failsafe device family

[none]

# Element definition: **ha-ic-initiator**

[top]

local|partner Possible values:

- "local" - HA Interconnect connections are initiated by the local node,
- "partner" - HA Interconnect connections are initiated by the partner

[none]

# Element definition: **ha-ic-interface-type**

[top]

backplane|external Possible values:

- "backplane" - HA Interconnect is using backplane (internal) links,
- "external" - HA Interconnect is using external links

[none]

# Element definition: **ha-ic-nv-channel**

[top]

wafl|raid|misc Possible values:

- "wafl" - HA Interconnect WAFL NV Channel,
- "raid" - HA Interconnect RAID NV Channel,
- "misc" - HA Interconnect MISC NV Channel

[none]

# Element definition: **ha-ic-state**

[top]

up|down Possible values:

- "up" - Indicate up status of a HA Interconnect entity,
- "down" - Indicate down status of a HA Interconnect entity,
- "error" - Indicate error status of a HA Interconnect entity

[none]

# Element definition: **interconnect-port-info**

[top]

Interconnect device ports information

| Name | Range | Type | Description |
|---|---|---|---|
| **interface-flags** | | string optional | High-availability interconnect device port interface flags. Attributes: non-creatable, non-modifiable |
| **ipaddress** | | string optional | High-availability interconnect device port IP address. Attributes: non-creatable, non-modifiable |
| **port-name** | | string optional | High-availability interconnect device port name. Attributes: non-creatable, non-modifiable |

# Element definition: **sgl-info**

[top]

Interconnect device scatter-gather list statistics

| Name | Range | Type | Description |
|---|---|---|---|
| **scatter-gather-entry** | **[0..2^32-1]** | integer optional | The index value of the scatter-gather entry in the list. Attributes: non-creatable, non-modifiable |
| **total-count** | **[0..2^64-1]** | integer optional | Total number of times a particular scatter-gather list element is used. Attributes: non-creatable, non-modifiable |
| **total-size** | **[0..2^64-1]** | integer optional | Total number of bytes written by the high-availability interconnect device using a particular scatter-gather list element. Attributes: non-creatable, non-modifiable |

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **ha-ic-cx-link-state**

[top]

invalid|down|initialize|armed|active|reserved Possible values:

- "invalid" ,
- "down" ,
- "initialize" ,
- "armed" ,
- "active" ,
- "reserved"

[none]

# Element definition: **ha-ic-cx-phy-state**

[top]

invalid|sleep|polling|disabled|port-configuration-testing|linkup|link-error-recovery|phytest|reserved Possible values:

- "invalid" ,
- "sleep" ,
- "polling" ,
- "disabled" ,
- "port_configuration_testing" ,
- "linkup" ,
- "link_error_recovery" ,
- "phytest" ,
- "reserved"

[none]

# APIs in Category: **igroup**


igroup-add
igroup-bind-portset
igroup-create
igroup-destroy
igroup-get-iter
igroup-list-info
igroup-lookup-lun
igroup-os-type-list
igroup-remove
igroup-rename
igroup-set-attribute
igroup-unbind-portset


## igroup-add

[top]

Adds initiator to an existing initiator group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Forcibly add the initiator, disabling mapping and type conflict checks with the high-availability partner. If not specified all conflict checks are performed. In Data ONTAP Cluster-Mode, this field is accepted for backwards compatibility and is ignored. |
| **initiator** | | string | WWPN, WWPN Alias, or iSCSI name of Initiator to add. |
| **initiator-group-name** | | string | Name of initiator group. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |
| **EVDISK_ERROR_NOT_VALID_FC_WWN** | |
| **EVDISK_ERROR_NOT_VALID_ISCSI_NAME** | |
| **EVDISK_ERROR_INITGROUP_HAS_NODE** | |
| **EVDISK_ERROR_LUN_MAPPING_CONFLICT** | |
| **EVDISK_ERROR_INITGROUP_TOO_MANY_NODENAMES** | |
| **EVDISK_ERROR_PARTNER_HAS_LUN** | |
| **EVDISK_ERROR_PARTNER_NOT_REACHABLE** | |
| **EVDISK_ERROR_PARTNER_HAS_DIFFERENT_OS_TYPE** | |
| **EVDISK_ERROR_VIRTUAL_LUN_MAPPING_CONFLICT** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# igroup-bind-portset

[top]

Bind an existing igroup to a given portset.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of initiator group to bind the portset to. |
| **portset-name** | | string | Name of portset. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_PORTSET_NO_SUCH_SET** | |
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |
| **EVDISK_ERROR_INITGROUP_ALREADY_BOUND** | |
| **EVDISK_ERROR_PORTSET_THROTTLE_EXCEEDED** | |
| **EVDISK_ERROR_INITGROUP_BIND_WRONG_TYPE** | |
| **EVDISK_ERROR_INITGROUP_EMPTY_PSET_BIND** | |
| **E_SAN_NOT_READY** | |

# igroup-create

[top]

Creates a new initiator group. In Data ONTAP 7.3 and upto ONTAP 8.0, the ALUA (Asymmetric Logical Unit Access) attribute will be enabled by default if initiator-group-type is "fcp" and os-type is "aix", "hpux", or "linux. In Data ONTAP 7-mode 8.1 and later, the ALUA attribute is enabled by default for all os-type if initiator-group-type is "fcp". In Data ONTAP Cluster-Mode 8.1 and later, the ALUA attribute is enabled by default on all initiator groups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **bind-portset** | | string optional | Name of a current portset to bind to the newly created igroup. |
| **initiator-group-name** | | string | Name of initiator group. |
| **initiator-group-type** | | string | Type of the initiator group. Possible values: "fcp", "iscsi", "mixed". "mixed" is available in Data ONTAP Cluster-Mode 8.1 or later only. |
| **os-type** | | initiator-group-os-type optional | OS type of the initiators within the group. The default value if not specified is "default". The os type applies to all initiators within the group and governs the finer details of SCSI protocol interaction with these initiators. It is strongly recommended for the caller of this API to specify an OS type that is not "default". Some host OSes require this type field be set correctly in order to function properly. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVDISK_ERROR_INITGROUP_INVALID_ATTR_OS_TYPE_VALUE** | |
| **EVDISK_ERROR_INITGROUP_EXISTS** | |
| **EVDISK_ERROR_INITGROUP_MISSING_ARGS** | |
| **EVDISK_ERROR_INITGROUP_INVALID_ATTR_TYPE** | |
| **EVDISK_ERROR_PORTSET_NO_SUCH_SET** | |
| **EVDISK_ERROR_INITGROUP_EMPTY_PSET_BIND** | |

| | |
|---|---|
| **EVDISK_ERROR_INITGROUP_BIND_WRONG_TYPE** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| Yes |

# igroup-destroy

[top]

Destroys an existing initiator group. By default a group cannot be destroyed if there are existing lun maps defined for that group. This behaviour can be overridden with the use of force option set to "true" which will destroy the initiator group and any associated lun maps.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Forcibly destroy the initiator group, even if there are existing lun maps. Best practice is to attempt to unmap all the luns associated with a group before destroying it. |
| **initiator-group-name** | | string | Name of initiator group. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |
| **EVDISK_ERROR_INITGROUP_MAPS_EXIST** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| Yes |

# igroup-get-iter

[top]

Iterate over a list of igroup objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | initiator-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | initiator-group-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the igroup object. All igroup objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| | | | |
|---|---|---|---|

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | initiator-group-info[] optional | The list of attributes of igroup objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more igroup objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# igroup-list-info

[top]

Get information for initiator group(s).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string optional | Name of initiator group. If specified, only information for that group is returned. If not specified, information for all of the initiator groups is returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **initiator-groups** | | initiator-group-info[] | List of initiator groups. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |

| Vfiler-enabled |
|---|
| **Yes** |

# igroup-lookup-lun

[top]

Find the path to the lun mapped at a given lun-id for a given initiator group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of initiator group to search. |
| **lun-id** | **[0..4095]** | integer | Lun-id (Logical Unit Number) to search for. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path to the lun. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |

| Errno | Description |
|---|---|
| EVDISK_ERROR_NO_SUCH_LUNMAP | |

| Vfiler-enabled |
|---|
| Yes |

# igroup-os-type-list

[top]

Displays the supported values and descriptions for initiator-group-os-type.

| Output Name | Range | Type | Description |
|---|---|---|---|
| ostypes | | system-api-enum-value-info[] | Enumeration type name/value pair |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# igroup-remove

[top]

Removes node(s) from an initiator group. The operation is prohibited if there are existing lun maps defined for that group. The force option set to "true" can be used to forcibly remove the node regardless of mappings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| force | | boolean optional | Forcibly remove the initiator even if there are existing LUNs mapped to this initiator group. |
| initiator | | string | WWPN, WWPN Alias, or iSCSI name of Initiator to remove. |
| initiator-group-name | | string | Name of initiator group. |

| Errno | Description |
|---|---|
| EVDISK_ERROR_NO_SUCH_INITGROUP | |
| EVDISK_ERROR_INITGROUP_MAPS_EXIST | |
| EVDISK_ERROR_NOT_VALID_FC_WWN | |
| EVDISK_ERROR_NOT_VALID_ISCSI_NAME | |
| EVDISK_ERROR_NODE_NOT_IN_INITGROUP | |
| E_SAN_NOT_READY | |

| Vfiler-enabled |
|---|
| Yes |

# igroup-rename

[top]

Rename an existing initiator group. The rename operation is non-disruptive.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of initiator group to be renamed. |
| **initiator-group-new-name** | | string | New name to be given to initiator group. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |
| **EVDISK_ERROR_INITGROUP_EXISTS** | |
| **EVDISK_ERROR_CANT_CREATE_INITGROUP_FILE** | |
| **EVDISK_ERROR_CANT_WRITE_INITGROUP_FILE** | |
| **EVDISK_ERROR_CANT_RENAME_INITGROUP_FILE** | |
| **EINVALIDINPUTERROR** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# igroup-set-attribute

[top]

Sets an attribute for an initiator group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attribute** | | string | Name of the attribute to change. Possible values: "alua", "os-type", "throttle_borrow", "throttle_reserve", "report_scsi_name". "alua" is available in Data ONTAP 7.2 or later. "report_scsi_name" is available in Data ONTAP 8.1.0 or later. "alua", "throttle_reserve","throttle_borrow" and "report_scsi_name" are not available in Data ONTAP Cluster-Mode. |
| **initiator-group-name** | | string | Name of initiator group. |
| **value** | | string | Value for the attribute. The valid values for "os-type" are the supported os-types listed in the igroup-create API. In Data ONTAP 7-Mode, setting the "os-type" attribute will perform checks with the high-availability partner if this filer is running in the 'single_image' fcp cfmode and this igroup is an FCP igroup. It is also strongly recommended the "default" os-type not be used. Using "default" may cause problems with LUN access. API to always require the proper OS type information The valid values for "throttle_reserve" are 0-99 The valid values for "throttle_borrow" are true or false The valid values for "alua" are true or false The valid values for "report_scsi_name" are true or false |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |
| **EVDISK_ERROR_INITGROUP_MISSING_ARGS** | |
| **EVDISK_ERROR_INITGROUP_INVALID_ATTR_TYPE** | |
| **EVDISK_ERROR_IGROUP_NOT_THROTTLED** | |
| **EVDISK_ERROR_IGROUP_ALREADY_THROTTLED** | |
| **EVDISK_ERROR_THROTTLE_TOO_MUCH** | |
| **EVDISK_ERROR_THROTTLE_BEING_DELETED** | |
| **EVDISK_ERROR_NO_ISCSI_THROTTLES** | |
| **EVDISK_ERROR_INITGROUP_INVALID_ATTR_MODE_VALUE** | |

| | |
|---|---|
| **EVDISK_ERROR_INITGROUP_INVALID_ATTR_MODE_CONFIG** | |
| **EVDISK_ERROR_PARTNER_HAS_DIFFERENT_OS_TYPE** | |
| **EVDISK_ERROR_PARTNER_NOT_REACHABLE** | |
| **EVDISK_ERROR_ALUA_NOT_SUPPORTED** | |
| **EVDISK_ERROR_INITGROUP_WRONG_TYPE** | |
| **EVDISK_ERROR_ALUA_ISCSI_TRANSPORT_TYPE_CONFLICT** | |
| **EVDISK_ERROR_ALUA_FCP_TRANSPORT_TYPE_CONFLICT** | |
| **E_SAN_NOT_READY** | |

# igroup-unbind-portset

[top]

Unbind an existing igroup from a portset.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of initiator group to unbind from the portset. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |
| **EVDISK_ERROR_INITGROUP_NOT_BOUND** | |
| **EVDISK_ERROR_PORTSET_THROTTLE_EXCEEDED** | |
| **E_SAN_NOT_READY** | |

# Element definition: **initiator-group-info**

[top]

Information about an initiator group.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-alua-enabled** | | boolean | Boolean value to indicate if this initiator group has ALUA (Asymmetric Logical Unit Access) features enabled for luns mapped to this initiator group. |
| **initiator-group-delete-on-unmap** | | boolean optional | Boolean value to indicate if this initiator group will be automatically deleted when unmapped from a LUN if it is no longer part of any other LUN maps. This field is available in Data ONTAP 9.2 and later. |
| **initiator-group-name** | | string | Name of this initiator group. |
| **initiator-group-os-type** | | initiator-group-os-type | OS type of the initiator group |
| **initiator-group-portset-name** | | string optional | Name of the portset that is bound to the initiator group, if any. |
| **initiator-** | | | |

| | | | |
|---|---|---|---|
| **group-report-scsi-name-enabled** | | boolean optional | Boolean value to indicate whether to report or hide SCSI Name String (8h) Descriptor to initiator's INQUIRY VPD 0x83 page command. This field is available in Data ONTAP 8.1.0 and later. |
| **initiator-group-throttle-borrow** | | boolean | Boolean value to indicate that the igroups throttle reserve may be exceeded if the igroup attempts to use more than it has reserved. |
| **initiator-group-throttle-reserve** | | integer | Percentage of filer SCSI command blocks reserved for this initiator group's exclusive usage. |
| **initiator-group-type** | | string | Type of the initiators in this group. Possible values: "iscsi", "fcp", "mixed". |
| **initiator-group-use-partner** | | boolean optional | Boolean value to indicate if this initiator group is configured for its luns to require the use of host multi-pathing software for correct high-availability failover operation. In Data ONTAP 7-Mode, this value is optional and is only returned for FCP initiator groups on an storage system in an HA pair. In Data ONTAP Cluster-Mode, this field will always be 'true'. |
| **initiator-group-uuid** | | string optional | This value is Universally-unique identifier (UUID) of this initiator group.<br><br>The UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hexadecimal characters, the second through fourth groupings have four hexadecimal characters each, and the fifth and final grouping has 12 hexadecimal characters. Note that a leading '0x' is not used.<br><br>This field is available in Data ONTAP 7-mode 7.3.6, 8.0.2, 8.1.0 and later for the igroup-list-info API. This field is available in Data ONTAP Cluster-Mode 8.1.0 and later for the igroup-get-iter and lun-map-list-info APIs.<br><br>Here is an example of an actual UUID:<br><br>35d6ca90-c759-11df-8b6d-00a098132c6c |
| **initiator-group-vsa-enabled** | | boolean | Boolean value to indicate if this initiator group has Volume Set Addressing (VSA) enabled or disabled. |
| **initiators** | | initiator-info[] optional | List of initiators belonging to this group. |
| **lun-id** | **[0..4095]** | integer optional | LUN identifier to which the LUN is mapped at the host. This value is optional and is only returned for the lun-map-list-info api. |
| **vserver** | | string optional | Name of the vserver hosting this initiator group |

# Element definition: **initiator-group-os-type**

[top]

The operating system of the initiator group. This value modifies the finer details of SCSI protocol

interaction for initiators in the group. Possible values:

- "aix" The initiators belong to an AIX host,
- "default" The initiators belong to an unknown host type,
- "hpux" The initiators belong to an HP-UX host,
- "hyper_v" The initiators belong to a Hyper-V parent host,
- "linux" The initiators belong to a Linux host,
- "netware" The initiators belong to a NetWare host,
- "openvms" The initiators belong to an OpenVMS host,
- "solaris" The initiators belong to a Solaris host,
- "vmware" The initiators belong to a VMware ESX host,
- "windows" The initiators belong to a Windows host,
- "xen" The initiators belong to a Xen hypervisor host.

[none]

# Element definition: **system-api-enum-value-info**

[top]

Enumeration type name/value pair When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | Description of the enumeration value Attributes: non-creatable, non-modifiable |
| **value** | | string optional | Name of the enumeration value Attributes: key, non-creatable, non-modifiable |

# Element definition: **initiator-info**

[top]

Information about one initiator.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-name** | | string | Name of the initiator. |

# APIs in Category: **iscsi**


iscsi-adapter-config-down
iscsi-adapter-config-up
iscsi-adapter-initiators-list-info
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iscsi-auth-add-initiator-address-ranges
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iscsi-service-create
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iscsi-service-get-iter

iscsi-service-modify
iscsi-service-start
iscsi-service-status
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iscsi-session-get-iter
iscsi-session-list-info
iscsi-stats-get-iter
iscsi-stats-list-info
iscsi-target-alias-clear-alias
iscsi-target-alias-get-alias
iscsi-target-alias-set-alias
iscsi-tpgroup-alua-set
iscsi-tpgroup-create
iscsi-tpgroup-destroy
iscsi-tpgroup-get-iter
iscsi-tpgroup-interface-add
iscsi-tpgroup-interface-delete
iscsi-tpgroup-list-info

# iscsi-adapter-config-down

[top]

Configures the specified adapter down. This API is obsolete beginning with ONTAP 7.1 and will always return the error EOPNOTSUPPORTED. There is no equivalent API to replace it.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-adapter** | | string | iscsi adapter. |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |

| License |
|---|
| **iscsi** |

# iscsi-adapter-config-up

[top]

Configures the specified adapter up. This API is obsolete beginning with ONTAP 7.1 and will always return the error EOPNOTSUPPORTED. There is no equivalent API to replace it.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-adapter** | | string | iscsi adapter. |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |

| License |
|---|
| **iscsi** |

# iscsi-adapter-initiators-list-info

[top]

Get the list of initiators currently connected to any of the portal groups associated with specified adapter. Information returned for each initiator includes the target portal group number to which the initiator is connected, as well as the iSCSI initiator nodename and ISID. If no adapter is specified, information is returned for all initiators connected through any adapter in the system. NOTE: Beginning with ONTAP 7.1 this API is only intended for use by legacy applications that are already coded to this API. New applications should use iscsi-portal-list-info to get the list of iSCSI portals. associated with this filer. Complete removal of this ZAPI may occur in any release after 7.1.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-adapter** | | string optional | Adapter to get initiator list for. If no adapter is specified, information is returned for all initiators connected through any iscsi adapter in the system. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-adapters** | | iscsi-adapter-initiators-info[] | A list of iscsi adapters containing list of initiators. |

| Errno | Description |
|---|---|
| **EADAPTERNOTFOUND** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-adapter-list-info

[top]

Display the configuration information for iscsi adaptor(s), including the iSCSI portals associated with a virtual adapter. NOTE: Beginning with ONTAP 7.1 this API is only intended for use by legacy applications that are already coded to this API. New applications should use iscsi-portal-list-info to get the list of iSCSI portals. associated with this filer. Complete removal of this ZAPI may occur in any release after 7.1.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-adapter** | | string optional | Returns configuration information for adapter if specified. If not specified, then configuration information for all adapters are returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-config-adapters** | | iscsi-config-adapter- | A list of iscsi adapter configuration information. |

| | | | |
|---|---|---|---|
| | | info[] | |

| Errno | Description |
|---|---|
| EADAPTERNOTFOUND | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| iscsi |

# iscsi-adapter-reset-stats

[top]

This API is obsolete beginning with ONTAP 7.1 and will always return the error EOPNOTSUPPORTED. For the equivalent functionality use the ZAPI iscsi-reset-stats

| Input Name | Range | Type | Description |
|---|---|---|---|
| iscsi-adapter | | string optional | Adapter to reset statistics for. |

| Errno | Description |
|---|---|
| EOPNOTSUPPORTED | |

| License |
|---|
| iscsi |

# iscsi-adapter-stats-list-info

[top]

This API is obsolete beginning with ONTAP 7.1 and will always return the error EOPNOTSUPPORTED. For the equivalent functionality use the ZAPI iscsi-stats-list-info The fields returned by iscsi-stats-list-info are very slightly different from those previously returned by iscsi-adapter-stats-list-info

| Input Name | Range | Type | Description |
|---|---|---|---|
| iscsi-adapter | | string optional | Adapter to get statistics for. |

| Errno | Description |
|---|---|
| EOPNOTSUPPORTED | |

| License |
|---|
| iscsi |

# iscsi-auth-add-initiator-address-ranges

[top]

Add one or more Initiator IP Address Ranges

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string | Initiator Name |
| **initiator-address-ranges** | | ip-range-or-mask[] | Initiator IP Address Ranges |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# iscsi-auth-generate-chap-password

[top]

Generate a 128 bit random password that can be used as a CHAP secret. This API was removed in Data ONTAP 9.0. Applications should use local entropy to generate CHAP secrets if desired.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **secret** | | string | A randomly generated 128 bit password. |

| Errno | Description |
|---|---|
| **EISCSISECPROCESSINGERROR** | |
| **EAPIUNSUPPORTEDVERSION** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-auth-remove-initiator-address-ranges

[top]

Remove one or more Initiator IP Address Ranges

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string | Initiator Name |
| **initiator-address-ranges** | | ip-range-or-mask[] | Initiator IP Address Ranges |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# iscsi-connection-get-iter

[top]

Iterate over a list of iSCSI Connection objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | iscsi-connection-list-entry-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | iscsi-connection-list-entry-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI Connection object. All iSCSI Connection objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | iscsi-connection-list-entry-info[] optional | The list of attributes of iSCSI Connection objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more iSCSI Connection objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-connection-list-info

[top]

list iscsi connections on filer

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-connection-list-entries** | | iscsi-connection-list-entry-info[] | List of connection |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |

**Vfiler-enabled**
**Yes**

**License**

| iscsi |
|---|

# iscsi-initiator-add-auth

[top]

Add initiator to the authentication list.

| Input Name | Range | Type | Description |
|---|---|---|---|
| auth-type | | string | Authentication type. Possible values: "CHAP", "none", "deny". |
| initiator | | string | Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". |
| initiator-address-ranges | | ip-range-or-mask[] optional | May be a single IPv4 or IPv6 address or a range containing a start address and an end address. The start and end addresses themselves are included in the range. If not present, the initiator is allowed to log in from any IP address.<br><br>An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'. |
| outbound-passphrase | | string optional | Outbound CHAP user password. Outbound authentication is optional. If Outbound authentication is not specified, then the initiator can only do inbound authentication. |
| outbound-user-name | | string optional | Outbound CHAP user name. Outbound authentication is optional. If Outbound authentication is not specified, then the initiator can only do inbound authentication. |
| passphrase | | string optional | Inbound CHAP user password, required for auth-type equal to CHAP. |
| radius | | boolean optional | "true" if RADIUS is the only forced CHAP authentication policy, Default is "false". |
| user-name | | string optional | Inbound CHAP user name, required for auth-type equal to CHAP. |

| Errno | Description |
|---|---|
| EISCSISECINVALIDINPUTERROR | |
| EISCSISECPROCESSINGERROR | |
| E_SAN_NOT_READY | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| iscsi |

# iscsi-initiator-auth-get-iter

[top]

Iterate over a list of iSCSI initiator authentication configuration objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **desired-attributes** | | iscsi-security-entry-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | iscsi-security-entry-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI initiator authentication configuration object. All iSCSI initiator authentication configuration objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | iscsi-security-entry-info[] optional | The list of attributes of iSCSI initiator authentication configuration objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more iSCSI initiator authentication configuration objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-initiator-auth-list-info

[top]

Gets authentication information for the specified initiator. If no initiator is specified, gets authentication information for all the known initiators. Password, if present is left out for security purposes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string optional | Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". If initiator is not supplied, all initiators are returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-security-entries** | | iscsi-security-entry-info[] | List of authentication entries. |

| Errno | Description |
|---|---|
| **EISCSISECINVALIDINPUTERROR** | |
| **EISCSISECPROCESSINGERROR** | |
| **EISCSISECINITNOTFOUNDERROR** | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| iscsi |

# iscsi-initiator-delete-auth

[top]

Delete initiator from the authentication list

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| initiator | | string | Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". |

| Errno | Description |
| --- | --- |
| EISCSISECINVALIDINPUTERROR | |
| EISCSISECINITNOTFOUNDERROR | |
| E_SAN_NOT_READY | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| iscsi |

# iscsi-initiator-get-auth

[top]

Get the authentication info for an initiator, if auth type is CHAP, only the user-name is returned, password is not returned for security purposes.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| initiator | | string | Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". If initiator is not found, default authentication method is returned |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| auth-chap-policy | | string optional | CHAP authentication path. Possible values: "radius", "local". |
| auth-type | | string | Authentication type. Possible values: "CHAP", "none", "deny". |
| initiator-address-ranges | | ip-range-or-mask[] optional | May be a single IPv4 or IPv6 address or a range containing a start address and an end address. The start and end addresses themselves are included in the range. If not present, the initiator is allowed to log in from any IP address.<br><br>An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'. |

| | | | |
|---|---|---|---|
| **outbound-user-name** | | string optional | Outbound CHAP user name, returned only if auth-type is CHAP and outbound authentication is enabled for this initiator. |
| **user-name** | | string optional | Inbound CHAP user name, returned only if auth-type is CHAP. |

| Errno | Description |
|---|---|
| **EISCSISECINVALIDINPUTERROR** | |
| **EISCSISECPROCESSINGERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-initiator-get-default-auth

[top]

Get the default authentication information for iscsi. If the authentication type is CHAP, only the username is returned, and not the password, for security purposes.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **auth-chap-policy** | | string optional | CHAP authentication path. possible values: "radius", "local". |
| **auth-type** | | string | Authentication type Possible values: "CHAP", "none", "deny". |
| **outbound-user-name** | | string optional | Outbound CHAP user name, returned only if auth-type is CHAP, and outbound authentication is set for initiator. |
| **user-name** | | string optional | Inbound CHAP user name, returned only if auth-type is CHAP. |

| Errno | Description |
|---|---|
| **EISCSISECINVALIDINPUTERROR** | |
| **EISCSISECPROCESSINGERROR** | |
| **EISCSISECINITNOTFOUNDERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-initiator-get-iter

[top]

Iterate over a list of remote iSCSI initiator objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | iscsi- | |

| | | | |
|---|---|---|---|
| **desired-attributes** | | initiator-list-entry-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | iscsi-initiator-list-entry-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the remote iSCSI initiator object. All remote iSCSI initiator objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | iscsi-initiator-list-entry-info[] optional | The list of attributes of remote iSCSI initiator objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more remote iSCSI initiator objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-initiator-list-info

[top]

Gives list of initiators logged in

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-initiator-list-entries** | | iscsi-initiator-list-entry-info[] | List of initiators logged in |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-initiator-modify-chap-params

[top]

Modify CHAP parameters to an existing per-initiator authentication info whose auth-type equals CHAP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string | Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". The per-initiator authentication info must have an auth-type equal to CHAP. |
| **outbound-passphrase** | | string optional | Outbound CHAP user password. If Outbound CHAP parameters are specified they will replace existing Outbound CHAP parameters. If no Outbound CHAP parameters were previously specified, then the specified Outbound CHAP parameters will enable mutual CHAP authentication. If no Outbound CHAP parameters are specified and no Outbound CHAP parameters exist, then one-way Inbound CHAP authentication will be continue to be used. |
| **outbound-user-name** | | string optional | Outbound CHAP user name. If Outbound CHAP parameters are specified they will replace existing Outbound CHAP parameters. If no Outbound CHAP parameters were previously specified, then the specified Outbound CHAP parameters will enable mutual CHAP authentication. If no Outbound CHAP parameters are specified and no Outbound CHAP parameters exist, then one-way Inbound CHAP authentication will be continue to be used. |
| **passphrase** | | string optional | Inbound CHAP user password. If Inbound CHAP parameters are specified they will replace the existing Inbound CHAP parameters. If they are not specified, the existing Inbound CHAP parameters will continue to be used. |
| **radius** | | boolean optional | "true" if RADIUS is the only forced CHAP authentication policy, Default is "false". |
| **remove-outbound** | | boolean optional | Flag which indicates that mutual CHAP authentication is to be converted to one-way CHAP authentication. Outbound CHAP parameters must not be specified when remove-outbound is true. The default value is false. |
| **user-name** | | string optional | Inbound CHAP user name. If Inbound CHAP parameters are specified they will replace the existing Inbound CHAP parameters. If they are not specified, the existing Inbound CHAP parameters will continue to be used. |

| Errno | Description |
|---|---|
| **EISCSISECINVALIDINPUTERROR** | |
| **EISCSISECINVALIDAUTHTYPE** | |
| **EISCSISECPROCESSINGERROR** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-initiator-set-default-auth

[top]

Configure the default authentication method. If an initiator is not configured with a specific authentication method using iscsi-initiator-add-auth the default authentication method will be applied to it.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **auth-type** | | string | Possible values: "CHAP", "none", "deny". |
| **outbound-passphrase** | | string optional | Outbound CHAP user password. Outbound authentication is optional. If Outbound authentication is not specified, then the initiator can only do inbound authentication. |
| **outbound-user-name** | | string optional | Outbound CHAP user name. Outbound authentication is optional. If Outbound authentication is not specified, then the initiator can only do inbound authentication. |
| **passphrase** | | string optional | Inbound CHAP user password, required for auth-type equal to CHAP. |
| **radius** | | boolean optional | "true" if RADIUS is the only forced CHAP authentication policy, Default is "false". |
| **user-name** | | string optional | Inbound CHAP user name, required for auth-type equal to CHAP. |

| Errno | Description |
|---|---|
| **EISCSISECINVALIDINPUTERROR** | |
| **EISCSISECPROCESSINGERROR** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-interface-accesslist-add

[top]

Add the iSCSI LIFs to the accesslist of the specified initiator

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string | Initiator that can access the iSCSI LIFs |
| **interface-name** | | string | iSCSI LIF Name |

| Errno | Description |
|---|---|
| **E_SAN_NOT_READY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# iscsi-interface-accesslist-get-iter

[top]

Iterate over a list of iSCSI Interface Accesslist objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-** | | iscsi-interface- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | accesslist-entry-info optional | present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | iscsi-interface-accesslist-entry-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI Interface Accesslist object. All iSCSI Interface Accesslist objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | iscsi-interface-accesslist-entry-info[] optional | The list of attributes of iSCSI Interface Accesslist objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more iSCSI Interface Accesslist objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-interface-accesslist-remove

[top]

Remove the iSCSI LIFs from the accesslist of the specified initiator

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string | Initiator that can access the iSCSI LIFs |
| **interface-name** | | string | iSCSI LIF Name |

| Errno | Description |
|---|---|
| **E_SAN_NOT_READY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# iscsi-interface-disable

[top]

Disables an interface for use by iSCSI

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string | Name of interface to disable. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **EINVALIDSTATE** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-interface-enable

[top]

Enables an interface for use by iSCSI

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string | Name of interface to enable. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **EINVALIDSTATE** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-interface-get-iter

[top]

Iterate over a list of iSCSI target interface objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | iscsi-interface-list-entry- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is |

| | | | |
|---|---|---|---|
| | | info optional | available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | iscsi-interface-list-entry-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI target interface object. All iSCSI target interface objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | iscsi-interface-list-entry-info[] optional | The list of attributes of iSCSI target interface objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more iSCSI target interface objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-interface-list-info

[top]

Gives status of interface for iSCSI

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string optional | Name of interface to report; if not supplied, all interfaces are listed. For example: "e0c". |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-interface-list-entries** | | iscsi-interface-list-entry-info[] | List of interfaces and enabled/disabled status |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-interface-modify

[top]

Modify the attributes of an iSCSI interface object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | lif-name | Specifies the logical interface (LIF) name. |
| **sendtargets-fqdn** | | string optional | Specifies the Fully Qualified Domain Name (FQDN) of the LIF to be returned in iSCSI SendTargets Discovery. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **E_SAN_NOT_READY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# iscsi-iptpgroup-create

[top]

Create a new IP-based tpgroup

| Input Name | Range | Type | Description |
|---|---|---|---|
| **iptpgroup-name** | | string | User-defined name of new target portal group; must be <= 60 bytes, and cannot end with "default" as this might conflict with names of default system portal groups (for example, "192.168.11.12_default" is not allowed) |
| **iptpgroup-tag** | **[1..256]** | integer optional | Optional target portal group tag supplied by user; if not supplied, system assigns tag. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iptpgroup-tag** | | integer | filer assigned tag value for newly created portal group |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| |

**iscsi**

# iscsi-iptpgroup-destroy

[top]

Destroy a IP-based tpgroup

| Input Name | Range | Type | Description |
|---|---|---|---|
| **iptpgroup-tag** | **[1..256]** | integer | tag of portal group to destroy |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **E_SAN_NOT_READY** | |

**Vfiler-enabled**
**Yes**

**License**
**iscsi**

# iscsi-iptpgroup-ipaddr-add

[top]

Add an IP Address to an IP-based target portal group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ip-addr** | | ip-address | The ip address, in dotted-decimal format, with which to add. (for example, "192.168.11.12"). |
| **iptpgroup-tag** | **[1..256]** | integer | portal group tag |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **E_SAN_NOT_READY** | |

**Vfiler-enabled**
**Yes**

**License**
**iscsi**

# iscsi-iptpgroup-ipaddr-delete

[top]

Delete an IP Address from an IP-based target portal group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ip-addr** | | ip-address | The ip address, in dotted-decimal format, with which to add. (for example, "192.168.11.12"). |
| **iptpgroup-tag** | **[1..256]** | integer | portal group |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-iptpgroup-list-info

[top]

List information about IP-based target portal groups

| Input Name | Range | Type | Description |
|---|---|---|---|
| **iptpgroup-tag** | **[1..256]** | integer optional | Portal group being queried; if not supplied, information on all portal groups is returned |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-iptpgroup-list-entries** | | iscsi-iptpgroup-list-entry-info[] | List of iptpgroups |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-isns-config

[top]

Configures the iSNS service. In Data ONTAP Cluster-Mode, this this API can only modify the configuration of a Vserver where an iSNS service has already been created. To create an iSNS service in a Vserver where one does not exist, use the iscsi-isns-create API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | iSNS config fails if vserver management LIF is not configured for the vserver. This behavior is overridden with this option when it is set to "true". |
| **isns-ip-addr** | | ip-address | The ip address, in dotted-decimal format, of the iSNS server with which to register. (for example, "192.168.11.12"). |

| Errno | Description |
|---|---|
| **ENOTSTARTED** | |
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-isns-create

[top]

Create iSNS Service in a Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | iSNS create fails if vserver management LIF is not configured for the vserver. This behavior is overridden with this option when it is set to true. |
| **isns-ip-addr** | | ip-address | iSNS server IP address. |
| **start** | | boolean optional | Determine the initial state of the iSNS Client Service. If true, the service will be automatically started after creation completes. If false, the service will be left in the stopped state and the caller must subsequently call iscsi-isns-start to start the service. The default is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **iSCSI** |

# iscsi-isns-destroy

[top]

Destroy the iSNS Service in a Vserver.

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| **License** |
|---|
| **iSCSI** |

# iscsi-isns-get-info

[top]

Gets iSNS service configuration.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-isns-enabled** | | boolean | "true" if iSNS service is running, "false" otherwise. |
| **isns-entity-id** | | string | Name of the entity id existing on the iSNS server in which to register. |
| **isns-ip-addr** | | ip-address | The ip address of the iSNS server in which we register. |
| **last-successful-update** | | integer optional | Last successful iSNS update time in seconds since January 1, 1970. |
| **last-update-attempt** | | integer optional | Last iSNS update attempt time in seconds since January 1, 1970. |
| **last-update-result** | | string optional | Result of the last iSNS update. |

| Errno | Description |
|---|---|
| **ENOTSTARTED** | |
| **EAPILICENSE** | |
| **EAPIERROR** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **iscsi** |

# iscsi-isns-get-iter

[top]

Gets iSNS service configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | iscsi-isns-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-** | integer | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| | 1] | optional | |
| **query** | | iscsi-isns-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI iSNS Service object. All iSCSI iSNS Service objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | iscsi-isns-info[] optional | The list of attributes of iSCSI iSNS Service objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more iSCSI iSNS Service objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-isns-start

[top]

Start iSNS service. The service will be available once the call returns with success.

| Errno | Description |
|---|---|
| **EALREADYSTARTED** | |
| **EAPILICENSE** | |
| **ENOTSTARTED** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-isns-stop

[top]

Stops iSNS service. Service will not be available once the call returns with success.

| Errno | Description |
|---|---|
| **ENOTSTARTED** | |
| **EAPILICENSE** | |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| iscsi |

## iscsi-isns-update

[top]

Forces iSNS service to update server.

| Errno | Description |
| --- | --- |
| ENOTSTARTED | |
| EAPILICENSE | |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| iscsi |

## iscsi-node-get-name

[top]

Return the current iscsi node name.

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| node-name | | string | Current iscsi node name. |

| Errno | Description |
| --- | --- |
| EAPILICENSE | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| iscsi |

## iscsi-node-set-name

[top]

Set the current iscsi node name.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string | New iscsi node name; must be <= 128 chars, and conform to iSCSI rules |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **EVDISK_ERROR_DUPLICATE_TARGET_NAME** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-portal-list-info

[top]

list iscsi portals

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-portal-list-entries** | | iscsi-portal-list-entry-info[] | List of portals |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-reset-stats

[top]

zero filer iscsi counters

| Errno | Description |
|---|---|
| **EAPILICENSE** | |

| License |
|---|
| **iscsi** |

# iscsi-service-create

[top]

Create an iSCSI Service in a Vserver. Each Vserver requires an online iSCSI Service in order to serve data via the iSCSI protocol.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **alias-name** | | string optional | The iSCSI target alias for the iSCSI service. If not provided, the Vserver name will be used. |
| **node-name** | | string optional | The iSCSI target name for the Vserver. The target-name must conform to RFC 3720. If not provided, one will be auto-generated. |
| **start** | | boolean optional | Determine the initial state of the iSCSI Service. If true, the service will be automatically started after creation completes. If false, the service will be left in the stopped state and the caller must subsequently call iscsi-service-start to start the service. The default is true. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string | The new iSCSI target name for the Vserver. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EONTAPI_EINVAL** | |
| **EVDISK_ERROR_DUPLICATE_TARGET_NAME** | |
| **EONTAPI_EEXIST** | |
| **EVSERVERNOTRUNNING** | |
| **E_SAN_NOT_READY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **iSCSI** |

# iscsi-service-destroy

[top]

Destroy the iSCSI Service in a Vserver.

| Errno | Description |
|---|---|
| **E_SAN_NOT_READY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **iSCSI** |

# iscsi-service-get-iter

[top]

Iterate over the list of iSCSI Services.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | iscsi-service-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | iscsi-service-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI Service object. All iSCSI Service objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | iscsi-service-info[] optional | The list of attributes of iSCSI Service objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more iSCSI Service objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-service-modify

[top]

Modify an iSCSI Service in a Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **login-timeout** | | integer optional | Login phase duration in seconds. Specifies maximum time the login phase remains active until the iSCSI target terminates the connection. Range: [5..120]. |
| **max-cmds-per-session** | | integer optional | Maximum commands per session. Specifies the maximum number of commands per session that the iSCSI target can accept. Range: [4..256]. |
| **max-conn-per-session** | | integer optional | Maximum connections per session. Specifies the maximum number of connections per session that the iSCSI target can accept. Range: [1..32]. |
| **max-error-recovery-level** | | integer optional | (DEPRECATED)-Maximum error recovery level. The possible values are:<br>• 0 - session failure recovery.<br>• 1 - digest failure recovery.<br>• 2 - connection failure recovery.<br><br>This field is DEPRECATED; updates are ignored and have no effect. |
| **retain-timeout** | | integer optional | Default time-to-retain value in secconds. Specifies the wait time before active task reassignment is possible after an unexpected connection termination. Range: [1,.120]. |

| | | | |
|---|---|---|---|
| **tcp-window-size** | | integer optional | TCP receive window size in bytes. Range: [8760..262800]. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **E_SAN_NOT_READY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **iSCSI** |

# iscsi-service-start

[top]

Start iSCSI service. The service will be available once the call returns with success.

| Errno | Description |
|---|---|
| **EALREADYSTARTED** | |
| **EINTERNALERROR** | |
| **EREVERTINPROGRESS** | |
| **EVSERVERNOTRUNNING** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-service-status

[top]

Get status of the iSCSI service, whether or not it is running.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-available** | | boolean | "true" if iSCSI service is running, "false" otherwise. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
| --- |
| iscsi |

# iscsi-service-stop

[top]

Stops iSCSI service. Service will be not be available once the call returns with success.

| Errno | Description |
| --- | --- |
| ENOTSTARTED | |
| EINTERNALERROR | |
| E_SAN_NOT_READY | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| iscsi |

# iscsi-session-get-iter

[top]

Iterate over a list of iSCSI session objects.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| desired-attributes | | iscsi-session-list-entry-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | iscsi-session-list-entry-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI session object. All iSCSI session objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| attributes-list | | iscsi-session-list-entry-info[] | The list of attributes of iSCSI session objects. |

| | | | |
|---|---|---|---|
| | | optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more iSCSI session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-session-list-info

[top]

Gives list of active sessions

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tsih** | | integer optional | target session ID handle for specific session |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-session-list-entries** | | iscsi-session-list-entry-info[] | List of active sessions |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-stats-get-iter

[top]

Iterate over a list of iscsi objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | iscsi-stats-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | iscsi-stats-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the iscsi object. All iscsi objects matching this query up to 'max-records' will be returned. |
| | | | Specify the tag from the last call. It is usually not specified for the |

| | | | |
|---|---|---|---|
| **tag** | | string optional | first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | iscsi-stats-info[] optional | The list of attributes of iscsi objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more iscsi objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-stats-list-info

[top]

return current filer iscsi statistics

| Output Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-stats** | | iscsi-stats-info[] | statistics for iscsi |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-target-alias-clear-alias

[top]

Clear the current iscsi target alias

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-target-alias-get-alias

[top]

Return the current iscsi target alias

| Output Name | Range | Type | Description |
|---|---|---|---|
| **alias-name** | | string optional | Current iscsi target alias if alias-assigned is true. |
| **is-alias-assigned** | | boolean | True if alias assigned, false otherwise. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-target-alias-set-alias

[top]

Set the current iscsi target alias

| Input Name | Range | Type | Description |
|---|---|---|---|
| **alias-name** | | string | New iscsi target alias to set; must be 128 bytes or less. Free form format otherwise, although a string of all blanks will be rejected |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-tpgroup-alua-set

[top]

Change the ALUA parameters on a tpgroup Asymmetric Logical Unit Access (ALUA) management Data ONTAP supports SCSI ALUA functionality for managing multi-pathed SCSI devices. ALUA provides a standardized mechanism for path discovery and prioritization. Devices are identified by target port IDs, which are then grouped into target port groups. Each group has a state which, when configured,

enables the host multipathing software to select the appropriate path priorities when accessing a LUN. For iSCSI, ALUA settings are controlled at the target portal group level using the "iscsi-tpgroup-alua-set" ZAPI. A target portal group can be configured to be either "optimized" or "non-optimized"; a host typically uses all the optimized paths before using any non-optimized paths it may find. All target portal groups are optimized by default. There is also an optional "preferred" setting that may be used on a target portal group. Check your host's multi-pathing software documentation to see if it supports ALUA and the preferred setting. ALUA is enabled on Initiator Groups using the "igroup-set-attribute" ZAPI. All LUNs mapped to an ALUA enabled Initiator Group will support the ALUA functionality.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tpgroup-alua-preferred** | | boolean | If "true", target portal group will be marked as preferred for ALUA enabled Initiator Groups |
| **tpgroup-alua-state** | | string | Possible values: "optimized", "non-optimized" |
| **tpgroup-tag** | | integer | portal group |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| License |
|---|
| **iscsi** |

# iscsi-tpgroup-create

[top]

Create a new user defined target portal group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tpgroup-name** | | string | Name of new user defined target portal group. Name must be <= 32 characters. In Data ONTAP 7-Mode, user defined target portal group names cannot end with "default" as this would conflict with names of default target portal groups. In Data ONTAP Cluster-Mode, user defined target portal groups cannot use the name of any defined logical interfaces (LIFs) in the vserver as this would conflict with names of default target portal groups. |
| **tpgroup-tag** | **[0..65535]** | integer optional | Optional target portal group tag supplied by user. Default value is system generated. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **tpgroup-tag** | **[0..65535]** | integer | New target portal group tag. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
| --- |
| iscsi |

# iscsi-tpgroup-destroy

[top]

Destroy a tpgroup. Only user defined target portal groups may be destroyed.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| tpgroup-tag | [0..65535] | integer | Tag of portal group to destroy. |

| Errno | Description |
| --- | --- |
| EAPILICENSE | |
| EINVALIDINPUTERROR | |
| E_SAN_NOT_READY | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| iscsi |

# iscsi-tpgroup-get-iter

[top]

Iterate over a list of iSCSI Target Portal Group objects.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| desired-attributes | | iscsi-tpgroup-list-entry-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | iscsi-tpgroup-list-entry-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the iSCSI Target Portal Group object. All iSCSI Target Portal Group objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| | | iscsi-tpgroup- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | list-entry-info[] optional | The list of attributes of iSCSI Target Portal Group objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more iSCSI Target Portal Group objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# iscsi-tpgroup-interface-add

[top]

Add an interface to a target portal group. Interfaces may only be added to a user defined target portal group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string | Name of network interface to add. In Data ONTAP 7-Mode, this is the name of a physical or virtual ethernet interface, for example: "e0c" or "vif1". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver. |
| **tpgroup-tag** | **[0..65535]** | integer | Target portal group tag. |

| Errno | Description |
|---|---|
| **EAPILICENSE** | |
| **EINVALIDINPUTERROR** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **iscsi** |

# iscsi-tpgroup-interface-delete

[top]

Remove an interface from a target portal group. Interfaces may only be removed from a user defined target portal group. Removing an interface will return it to the system defined default group for the interface.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string | Name of network interface to remove. In Data ONTAP 7-Mode, this is the name of a physical or virtual ethernet interface, for example: "e0c" or "vif1" In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver. |
| **tpgroup-tag** | **[0..65535]** | integer | Target portal group tag. |

| Errno | Description |
|---|---|
| EAPILICENSE | |
| EINVALIDINPUTERROR | |
| E_SAN_NOT_READY | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| iscsi |

## iscsi-tpgroup-list-info

[top]

List information about target portal groups

| Input Name | Range | Type | Description |
|---|---|---|---|
| tpgroup-tag | | integer optional | Portal group being queried; if not supplied, information on all portal groups is returned |

| Output Name | Range | Type | Description |
|---|---|---|---|
| iscsi-tpgroup-list-entries | | iscsi-tpgroup-list-entry-info[] | List of tpgroups |

| Errno | Description |
|---|---|
| EAPILICENSE | |
| EINVALIDINPUTERROR | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| iscsi |

## Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

## Element definition: **ip-range-or-mask**

[top]

IPv4 and IPv6 address range containing a start address and an end address. The start and end addresses themselves are included in the range.

An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'.

[none]

# Element definition: **iscsi-adapter-initiators-info**

[top]

A list of initiators currently connected to the adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-connected-initiators** | | iscsi-connected-initiator-info[] | Information about the connected initiators |
| **name** | | string | The name this adapter is given. |

# Element definition: **iscsi-config-adapter-info**

[top]

Configuration information about a single iscsi adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | The name this adapter is given. |
| **portal-addresses** | | iscsi-portal-address-info[] | A list of portal group address + port that this adapter is listening on. |
| **state** | | string | State of the adapter, either "online", "offline", "local", "partner" or "error". "online" and "offline" are used when the adapter is used for the current host. "local" is used if the adapter is operating on behalf of the local host, and "partner" is used if the adapter is operating on behalf of the partner host. "error" is used if an internal error occurred while retrieving the adapter information. |
| **status** | | string optional | A short status message explaining the state. i.e. if the adapter is offline, the reason for it, or if its "error" what the error is. This will not be returned if the state of the adapter is "online". |

# Element definition: **iscsi-connection-list-entry-info**

[top]

Information about an iSCSI connection. In Data ONTAP 7-Mode, connections are uniquely identified by the combination of 'session-id' and 'connection-id'. In Data ONTAP Cluster-Mode, sessions are uniquely identified within a Vserver by the combination of 'tpgroup-name', 'session-id' and 'connection-id'.

| Name | Range | Type | Description |
|---|---|---|---|
| **connection-id** | **[0..65535]** | integer | Connection id |
| | | | Current state of this connection. Possible values:<br>• "New_Connection", |

| | | | |
|---|---|---|---|
| **connection-state** | | string | • "Waiting_Tpgtag_Assignment",<br>• "Login_Waiting_Req",<br>• "Login_Req_Rcvd",<br>• "Login_Waiting_Auth",<br>• "Login_OK_New_Session_Requested",<br>• "Login_New_Session_Waiting_Reinstatement",<br>• "Login_OK_New_Conn_Requested",<br>• "Login_New_Conn_Waiting_Reinstatement",<br>• "Login_Send_Final_Resp",<br>• "Full_Feature_Phase",<br>• "Shutdown_Start",<br>• "Shutdown_Waiting_Sockio_Shutdown",<br>• "Shutdown_Sockio_Shutdown_Done",<br>• "Shutdown_Waiting_ImmDeliv_FFPCmds_Done",<br>• "Shutdown_ImmDeliv_FFPCmds_Done",<br>• "Shutdown_Recovery_Waiting_FFPCmds_Ready",<br>• "Shutdown_Recovery_Waiting_Logout_Rcvd",<br>• "Shutdown_Recovery_Logout_Rcvd",<br>• "Shutdown_Recovery_Waiting_FFPCmds_Reassigned",<br>• "Shutdown_Terminate_Abort_Seq_FFPCmds",<br>• "Shutdown_Terminate_Waiting_Seq_FFPCmds_Done",<br>• "Shutdown_Terminate_Seq_FFPCmds_Done". |
| **has-session** | | boolean | True if this connection is associated to a session, false otherwise. |
| **interface-name** | | string | Name of the network interface hosting this connection. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver. |
| **local-ip-address** | | string | Storage System iSCSI Target IP address. |
| **local-ip-port** | **[0..65535]** | integer | Storage System iSCSI Target TCP port. |
| **remote-ip-address** | | string | Remote initiator IP address. |
| **remote-ip-port** | **[0..65535]** | integer | Remote initiator TCP port. |
| **session-id** | **[0..65535]** | integer | Session id for the associated session, or 0 if this connection is not yet associated to a session. |
| **tpgroup-name** | | string | The name of the target portal group associated with this session. |
| **tpgroup-tag** | **[0..65535]** | integer | The tag of the target portal group associated with this session. |
| **vserver** | | string | Name of the vserver containing this connection. |

# Element definition: **iscsi-initiator-list-entry-info**

[top]

Information about a single initiator.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-aliasname** | | string optional | User-friendly name assigned to initiator. This field is only present if the initiator provided an alias during login. |
| **initiator-** | | initiator-group-list- | List of initiator groups containing this iSCSI initiator. |

| | | | |
|---|---|---|---|
| **group-list** | | info[] optional | |
| **initiator-nodename** | | string | Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". |
| **isid** | | string | ISID for this session selected by initiator represented as 6 hexadecimal octets separated by colons, for example: "40:01:37:00:00:00". |
| **target-session-id** | **[0..65535]** | integer | iSCSI session identifier assigned by the target. |
| **tpgroup-name** | | string | The name of the target portal group associated with this session. |
| **tpgroup-tag** | **[0..65535]** | integer | Tag of target portal group associated with this session. |
| **vserver** | | string | Name of the vserver this initiator is connected to. |

# Element definition: **iscsi-interface-accesslist-entry-info**

[top]

Information about a single accesslist entry When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string optional | Initiator that can access the iSCSI LIFs Attributes: key, non-creatable, non-modifiable |
| **interface-name** | | string optional | iSCSI LIF Name Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver hosting the iSCSI LIF Attributes: key, non-creatable, non-modifiable |

# Element definition: **iscsi-interface-list-entry-info**

[top]

Information about a single interface

| Name | Range | Type | Description |
|---|---|---|---|
| **current-node** | | string | Name of the node currently hosting the LIF. |
| **current-port** | | string | Name of the physical ethernet interface currently hosting the LIF. |
| **interface-name** | | string | Name of interface. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver. |
| **ip-address** | | string | iSCSI target portal IP address. |
| **ip-port** | **[0..65535]** | integer | iSCSI target portal TCP port. |

| | | | |
|---|---|---|---|
| **is-interface-enabled** | | boolean | "true" if interface enabled for iSCSI, "false" otherwise. |
| **relative-port-id** | **[1..65535]** | integer | The SCSI Relative Target Port Identifier of the LIF. |
| **sendtargets-fqdn** | | string optional | Specifies the Fully Qualified Domain Name (FQDN) of the LIF to be returned in iSCSI SendTargets discovery. If unset, the IP address of the LIF is used instead. |
| **tpgroup-name** | | string | Name of target portal group interface is associated with. |
| **tpgroup-tag** | **[0..65535]** | integer | Id of target portal group interface is associated with. |
| **vserver** | | string optional | The name of the vserver containing this iSCSI data LIF. |

# Element definition: **iscsi-iptpgroup-list-entry-info**

[top]

Information about a single portal group

| Name | Range | Type | Description |
|---|---|---|---|
| **ipaddress-list-entries** | | ipaddress-list-entry-info[] | List of IP Addresses associated with this iptpgroup |
| **tpgroup-name** | | string | Portal group name |
| **tpgroup-tag** | | integer | Portal group tag |

# Element definition: **iscsi-isns-info**

[top]

iSCSI iSNS Service Configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-isns-enabled** | | boolean optional | true if the iSNS Service is running, false otherwise. Attributes: optional-for-create, non-modifiable |
| **isns-entity-id** | | string optional | Entity id existing on the iSNS server Attributes: non-creatable, non-modifiable |
| **isns-ip-addr** | | ip-address optional | iSNS server IP address. Attributes: required-for-create, modifiable |
| **last-successful-update** | | integer optional | Last successful iSNS update time in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable |
| **last-update-attempt** | | integer optional | Last iSNS update attempt time in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **last-update-result** | | string optional | Result of the last iSNS update. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver hosting the iSNS service. Attributes: key, non-creatable, non-modifiable |

# Element definition: **iscsi-portal-list-entry-info**

[top]

information about a single portal

| Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string | Name of network interface exporting this portal |
| **ip-address** | | string | portal IP address |
| **ip-port** | **[0..65535]** | integer | portal listening port |
| **tpgroup-tag** | **[0..65535]** | integer | tag of portal group this portal is associated with |

# Element definition: **iscsi-security-entry-info**

[top]

Information about a single authentication entry.

| Name | Range | Type | Description |
|---|---|---|---|
| **auth-chap-policy** | | string optional | CHAP authentication path. Possible values: "local", "radius". |
| **auth-type** | | string | Authentication type. Possible values: "CHAP", "none", "deny". |
| **initiator** | | string | Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346", or "default" if this is a default auth entry. |
| **initiator-address-ranges** | | ip-range-or-mask[] optional | May be a single IPv4 or IPv6 address or a range containing a start address and an end address. The start and end addresses themselves are included in the range. If not present, the initiator is allowed to log in from any IP address.<br><br>An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'. |
| **outbound-user-name** | | string optional | Outbound CHAP user name, returned only if auth-type is CHAP, and outbound authentication is set for initiator. |
| **user-name** | | string optional | Inbound CHAP user name, returned only if auth-type is CHAP. |
| **vserver** | | string | Vserver containing this authentication information. |

# Element definition: **iscsi-service-info**

[top]

iSCSI Target Service Configuration. When returned as part of the output, all elements of this typedef

are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **alias-name** | | string optional | The iSCSI target alias of the Vserver. Attributes: optional-for-create, modifiable |
| **is-available** | | boolean optional | true if the iSCSI Service is running, false otherwise. Attributes: non-creatable, non-modifiable |
| **login-timeout** | **[5..120]** | integer optional | Login phase duration in seconds. Specifies maximum time the login phase remains active until the iSCSI target terminates the connection. Attributes: optional-for-create, modifiable |
| **max-cmds-per-session** | **[4..256]** | integer optional | Maximum commands per session. Specifies the maximum number of commands per session that the iSCSI target can accept. Attributes: optional-for-create, modifiable |
| **max-conn-per-session** | **[1..32]** | integer optional | Maximum connections per session. Specifies the maximum number of connections per session that the iSCSI target can accept. Attributes: optional-for-create, modifiable |
| **max-error-recovery-level** | **[0..2]** | integer optional | (DEPRECATED)-Maximum error recovery level. The possible values are:<br>• 0 - session failure recovery.<br>• 1 - digest failure recovery.<br>• 2 - connection failure recovery.<br><br>Attributes: optional-for-create, modifiable |
| **node-name** | | string optional | The iSCSI target name of the Vserver. Attributes: optional-for-create, modifiable |
| **retain-timeout** | **[1..120]** | integer optional | Default time-to-retain value in seconds. Specifies the wait time before active task reassignment is possible after an unexpected connection termination. Attributes: optional-for-create, modifiable |
| **tcp-window-size** | **[8760..262800]** | integer optional | TCP receive window size in bytes. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver hosting the iSCSI service. Attributes: key, non-creatable, non-modifiable |

# Element definition: **iscsi-session-list-entry-info**

[top]

Information about a single iSCSI session. In Data ONTAP 7-Mode, sessions are uniquely identified by the 'target-session-id'. In Data ONTAP Cluster-Mode, sessions are uniquely identified within a Vserver by the combination of 'tpgroup-name' and 'target-session-id'.

| Name | Range | Type | Description |
|---|---|---|---|
| **cmd-window-size** | **[0..2^31-1]** | integer | The maximum number of I/O operations per session. This field has been superseded by max-ios-per-session starting with Data ONTAP 8.3 and is retained for compatibility. |

| | | | |
|---|---|---|---|
| **data-pdu-in-order** | | boolean | The DataPDUInOrder of the session as defined in RFC 3720. |
| **data-sequence-in-order** | | boolean | The DataSequenceInOrder of the session as defined in RFC 3720. |
| **default-time-to-retain** | **[0..3600]** | integer | The DefaultTime2Retain of the session as defined in RFC 3720, in seconds. |
| **default-time-to-wait** | **[0..3600]** | integer | The DefaultTime2Wait of the session as defined in RFC 3720, in seconds. |
| **error-recovery-level** | **[0..2]** | integer | iSCSI ErrorRecoveryLevel as defined in RFC 3720. |
| **first-burst-length** | **[512..2^24-1]** | integer | The FirstBurstLength of the session as defined in RFC 3720, in bytes. |
| **immediate-data-enabled** | | boolean | True if this session has immediate data enabled, false otherwise. |
| **initial-r2t-enabled** | | boolean | True if this session has R2T enabled, false otherwise. |
| **initiator-aliasname** | | string optional | The user-friendly name assigned to initiator. This field is only present if the initiator provided an alias during login. |
| **initiator-nodename** | | string | Name of initiator. The initiator name must conform to RFC 3720, for example: "iqn.1987-06.com.initvendor1:appsrv.sn.2346". |
| **iscsi-session-connection-list-entries** | | iscsi-session-connection-list-entry-info[] optional | List of TCP/IP connections associated with this session. |
| **iscsi-sesssion-cmd-list-entries** | | iscsi-sesssion-cmd-list-entry-info[] optional | List of active commands associated with this session |
| **isid** | | string | ISID for this session selected by initiator represented as 6 hexadecimal octets separated by colons, for example: "40:01:37:00:00:00". |
| **max-burst-length** | **[512..2^24-1]** | integer | The MaxBurstLength of the session as defined in RFC 3720, in bytes. |
| **max-connections** | **[0..65535]** | integer | Maximum number of connections for this session. |
| **max-ios-per-session** | **[0..2^31-1]** | integer | The maximum number of I/O operations per session. This field is available in Data ONTAP 8.3 and later. |
| **max-outstanding-r2t** | **[1..65535]** | integer | The MaxOutstandingR2T of the session as defined in RFC 3720. |
| **session-type** | | string | Possible values: "normal" or "discovery". |
| **target-session-id** | **[0..65535]** | integer | The iSCSI session identifier assigned by the storage system. |
| **tpgroup-name** | | string | The name of the target portal group associated with this session. |
| **tpgroup-tag** | **[0..65535]** | integer | The tag of the target portal group associated with this session. |
| **vserver** | | string | The name of the vserver containing this session. |

# Element definition: **iscsi-stats-info**

[top]

Statistics block

| Name | Range | Type | Description |
|---|---|---|---|
| **iscsi-cdb-stats** | | iscsi-cdb-stats-info | Statistics of Command Descriptor Blocks. |
| **iscsi-error-stats** | | iscsi-error-stats-info | Statistics of errors. |
| **iscsi-received-stats** | | iscsi-received-stats-info | Statistics of PDUs received. |
| **iscsi-transmitted-stats** | | iscsi-transmitted-stats-info | Statistics of PDUs transmitted. |
| **vserver** | | string | Vserver hosting the iSCSI service. |

# Element definition: **iscsi-tpgroup-list-entry-info**

[top]

Information about a single portal group

| Name | Range | Type | Description |
|---|---|---|---|
| **interface-list-entries** | | interface-list-entry-info[] optional | List of interfaces associated with this tpgroup. |
| **is-user-defined** | | boolean | True if the target portal group is user defined, false if the target portal group is system defined. |
| **tpgroup-alua-preferred** | | boolean optional | True if target portal group is the preferred group for ALUA enabled initiator groups, false otherwise. |
| **tpgroup-alua-state** | | string optional | Possible values: "optimized", "non-optimized". |
| **tpgroup-name** | | string | Portal group name. |
| **tpgroup-tag** | | integer | Portal group tag. |
| **vserver** | | string optional | Vserver containing this target portal group. |

# Element definition: **lif-name**

[top]

Logical Interface Id

[none]

# Element definition: **initiator-group-list-info**

[top]

The initiator group this initiator belongs to.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of initiator group. |

# Element definition: **interface-list-entry-info**

[top]

Information about a single interface

| Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string | Name of network interface. In Data ONTAP 7-Mode, this is the name of a physical or virtual ethernet interface, for example: "e0c" or "vif0". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver. |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **ip-range-or-mask**

[top]

IPv4 and IPv6 address range containing a start address and an end address. The start and end addresses themselves are included in the range.

An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '2001:db8::1000:1-2001:db8::1000:50'.

[none]

# Element definition: **ipaddress-list-entry-info**

[top]

Information about a single IP Address

| Name | Range | Type | Description |
|---|---|---|---|
| **ip-address** | | string | IP address |

# Element definition: **iscsi-cdb-stats-info**

[top]

Counts for Command Descriptor Blocks processed

| Name | Range | Type | Description |
|---|---|---|---|
| **data-in-blocks** | | integer | Count of data in blocks. |
| **data-out-blocks** | | integer | Count of data out blocks. |

| | | | |
|---|---|---|---|
| **error-status** | | integer | Count of errors. |
| **success-status** | | integer | Count of successes. |
| **total** | | integer | Total Command Descriptor Blocks processed. |

# Element definition: **iscsi-connected-initiator-info**

[top]

Information about an initiator connected to an iSCSI adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-name** | | string | Name of initiator. |
| **isid** | | string | ISID in form of "xx:xx:xx:xx:xx:xx". |
| **portal-group-id** | | integer | Target portal group number to which the initiator is connected. |

# Element definition: **iscsi-error-stats-info**

[top]

Counts for iSCSI errors.

| Name | Range | Type | Description |
|---|---|---|---|
| **data-digest** | | integer | Count of digest errors. |
| **failed-logins** | | integer | Count of failed logins. |
| **failed-logouts** | | integer | Count of failed logouts. |
| **failed-task-mgt** | | integer | Count of failed management tasks. |
| **failed-text-cmd** | | integer | Count of failed text commands. |
| **hdr-digest** | | integer | Count of digest errors. |
| **invalid-header** | | integer | Count of PDU discards due to invalid PDU header. |
| **outside-cmd-sn-window** | | integer | Count of PDU discards due to PDU being outside of command sequence number window. |
| **protocol** | | integer | Count of protocol errors. |
| **total** | | integer | Total errors. |

# Element definition: **iscsi-portal-address-info**

[top]

Configuration information about an inet-address and port pair for a portal group.

| Name | Range | Type | Description |
|---|---|---|---|
| **id** | | integer | ID of this portal group. |
| **inet-address** | | ip-address | inet-address. |
| **port** | | integer | The port that is being listened on for that address. |

# Element definition: **iscsi-received-stats-info**

[top]

Counts for PDUs received.

| Name | Range | Type | Description |
|---|---|---|---|
| **data-out** | | integer | Count of data out requests. |
| **login-req** | | integer | Count of login requests. |
| **logout-req** | | integer | Count of logout requests. |
| **nop-out** | | integer | Count of NOP Out. |
| **scsi-cmd** | | integer | Count of SCSI commands. |
| **scsi-task-mgt-cmd** | | integer | Count of SCSI task management commands. |
| **snack** | | integer | Count of SNACK requests. |
| **text-req** | | integer | Count of text requests. |
| **total** | | integer | Total PDUs received. |
| **unknown** | | integer | Count of unknown PDUs. |

# Element definition: **iscsi-session-connection-list-entry-info**

[top]

Information about a single tcp connection

| Name | Range | Type | Description |
|---|---|---|---|
| **authentication-method** | | string | Authentication method of this connection. Possible values: "CHAP", "none". |
| **connection-id** | **[0..65535]** | integer | Connection id within the session. |
| **data-digest-enabled** | | boolean | True if data digests are enabled on this connection, false otherwise. |
| **header-digest-enabled** | | boolean | True if header digests are enabled on this connection, false otherwise. |
| **initiator-max-rcv-data-segment-length** | **[512..2^24-1]** | integer | Initiator's MaxRecvDataSegmentLength as defined in RFC 3720, in bytes. |
| **interface-name** | | string | Name of network interface hosting this connection. In Data ONTAP 7-Mode, this is the name of a physical ethernet interface, for example: "e0c". In Data ONTAP Cluster-Mode, this is the name of an iSCSI data LIF in the Vserver. |
| **local-ip-address** | | string | Local storage system iSCSI target interface address. |
| **local-ip-port** | **[0..65535]** | integer | Local storage system iSCSI target TCP port. |
| **rcv-window-size** | **[0..2^30]** | integer | TCP/IP receive window size, in octets. |
| **remote-ip-address** | | string | Remote initiator IP address. |
| **remote-ip-port** | **[0..65535]** | integer | Remote initiator TCP port. |
| **target-max-rcv-data-segment-length** | **[512..2^24-1]** | integer | Target's MaxRecvDataSegmentLength as defined in RFC 3720, in bytes. |

# Element definition: **iscsi-sesssion-cmd-list-entry-info**

[top]

information about a particular command

| Name | Range | Type | Description |
|---|---|---|---|
| **cmd-state** | | string | State of iSCSI command. Possible values:<br>• "FREE" - Free,<br>• "Logout_Begin" - Logout - Begin,<br>• "Logout_Wait_For_Other_Conn" - Logout - Wait For Other Conn,<br>• "Logout_Build_and_Send_Resp" - Logout - Build and Send Resp,<br>• "Logout_Waiting_StatSN_ACK" - Logout - Waiting StatSN ACK,<br>• "Logout_Done" - Logout - Done,<br>• "Nopout_Begin" - Nopout - Begin,<br>• "Nopout_Build_And_Send_Resp" - Nopout - Build And Send Resp,<br>• "Nopout_Waiting_Resp_Sockio_Comp" - Nopout - Waiting Resp Sockio Comp,<br>• "Nopout_Resp_Sockio_Comp" - Nopout - Resp Sockio Comp,<br>• "Nopout_Waiting_StatSN_ACK" - Nopout - Waiting StatSN ACK,<br>• "Nopout_Done" - Nopout - Done,<br>• "Taskmgmt_Begin" - Taskmgmt - Begin,<br>• "Taskmgmt_Waiting_FFPCmds_Rcvd" - Taskmgmt - Waiting FFPCmds Rcvd,<br>• "Taskmgmt_FFPCmds_Rcvd" - Taskmgmt - FFPCmds Rcvd,<br>• "Taskmgmt_Waiting_FFPCmds_Complete" - Taskmgmt - Waiting FFPCmds Complete,<br>• "Taskmgmt_Build_And_Send_Resp" - Taskmgmt - Build And Send Resp,<br>• "Taskmgmt_Waiting_StatSN_ACK" - Taskmgmt - Waiting StatSN ACK,<br>• "Taskmgmt_Done" - Taskmgmt - Done,<br>• "Text_Begin" - Text - Begin,<br>• "Text_Waiting_Portal_List_Notify" - Text - Waiting Portal List Notify,<br>• "Text_Build_And_Send_Resp" - Text - Build And Send Resp,<br>• "Text_Waiting_Resp_Sockio_Comp" - Text - Waiting Resp Sockio Comp,<br>• "Text_Resp_Sockio_Comp" - Text - Resp Sockio Comp,<br>• "Text_Waiting_StatSN_ACK" - Text - Waiting StatSN ACK,<br>• "Text_Done" - Text - Done,<br>• "Scsicdb_Begin" - Scsicdb - Begin,<br>• "Scsicdb_Claim_Early_Udata" - Scsicdb - Claim Early Udata,<br>• "Scsicdb_Waiting_Udata_Rcvd" - Scsicdb - Waiting Udata Rcvd,<br>• "Scsicdb_Udata_Rcvd" - Scsicdb - Udata Rcvd,<br>• "Scsicdb_Ready_For_STSubmit" - Scsicdb - Ready For STSubmit,<br>• "Scsicdb_Udata_Not_Rcvd" - Scsicdb - Udata Not Rcvd,<br>• "Scsicdb_Udata_Waiting_Task_Reassignment" - Scsicdb - Udata Waiting Task Reassignment,<br>• "Scsicdb_Udata_Task_Reassigned" - Scsicdb - Udata Task Reassigned,<br>• "Scsicdb_Waiting_STLayer" - Scsicdb - Waiting STLayer,<br>• "Scsicdb_RD_STLayer_Called" - Scsicdb - RD STLayer Called,<br>• "Scsicdb_RD_Build_And_Send_R2T" - Scsicdb - RD Build And Send R2T,<br>• "Scsicdb_RD_Waiting_Burst" - Scsicdb - RD Waiting Burst,<br>• "Scsicdb_RD_Burst_Rcvd" - Scsicdb - RD Burst Rcvd,<br>• "Scsicdb_RD_Done" - Scsicdb - RD Done,<br>• "Scsicdb_RD_Burst_Not_Rcvd" - Scsicdb - RD Burst Not Rcvd,<br>• "Scsicdb_RD_Waiting_Task_Reassignment" - Scsicdb - RD Waiting Task Reassignment, |

| | | | |
|---|---|---|---|
| | | | • "Scsicdb_RD_Task_Reassigned" - Scsicdb - RD Task Reassigned,<br>• "Scsicdb_SD_STLayer_Called" - Scsicdb - SD STLayer Called,<br>• "Scsicdb_SD_XDI_Done" - Scsicdb - SD XDI Done,<br>• "Scsicdb_SD_Waiting_DataSN_ACK" - Scsicdb - SD Waiting DataSN ACK,<br>• "Scsicdb_SD_Done" - Scsicdb - SD Done,<br>• "Scsicdb_SD_SNACK_Rcvd" - Scsicdb - SD SNACK Rcvd,<br>• "Scsicdb_SD_Task_Reassigned" - Scsicdb - SD Task Reassigned,<br>• "Scsicdb_SR_STLayer_Called" - Scsicdb - SR STLayer Called,<br>• "Scsicdb_SR_Build_And_Send_Resp" - Scsicdb - SR Build And Send Resp,<br>• "Scsicdb_SR_Waiting_StatSN_ACK" - Scsicdb - SR Waiting StatSN ACK,<br>• "Scsicdb_SR_Done" - Scsicdb - SR Done,<br>• "Scsicdb_SR_SNACK_Rcvd" - Scsicdb - SR SNACK Rcvd,<br>• "Scsicdb_SR_Task_Reassigned" - Scsicdb - SR Task Reassigned,<br>• "Scsicdb_SR_XDI_Done" - Scsicdb - SR XDI Done,<br>• "Scsicdb_SDR_STLayer_Called" - Scsicdb - SDR STLayer Called,<br>• "Scsicdb_SDR_XDI_Done" - Scsicdb - SDR XDI Done,<br>• "Scsicdb_SDR_Waiting_StatSN_ACK" - Scsicdb - SDR Waiting StatSN ACK,<br>• "Scsicdb_SDR_Done" - Scsicdb - SDR Done,<br>• "Scsicdb_SDR_SNACK_Rcvd" - Scsicdb - SDR SNACK Rcvd,<br>• "Scsicdb_SDR_Task_Reassigned" - Scsicdb - SDR Task Reassigned,<br>• "Scsicdb_Abort_Begin" - Scsicdb - Abort Begin,<br>• "Scsicdb_Abort_Build_And_Send_Resp" - Scsicdb - Abort Build And Send Resp,<br>• "Scsicdb_Abort_Waiting_StatSN_ACK" - Scsicdb - Abort Waiting StatSN ACK,<br>• "Scsicdb_Abort_Done" - Scsicdb - Abort Done,<br>• "Scsicdb_Abort_SNACK_Rcvd" - Scsicdb - Abort SNACK Rcvd,<br>• "Scsicdb_Abort_Task_Reassigned" - Scsicdb - Abort Task Reassigned,<br>• "Scsicdb_Abort_XDI_Done" - Scsicdb - Abort XDI Done,<br>• "Scsicdb_QFull_Begin" - Scsicdb - QFull Begin,<br>• "Scsicdb_QFull_Build_And_Send_Resp" - Scsicdb - QFull Build And Send Resp,<br>• "Scsicdb_QFull_Waiting_StatSN_ACK" - Scsicdb - QFull Waiting StatSN ACK,<br>• "Scsicdb_QFull_Done" - Scsicdb - QFull Done,<br>• "Scsicdb_XDI_Start" - Scsicdb - XDI Start,<br>• "Scsicdb_XDI_Waiting_Data_In_Sockio_Comp" - Scsicdb - XDI Waiting Data In Sockio Comp,<br>• "Scsicdb_Waiting_Scsitgt_Abort" - Scsicdb - Waiting Scsitgt Abort,<br>• "Done" - Done. |
| **cmd-sub-id** | **[0..2^32-1]** | integer | Variety specific sub-id. |
| **cmd-type** | | string | Type of command being executed. Possible values:<br>• "Seq",<br>• "ITM",<br>• "Oth",<br>• "UNK". |

## Element definition: **iscsi-transmitted-stats-info**

[top]

Counts for PDUs transmitted.

| Name | Range | Type | Description |
|---|---|---|---|
| **async-msg** | | integer | Count of asynchronous iSCSI messages. |
| **data-in** | | integer | Count of data in PDUs. |
| **login-rsp** | | integer | Count of login responses. |
| **logout-rsp** | | integer | Count of logout responses. |
| **nop-in** | | integer | Count of NOP In. |
| **ready-to-transmit** | | integer | Count of ready to transmit PDUs |
| **reject** | | integer | Count of reject PDUs. |
| **scsi-rsp** | | integer | Count of scsi responses. |
| **scsi-task-mgt-rsp** | | integer | Count of scsi task management responses. |
| **text-rsp** | | integer | Count of text responses. |
| **total** | | integer | Total PDUs transmitted. |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# APIs in Category: **job**


job-by-node-get
job-by-node-get-iter
job-completed-get
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job-get
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job-history-get
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job-pause
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job-queue-config-get
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job-resume
job-resume-iter
job-schedule-cron-create
job-schedule-cron-destroy
job-schedule-cron-destroy-iter
job-schedule-cron-get
job-schedule-cron-get-iter
job-schedule-cron-modify
job-schedule-get
job-schedule-get-iter
job-schedule-interval-create
job-schedule-interval-destroy
job-schedule-interval-destroy-iter
job-schedule-interval-get
job-schedule-interval-get-iter
job-schedule-interval-


Cluster management requires that certain operations run reliably, asynchronously and on particular schedules. These 'jobs' offer these benefits to the work they manage:

- Guaranteed execution, even in the face of node failure or reboot.
- Cluster-wide or node-specific scheduling. This permits jobs to execute where it makes the most sense.
- Flexible scheduling as a one time event, on regular intervals or coordinated to specific calendar dates.

On their exterior, jobs are a fundamentally simple concept. A job is a task that executes at a specific time. Around this idea, there are extended attributes that control if the job will be automatically re-scheduled upon completion, survive major system failures, run under which priority and so on. But in a healthy cluster with little activity, all jobs appear very similarly. The job APIs are generally comprised of those that enumerate and act upon jobs in the system and those that allow schedule customization. It should be noted that there are no APIs that allow one to explicitly create jobs. This is intentional as jobs are used to manage internal system workload. Jobs are responsible for activities like moving a volume, scanning for viruses or automatically taking snapshots as opposed to being a generic administrative process scheduler.

Every job is described specifically by its type, id, affinity, visibility and schedule. Both the job type and id are represented by unique universal identifiers (UUIDs). All jobs of a given type will perform the same task, usually with different runtime data. For instance a volume move operation is one type of job, but can be used for many different volumes. Job id is a specific instance of a job type. In the example above three different volume move jobs would have the same type but three different job ids. Jobs are also sometimes identified by a monotonically increasing numeric value, although this is often just a shorthand notation for the UUID. Affinity describes whether a job may be scheduled for execution on any node in the cluster (cluster) or must be tied to a specific compute instance (node). Visibility dictates whether a job's state is stored in the cluster-wide replicated database (public) or only on the node on which it is scheduled for execution (private). Finally a job schedun abstract concept like when the system starts up or based upon a calendar date or interval between executions of the same job.

Jobs always execute as small state machines with a definitive current state as well as a specific list of states the job may enter at any point in time. A job can be in one of the following states:

- Initial - job has been created but not queued yet
- Queued - job is in the queue; it could be ready to run immediately or it may be scheduled to run at a later time
- Running - the job has been picked by an instance of the Job Manager and is running
- Waiting - the job is waiting for another job to complete
- Pausing - the job is in the process of pausing after being

modify
job-soft-pause
job-soft-pause-iter
job-stop
job-stop-iter

requested to pause
- Paused - the job is indefinitely paused
- Quitting - the job has been requested to terminate and it is shutting down
- Success - the job has successfully completed and the results are available
- Failure - the job has failed
- Reschedule - the job is being re-scheduled
- Error - internal error occurred
- Quit - the job has been requested to terminate
- Dead - the job exceeded the drop dead time and is being removed from the queue
- Unknown - the state of the job is unknown
- Restart - the job is restartable
- Dormant - the job is inactive while waiting on some external event

Internally, the job execution engine organizes jobs of similar states into common queues. Queues are processed according to the rules of the state. For example, jobs in the wait queue are only periodically checked to determine if their waiting condition is met, whereas jobs in the running queue are actively processed as CPU capacity permits.

These APIs allow for job enumeration, schedule creation and low-level management. The most common enumeration APIs are job-get, job-private-get and job-history-get, while the more specific APIs like job-by-node-get act on a subset of the job-get result set once it has been suitable filtered and/or sorted.

Schedules may either occur at well-defined calendar dates or on a given interval between job executions. Use of the low-level APIs should be attempted with care as they can cause the jobs to behave abnormally or fail.

# job-by-node-get

[top]

Get a single job entry. This is just a performance optimization for job-get that only searches for the job among the ones currently owned by the given node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **job-id** | **[0..2^64-1]** | integer | The job id. |
| **job-node** | | node-name | The name of the node where the job is run. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | job-info | The attributes of the job-by-node entry. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-by-node-get-iter

[top]

Get multiple job records organized by node. This is just a performance optimization for job-get-iter that only searches for the job among the ones currently owned by the given node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | job-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the job-by-node entry object. All job-by-node entry objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | job-info[] optional | The list of attributes of job-by-node entry objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more job-by-node entry objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-completed-get

[top]

Get a single completed job entry. This is just a performance optimization for job-get.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **job-id** | **[0..2^64-1]** | integer | Job ID |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **attributes** | | job-info | The attributes of the job completed. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-completed-get-iter

[top]

Get multiple completed job records. This is just a performance optimization for job-get-iter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | job-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the job completed object. All job completed objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | job-info[] optional | The list of attributes of job completed objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more job completed objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-get

[top]

Get a single job entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **job-id** | **[0..2^64-1]** | integer | The job id. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | job-info | The attributes of the job. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-get-iter

[top]

Get multiple job records.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | job-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the job object. All job objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | job-info[] optional | The list of attributes of job objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more job objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-history-get

[top]

Get a single job history event.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **job-node** | | node-name | The name of the node where the job ran, or the node that changed the job's state. |
| **log-id** | **[0..2^64-1]** | integer | The internal identifier of this job history event. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | job-history-info | The attributes of the job history event. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-history-get-iter

[top]

Get multiple job history records.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 100 |
| **query** | | job-history-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the job history event object. All job history event objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | job-history-info[] optional | The list of attributes of job history event objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more job history event objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-pause

[top]

Pause a job. A job must be of a type that has job-type-is-pausible set to true before it may be paused. Once notified of a pause request, a job should stop performing work until it is subsequently resumed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer | The job id. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-pause-iter

[top]

Pause a collection of jobs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple job objects match a given query. If set to true, the API will continue with the next matching job even when the operation fails for the job. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching job even when the operation on a previous matching job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of job objects to be operated in this call. Default: 20 |
| **query** | | job-info | If operating on a specific job, this input element must specify all keys. If operating on job objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of job objects (just keys) that were not operated on due to some error. If set to false, the list of job objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of job objects (just keys) that were successfully operated on. If set to false, the list of job objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | job-pause-iter-info[] optional | Information about job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching job objects to be operated on. |
| | **[0..2^32-** | integer | The number of job objects that matched the query, but were not |

| | | | |
|---|---|---|---|
| **num-failed** | **1]** | optional | operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of job objects that matched the query and were successfully processed. |
| **success-list** | | job-pause-iter-info[] optional | The job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-private-completed-get

[top]

Get a single completed, private job entry. This is just a performance optimization for job-private-get.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **job-id** | **[0..2^64-1]** | integer | Job ID |
| **job-node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | job-info | The attributes of the private job completion entry. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-private-completed-get-iter

[top]

Get multiple completed, private job records. This is just a performance optimization for job-private-get-iter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | job-info | A query that specifies which objects to return. A query could be specified on any number of attributes in the private job completion |

| | | | |
|---|---|---|---|
| | | optional | entry object. All private job completion entry objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | job-info[] optional | The list of attributes of private job completion entry objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more private job completion entry objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-private-get

[top]

Get a single private job entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **job-id** | **[0..2^64-1]** | integer | Job ID |
| **job-node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | job-info | The attributes of the private job. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-private-get-iter

[top]

Get multiple private job records.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available |

| | | | |
|---|---|---|---|
| | | | will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | job-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the private job object. All private job objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | job-info[] optional | The list of attributes of private job objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more private job objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-private-pause

[top]

Pause a private job.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer | Job ID |
| **job-node** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-private-pause-iter

[top]

Pause a collection of private jobs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple private job objects match a given query. If set to true, the API will continue with the next matching private job even when the operation fails for the private job. If set to false, the API will return on the first failure. Default: false |
| | | | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed |

| | | | |
|---|---|---|---|
| **max-failure-count** | **[1..2^32-1]** | integer optional | operations before the server gives up and returns. If set, the API will continue with the next matching private job even when the operation on a previous matching private job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of private job objects to be operated in this call. Default: 20 |
| **query** | | job-info | If operating on a specific private job, this input element must specify all keys. If operating on private job objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of private job objects (just keys) that were not operated on due to some error. If set to false, the list of private job objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of private job objects (just keys) that were successfully operated on. If set to false, the list of private job objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | job-private-pause-iter-info[] optional | Information about private job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching private job objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of private job objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of private job objects that matched the query and were successfully processed. |
| **success-list** | | job-private-pause-iter-info[] optional | The private job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-private-resume

[top]

Resume a job.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer | Job ID |

| job-node | | node-name | Node |
|---|---|---|---|

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# job-private-resume-iter

[top]

Resume a collection of jobs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| continue-on-failure | | boolean optional | This input element is useful when multiple private job objects match a given query. If set to true, the API will continue with the next matching private job even when the operation fails for the private job. If set to false, the API will return on the first failure. Default: false |
| max-failure-count | [1..2^32-1] | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching private job even when the operation on a previous matching private job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| max-records | [1..2^32-1] | integer optional | The maximum number of private job objects to be operated in this call. Default: 20 |
| query | | job-info | If operating on a specific private job, this input element must specify all keys. If operating on private job objects based on query, this input element must specify a query. |
| return-failure-list | | boolean optional | If set to true, the API will return the list of private job objects (just keys) that were not operated on due to some error. If set to false, the list of private job objects not operated on will not be returned. Default: true |
| return-success-list | | boolean optional | If set to true, the API will return the list of private job objects (just keys) that were successfully operated on. If set to false, the list of private job objects operated on will not be returned. Default: true |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| failure-list | | job-private-resume-iter-info[] optional | Information about private job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more matching private job objects to be operated on. |
| num-failed | [0..2^32-1] | integer optional | The number of private job objects that matched the query, but were not operated on due some error. |

| | | | |
|---|---|---|---|
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of private job objects that matched the query and were successfully processed. |
| **success-list** | | job-private-resume-iter-info[] optional | The private job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-private-soft-pause

[top]

Soft pause a private job.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer | Job ID |
| **job-node** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-private-soft-pause-iter

[top]

Soft pause a collection of private jobs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple private job objects match a given query. If set to true, the API will continue with the next matching private job even when the operation fails for the private job. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching private job even when the operation on a previous matching private job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of private job objects to be operated in this call. Default: 20 |
| **query** | | job-info | If operating on a specific private job, this input element must specify all keys. If operating on private job objects based on query, this input element must specify a query. |
| | | | If set to true, the API will return the list of private job objects (just |

| | | | |
|---|---|---|---|
| **return-failure-list** | | boolean optional | keys) that were not operated on due to some error. If set to false, the list of private job objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of private job objects (just keys) that were successfully operated on. If set to false, the list of private job objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | job-private-soft-pause-iter-info[] optional | Information about private job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching private job objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of private job objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of private job objects that matched the query and were successfully processed. |
| **success-list** | | job-private-soft-pause-iter-info[] optional | The private job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-private-stop

[top]

Stop a job.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer | Job ID |
| **job-node** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-private-stop-iter

[top]

Stop a collection of jobs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple private job objects match a given query. If set to true, the API will continue with the next matching private job even when the operation fails for the private job. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching private job even when the operation on a previous matching private job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of private job objects to be operated in this call. Default: 20 |
| **query** | | job-info | If operating on a specific private job, this input element must specify all keys. If operating on private job objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of private job objects (just keys) that were not operated on due to some error. If set to false, the list of private job objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of private job objects (just keys) that were successfully operated on. If set to false, the list of private job objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | job-private-stop-iter-info[] optional | Information about private job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching private job objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of private job objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of private job objects that matched the query and were successfully processed. |
| **success-list** | | job-private-stop-iter-info[] optional | The private job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-queue-config-get

[top]

Get the job queue configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-queue-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | job-queue-config-info | The attributes of the job-queue-config. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-queue-config-modify

[top]

Modify the job queue configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-queue-config-jobs-per-type-threshold** | **[0..100]** | integer optional | Threshold for accepted jobs per type. |
| **job-queue-config-queue-size-limit** | **[0..2^32-1]** | integer optional | Job queue size limit. |
| **job-queue-config-warning-threshold** | **[0..100]** | integer optional | Warning threshold for total number of jobs. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-resume

[top]

Resume a job from the paused state.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer | The job id. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# job-resume-iter

[top]

Resume a collection of jobs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| continue-on-failure | | boolean optional | This input element is useful when multiple job objects match a given query. If set to true, the API will continue with the next matching job even when the operation fails for the job. If set to false, the API will return on the first failure. Default: false |
| max-failure-count | [1..2^32-1] | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching job even when the operation on a previous matching job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| max-records | [1..2^32-1] | integer optional | The maximum number of job objects to be operated in this call. Default: 20 |
| query | | job-info | If operating on a specific job, this input element must specify all keys. If operating on job objects based on query, this input element must specify a query. |
| return-failure-list | | boolean optional | If set to true, the API will return the list of job objects (just keys) that were not operated on due to some error. If set to false, the list of job objects not operated on will not be returned. Default: true |
| return-success-list | | boolean optional | If set to true, the API will return the list of job objects (just keys) that were successfully operated on. If set to false, the list of job objects operated on will not be returned. Default: true |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| failure-list | | job-resume-iter-info[] optional | Information about job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more matching job objects to be operated on. |
| num-failed | [0..2^32-1] | integer optional | The number of job objects that matched the query, but were not operated on due some error. |
| num-succeeded | [0..2^32-1] | integer optional | The number of job objects that matched the query and were successfully processed. |
| success-list | | job-resume-iter- | The job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| | | | |
|---|---|---|---|
| | | info[] optional | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# job-schedule-cron-create

[top]

Create a new cron job schedule entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| job-schedule-cluster | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. |
| job-schedule-cron-day | | cron-day-of-month[] optional | The day(s) of the month when the job should be run. |
| job-schedule-cron-day-of-week | | cron-day-of-week[] optional | The day(s) in the week when the job should be run. |
| job-schedule-cron-hour | | cron-hour[] optional | The hour(s) of the day when the job should be run. |
| job-schedule-cron-minute | | cron-minute[] | The minute(s) of each hour when the job should be run. |
| job-schedule-cron-month | | cron-month[] optional | The month(s) when the job should be run. |
| job-schedule-name | | string | The name of the job schedule. |
| return-record | | boolean optional | If set to true, returns the job-schedule-cron on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| result | | job-schedule-cron-info optional | The job-schedule-cron created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# job-schedule-cron-destroy

[top]

Delete a single cron job schedule entry. The entry must not be in use.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. |
| **job-schedule-name** | | string | The name of the job schedule. |

| Errno | Description |
|---|---|
| **E_SCHEDULE_IN_USE** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# job-schedule-cron-destroy-iter

[top]

Delete multiple cron job schedule entries. The entries must not be in use.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple job-schedule-cron objects match a given query. If set to true, the API will continue deleting the next matching job-schedule-cron even when the deletion of a previous job-schedule-cron fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching job-schedule-cron even when the deletion of a previous matching job-schedule-cron fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of job-schedule-cron objects to delete in this call. Default: 100 |
| **query** | | job-schedule-cron-info | If deleting a specific job-schedule-cron, this input element must specify all keys. If deleting multiple job-schedule-cron objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of job-schedule-cron objects (just keys) that were not deleted due to some error. If set to false, the list of job-schedule-cron objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of job-schedule-cron objects (just keys) that were successfully deleted. If set to false, the list of job-schedule-cron objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | job- | |

| | | | |
|---|---|---|---|
| **failure-list** | | schedule-cron-destroy-iter-info[] optional | Information about job-schedule-cron objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching job-schedule-cron objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of job-schedule-cron objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of job-schedule-cron objects that matched the query and were successfully deleted. |
| **success-list** | | job-schedule-cron-destroy-iter-info[] optional | The job-schedule-cron objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-schedule-cron-get

[top]

Get a single cron job schedule entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-schedule-cron-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. |
| **job-schedule-name** | | string | The name of the job schedule. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | job-schedule-cron-info | The attributes of the job-schedule-cron. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-schedule-cron-get-iter

[top]

Get multiple cron job schedule entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-schedule-cron-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 100 |
| **query** | | job-schedule-cron-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the job-schedule-cron object. All job-schedule-cron objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | job-schedule-cron-info[] optional | The list of attributes of job-schedule-cron objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more job-schedule-cron objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-schedule-cron-modify

[top]

Modify an existing cron job schedule entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. |
| **job-schedule-cron-day** | | cron-day-of-month[] optional | The day(s) of the month when the job should be run. |
| **job-schedule-cron-day-of-week** | | cron-day-of-week[] optional | The day(s) in the week when the job should be run. |
| **job-schedule-cron-hour** | | cron-hour[] optional | The hour(s) of the day when the job should be run. |
| **job-schedule-cron-minute** | | cron-minute[] optional | The minute(s) of each hour when the job should be run. |

| | | | |
|---|---|---|---|
| **job-schedule-cron-month** | | cron-month[] optional | The month(s) when the job should be run. |
| **job-schedule-name** | | string | The name of the job schedule. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# job-schedule-get

[top]

Get a single job schedule entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-schedule-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. |
| **job-schedule-name** | | string | The name of the job schedule. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | job-schedule-info | The attributes of the job-schedule. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-schedule-get-iter

[top]

Get multiple job schedule entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-schedule-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-** | integer | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| | 1] | optional | |
| **query** | | job-schedule-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the job-schedule object. All job-schedule objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | job-schedule-info[] optional | The list of attributes of job-schedule objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more job-schedule objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-schedule-interval-create

[top]

Create a new interval job schedule entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. |
| **job-schedule-interval-days** | **[0..2^32-1]** | integer optional | The number of days between jobs. |
| **job-schedule-interval-hours** | **[0..2^32-1]** | integer optional | The number of hours between jobs. |
| **job-schedule-interval-minutes** | **[0..2^32-1]** | integer optional | The number of minutes between jobs. |
| **job-schedule-interval-seconds** | **[0..2^32-1]** | integer optional | The number of seconds between jobs. |
| **job-schedule-name** | | string | The name of the job schedule. |
| **return-record** | | boolean optional | If set to true, returns the job-schedule-interval on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | job-schedule-interval-info optional | The job-schedule-interval created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# job-schedule-interval-destroy

[top]

Delete a single interval job schedule entry. The entry must not be in use.

| Input Name | Range | Type | Description |
|---|---|---|---|
| job-schedule-cluster | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. |
| job-schedule-name | | string | The name of the job schedule. |

| Errno | Description |
|---|---|
| E_SCHEDULE_IN_USE | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# job-schedule-interval-destroy-iter

[top]

Delete multiple interval job schedule entries. The entries must not be in use.

| Input Name | Range | Type | Description |
|---|---|---|---|
| continue-on-failure | | boolean optional | This input element is useful when multiple job-schedule-interval objects match a given query. If set to true, the API will continue deleting the next matching job-schedule-interval even when the deletion of a previous job-schedule-interval fails. If set to false, the API will return on the first failure. Default: false |
| max-failure-count | [1..2^32-1] | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching job-schedule-interval even when the deletion of a previous matching job-schedule-interval fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| max-records | [1..2^32-1] | integer optional | The maximum number of job-schedule-interval objects to delete in this call. Default: 100 |
| query | | job-schedule-interval-info | If deleting a specific job-schedule-interval, this input element must specify all keys. If deleting multiple job-schedule-interval objects based on query, this input element must specify a query. |
| | | | |

| | | | |
|---|---|---|---|
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of job-schedule-interval objects (just keys) that were not deleted due to some error. If set to false, the list of job-schedule-interval objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of job-schedule-interval objects (just keys) that were successfully deleted. If set to false, the list of job-schedule-interval objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | job-schedule-interval-destroy-iter-info[] optional | Information about job-schedule-interval objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching job-schedule-interval objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of job-schedule-interval objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of job-schedule-interval objects that matched the query and were successfully deleted. |
| **success-list** | | job-schedule-interval-destroy-iter-info[] optional | The job-schedule-interval objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-schedule-interval-get

[top]

Get a single interval job schedule entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-schedule-interval-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. |
| **job-schedule-name** | | string | The name of the job schedule. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | job-schedule-interval-info | The attributes of the job-schedule-interval. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-schedule-interval-get-iter

[top]

Get multiple interval job schedule entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | job-schedule-interval-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 100 |
| **query** | | job-schedule-interval-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the job-schedule-interval object. All job-schedule-interval objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | job-schedule-interval-info[] optional | The list of attributes of job-schedule-interval objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more job-schedule-interval objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-schedule-interval-modify

[top]

Modify an existing interval job schedule entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. |
| **job-schedule-interval-days** | **[0..2^32-1]** | integer optional | The number of days between jobs. |
| **job-schedule-interval-hours** | **[0..2^32-1]** | integer optional | The number of hours between jobs. |
| **job-schedule-interval-minutes** | **[0..2^32-1]** | integer optional | The number of minutes between jobs. |
| **job-schedule-interval-seconds** | **[0..2^32-1]** | integer optional | The number of seconds between jobs. |
| **job-schedule-name** | | string | The name of the job schedule. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# job-soft-pause

[top]

Soft pause a job. Indicates to the job that a soft pause has been initiated. It is up to the job to do what it needs to do for a soft pause. As a result of this command the job may request to be moved into the runnnable queue to perform further processing of the soft pause.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer | The job id. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-soft-pause-iter

[top]

Soft pause a collection of jobs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple job objects match a given query. If set to true, the API will continue with the next matching job even when the operation fails for the job. If set to false, the API will return on the first failure. Default: false |
| | | | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed |

| | | | |
|---|---|---|---|
| **max-failure-count** | **[1..2^32-1]** | integer optional | operations before the server gives up and returns. If set, the API will continue with the next matching job even when the operation on a previous matching job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of job objects to be operated in this call. Default: 20 |
| **query** | | job-info | If operating on a specific job, this input element must specify all keys. If operating on job objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of job objects (just keys) that were not operated on due to some error. If set to false, the list of job objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of job objects (just keys) that were successfully operated on. If set to false, the list of job objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | job-soft-pause-iter-info[] optional | Information about job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching job objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of job objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of job objects that matched the query and were successfully processed. |
| **success-list** | | job-soft-pause-iter-info[] optional | The job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# job-stop

[top]

Stop a job. A job must be of a type that has job-type-is-quittable set to true before it may be stopped. job-stop attempts to stop a job that's currently running. If the job allows itself to stop it completes its current run. If the job has a recurring schedule it will transition to the Queued state; otherwise it will transition into either the Success or Failure state.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer | The job id. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# job-stop-iter

[top]

Stop a collection of jobs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple job objects match a given query. If set to true, the API will continue with the next matching job even when the operation fails for the job. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching job even when the operation on a previous matching job fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of job objects to be operated in this call. Default: 20 |
| **query** | | job-info | If operating on a specific job, this input element must specify all keys. If operating on job objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of job objects (just keys) that were not operated on due to some error. If set to false, the list of job objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of job objects (just keys) that were successfully operated on. If set to false, the list of job objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | job-stop-iter-info[] optional | Information about job objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching job objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of job objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of job objects that matched the query and were successfully processed. |

| | | | |
|---|---|---|---|
| **success-list** | | job-stop-iter-info[] optional | The job objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## Element definition: **cluster-name** [top]

Name of the Peer Cluster

[none]

## Element definition: **cron-day-of-month** [top]

Job Manager cron scheduling day of month. -1 represents all days of a month from 1 to 31, and only supported for cron schedule create and modify. Range : [-1..31].

[none]

## Element definition: **cron-day-of-week** [top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

## Element definition: **cron-hour** [top]

Job Manager cron scheduling hour. -1 represents all hours and only supported for cron schedule create and modify. Range : [-1..23].

[none]

## Element definition: **cron-minute** [top]

Job Manager cron scheduling minute. -1 represents all minutes and only supported for cron schedule create and modify. Range : [-1..59].

[none]

# Element definition: **cron-month**

[top]

Job Manager cron scheduling month. -1 represents all months and only supported for cron schedule create and modify. Range : [-1..11].

[none]

# Element definition: **job-history-info**

[top]

Job history log event When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **job-completion** | | string optional | Human-readable job completion message. Attributes: non-creatable, non-modifiable |
| **job-description** | | string optional | Job description. Attributes: non-creatable, non-modifiable |
| **job-end-time** | **[0..2^31-1]** | integer optional | When the job last completed. The time value is in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable |
| **job-event-time** | **[0..2^31-1]** | integer optional | The time when this event was logged. The time value is in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable |
| **job-event-type** | | job-event-type optional | The type of this history event. Attributes: non-creatable, non-modifiable Possible values:<br>• "idle" - The job has become idle,<br>• "running" - The job has started running,<br>• "succeeded" - The job has completed successfully,<br>• "failed" - The job has completed with a failure,<br>• "paused" - The job has been paused,<br>• "stopped" - The job has been stopped,<br>• "deleted" - The job has been deleted,<br>• "error" - Job Manager experienced an error while processing the job |
| **job-id** | **[0..2^64-1]** | integer optional | The identifier associated with this job by the Job Manager. This identifier is unique within a cluster. The 'job-history-get-iter' API can return multiple records for a given job identifier because it logs the state transitions that the job has been through. Records in the 'job-history-get-iter' API are returned in reverse chronological order. Attributes: non-creatable, non-modifiable |
| **job-** | **[0..2^64-** | integer | The error code, if any, that the Job Manager associated with this |

| | | | |
|---|---|---|---|
| **manager-error-code** | **1]** | optional | event. If set, 'job-error-text' will contain human-readable information about the error. Attributes: non-creatable, non-modifiable |
| **job-manager-error-text** | | string optional | The human-readable text for the error code, if any, that the Job Manager associated with this event. Attributes: non-creatable, non-modifiable |
| **job-name** | | string optional | Name of the job. Attributes: non-creatable, non-modifiable |
| **job-node** | | node-name optional | The name of the node where the job ran, or the node that changed the job's state. Attributes: key, non-creatable, non-modifiable |
| **job-progress** | | string optional | Human-readable job progress message. Attributes: non-creatable, non-modifiable |
| **job-start-time** | **[0..2^31-1]** | integer optional | When the job last started. The time value is in seconds since January 1, 1970. Attributes: non-creatable, non-modifiable |
| **job-status-code** | **[0..2^64-1]** | integer optional | Status code. Value other than 0 indicates an error in the job execution, in which case 'job-completion' will contain human-readable information about the error. Attributes: non-creatable, non-modifiable |
| **job-username** | | string optional | The name of the user that created the job. Attributes: non-creatable, non-modifiable |
| **job-uuid** | | uuid optional | Job's universally unique identifier (UUID). Attributes: non-creatable, non-modifiable |
| **job-vserver** | | job-history-vserver-name optional | Vserver from which the job was created. Attributes: key, non-creatable, non-modifiable |
| **log-id** | **[0..2^64-1]** | integer optional | The internal identifier of this job history event. Attributes: key, non-creatable, non-modifiable |

# Element definition: **job-info**

[top]

Contains information about a specific job When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-restarted** | | boolean optional | Restarted? Attributes: non-creatable, non-modifiable |
| **job-category** | | string optional | Job Category Attributes: non-creatable, non-modifiable |
| **job-completion** | | string optional | Completion String Attributes: non-creatable, non-modifiable |
| **job-description** | | string optional | Description Attributes: non-creatable, non-modifiable |
| **job-dropdead-time** | **[0..2^31-1]** | integer optional | Drop-dead Time Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **job-end-time** | **[0..2^31-1]** | integer optional | End Time Attributes: non-creatable, non-modifiable |
| **job-id** | **[0..2^64-1]** | integer optional | Job ID Attributes: key, non-creatable, non-modifiable |
| **job-name** | | string optional | Name Attributes: non-creatable, non-modifiable |
| **job-node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **job-priority** | | job-priority optional | Priority Attributes: non-creatable, non-modifiable Possible values:<br>• "low" ,<br>• "medium" ,<br>• "high" ,<br>• "exclusive" |
| **job-progress** | | string optional | Execution Progress Attributes: non-creatable, non-modifiable |
| **job-queue-time** | **[0..2^31-1]** | integer optional | Queue Time Attributes: non-creatable, non-modifiable |
| **job-schedule** | | string optional | Schedule Attributes: non-creatable, non-modifiable |
| **job-start-time** | **[0..2^31-1]** | integer optional | Start Time Attributes: non-creatable, non-modifiable |
| **job-state** | | job-state optional | State Attributes: non-creatable, non-modifiable Possible values:<br>• "initial" - Initializing,<br>• "queued" - Queued,<br>• "running" - Running,<br>• "waiting" - Waiting For Another Job,<br>• "pausing" - Entering Paused State,<br>• "paused" - Paused,<br>• "quitting" - Entering Quit State,<br>• "success" - Succeeded,<br>• "failure" - Failed,<br>• "reschedule" - Forcing Reschedule,<br>• "error" - Internal Error,<br>• "quit" - Quit,<br>• "dead" - Died,<br>• "unknown" - Unknown,<br>• "restart" - Forcing Restart,<br>• "dormant" - Waiting For External Event |
| **job-status-code** | **[0..2^64-1]** | integer optional | Status Code Attributes: non-creatable, non-modifiable |
| **job-type** | | string optional | Job Type Attributes: non-creatable, non-modifiable |
| **job-username** | | string optional | User Name Attributes: non-creatable, non-modifiable |
| **job-uuid** | | uuid optional | UUID Attributes: non-creatable, non-modifiable |
| **job-vserver** | | vserver-name optional | Owning Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **job-pause-iter-info**

[top]

Information about the operation that was attempted/performed against job object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **job-key** | | job-info | The keys for the job object to which the operation applies. |

# Element definition: **job-private-pause-iter-info**

[top]

Information about the operation that was attempted/performed against private job object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **job-private-key** | | job-info | The keys for the private job object to which the operation applies. |

# Element definition: **job-private-resume-iter-info**

[top]

Information about the operation that was attempted/performed against private job object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **job-private-key** | | job-info | The keys for the private job object to which the operation applies. |

# Element definition: **job-private-soft-pause-iter-info**

[top]

Information about the operation that was attempted/performed against private job object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |

| | | | |
|---|---|---|---|
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **job-private-key** | | job-info | The keys for the private job object to which the operation applies. |

## Element definition: **job-private-stop-iter-info** [top]

Information about the operation that was attempted/performed against private job object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **job-private-key** | | job-info | The keys for the private job object to which the operation applies. |

## Element definition: **job-queue-config-info** [top]

Contains configuration detail information about the job queue. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **job-queue-config-jobs-per-type-threshold** | **[0..100]** | integer optional | Threshold for accepted jobs per type. Attributes: non-creatable, modifiable |
| **job-queue-config-queue-size-limit** | **[0..2^32-1]** | integer optional | Job queue size limit. Attributes: non-creatable, modifiable |
| **job-queue-config-warning-threshold** | **[0..100]** | integer optional | Warning threshold for total number of jobs. Attributes: non-creatable, modifiable |

## Element definition: **job-resume-iter-info** [top]

Information about the operation that was attempted/performed against job object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| | | string | |

| | | | |
|---|---|---|---|
| **error-message** | | optional | Error description, if the operation caused an error. |
| **job-key** | | job-info | The keys for the job object to which the operation applies. |

# Element definition: **job-schedule-cron-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against job-schedule-cron object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **job-schedule-cron-key** | | job-schedule-cron-info | The keys for the job-schedule-cron object to which the deletion applies. |

# Element definition: **job-schedule-cron-info**

[top]

Contains detail information about cron job schedules. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. Attributes: key, optional-for-create, non-modifiable |
| **job-schedule-cron-day** | | cron-day-of-month[] optional | The day(s) of the month when the job should be run. Attributes: optional-for-create, modifiable |
| **job-schedule-cron-day-of-week** | | cron-day-of-week[] optional | The day(s) in the week when the job should be run. Attributes: optional-for-create, modifiable |
| **job-schedule-cron-hour** | | cron-hour[] optional | The hour(s) of the day when the job should be run. Attributes: optional-for-create, modifiable |
| **job-schedule-cron-minute** | | cron-minute[] optional | The minute(s) of each hour when the job should be run. Attributes: required-for-create, modifiable |
| **job-schedule-** | | cron-month[] | The month(s) when the job should be run. Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **cron-month** | | optional | |
| **job-schedule-description** | | string optional | The description of the job schedule. Attributes: non-creatable, non-modifiable |
| **job-schedule-name** | | string optional | The name of the job schedule. Attributes: key, required-for-create, non-modifiable |

# Element definition: **job-schedule-info**

[top]

Contains overview information about a single job schedule. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. Attributes: key, optional-for-create, non-modifiable |
| **job-schedule-description** | | string optional | The description of the job schedule. Attributes: non-creatable, non-modifiable |
| **job-schedule-name** | | string optional | The name of the job schedule. Attributes: key, required-for-create, non-modifiable |
| **job-schedule-type** | | schedule-type optional | The type of job schedule. Attributes: non-creatable, non-modifiable Possible values:<br>• "cron" ,<br>• "interval" ,<br>• "builtin" ,<br>• "unknown" |

# Element definition: **job-schedule-interval-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against job-schedule-interval object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| | | | |

| | | | |
|---|---|---|---|
| **job-schedule-interval-key** | | job-schedule-interval-info | The keys for the job-schedule-interval object to which the deletion applies. |

# Element definition: **job-schedule-interval-info**

[top]

Contains detail information about interval job schedules. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **job-schedule-cluster** | | cluster-name optional | The cluster owner of the job schedule. Defaults to the local cluster. In a Metrocluster configuration, the partner cluster can be specified. Attributes: key, optional-for-create, non-modifiable |
| **job-schedule-description** | | string optional | The description of the job schedule. Attributes: non-creatable, non-modifiable |
| **job-schedule-interval-days** | **[0..2^32-1]** | integer optional | The number of days between jobs. Attributes: optional-for-create, modifiable |
| **job-schedule-interval-hours** | **[0..2^32-1]** | integer optional | The number of hours between jobs. Attributes: optional-for-create, modifiable |
| **job-schedule-interval-minutes** | **[0..2^32-1]** | integer optional | The number of minutes between jobs. Attributes: optional-for-create, modifiable |
| **job-schedule-interval-seconds** | **[0..2^32-1]** | integer optional | The number of seconds between jobs. Attributes: optional-for-create, modifiable |
| **job-schedule-name** | | string optional | The name of the job schedule. Attributes: key, required-for-create, non-modifiable |

# Element definition: **job-soft-pause-iter-info**

[top]

Information about the operation that was attempted/performed against job object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |

| | | | |
|---|---|---|---|
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **job-key** | | job-info | The keys for the job object to which the operation applies. |

## Element definition: **job-stop-iter-info**

[top]

Information about the operation that was attempted/performed against job object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **job-key** | | job-info | The keys for the job object to which the operation applies. |

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

## Element definition: **cron-day-of-month**

[top]

Job Manager cron scheduling day of month. -1 represents all days of a month from 1 to 31, and only supported for cron schedule create and modify. Range : [-1..31].

[none]

## Element definition: **cron-day-of-week**

[top]

Job Manager cron scheduling day of week. Zero represents Sunday. -1 represents all days of a week and only supported for cron schedule create and modify. Range : [-1..6].

[none]

## Element definition: **cron-hour**

[top]

Job Manager cron scheduling hour. -1 represents all hours and only supported for cron schedule create and modify. Range : [-1..23].

[none]

## Element definition: **cron-minute**

[top]

Job Manager cron scheduling minute. -1 represents all minutes and only supported for cron schedule create and modify. Range : [-1..59].

[none]

## Element definition: **cron-month**

[top]

Job Manager cron scheduling month. -1 represents all months and only supported for cron schedule create and modify. Range : [-1..11].

[none]

## Element definition: **job-event-type**

[top]

Jobs will trigger history events at certain stages of their life cycle. These events are of the types described herein. Possible values:

- "idle" - The job has become idle,
- "running" - The job has started running,
- "succeeded" - The job has completed successfully,
- "failed" - The job has completed with a failure,
- "paused" - The job has been paused,
- "stopped" - The job has been stopped,
- "deleted" - The job has been deleted,
- "error" - Job Manager experienced an error while processing the job

[none]

## Element definition: **job-history-vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **job-info**

[top]

Contains information about a specific job When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-restarted** | | boolean optional | Restarted? Attributes: non-creatable, non-modifiable |
| **job-category** | | string optional | Job Category Attributes: non-creatable, non-modifiable |
| **job-completion** | | string optional | Completion String Attributes: non-creatable, non-modifiable |
| **job-description** | | string optional | Description Attributes: non-creatable, non-modifiable |
| **job-dropdead-time** | **[0..2^31-1]** | integer optional | Drop-dead Time Attributes: non-creatable, non-modifiable |
| **job-end-time** | **[0..2^31-1]** | integer optional | End Time Attributes: non-creatable, non-modifiable |
| **job-id** | **[0..2^64-1]** | integer optional | Job ID Attributes: key, non-creatable, non-modifiable |
| **job-name** | | string optional | Name Attributes: non-creatable, non-modifiable |
| **job-node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **job-priority** | | job-priority optional | Priority Attributes: non-creatable, non-modifiable Possible values:<br>• "low" ,<br>• "medium" ,<br>• "high" ,<br>• "exclusive" |
| **job-progress** | | string optional | Execution Progress Attributes: non-creatable, non-modifiable |
| **job-queue-time** | **[0..2^31-1]** | integer optional | Queue Time Attributes: non-creatable, non-modifiable |
| **job-schedule** | | string optional | Schedule Attributes: non-creatable, non-modifiable |
| **job-start-time** | **[0..2^31-1]** | integer optional | Start Time Attributes: non-creatable, non-modifiable |
| | | | State Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **job-state** | | job-state optional | • "initial" - Initializing,<br>• "queued" - Queued,<br>• "running" - Running,<br>• "waiting" - Waiting For Another Job,<br>• "pausing" - Entering Paused State,<br>• "paused" - Paused,<br>• "quitting" - Entering Quit State,<br>• "success" - Succeeded,<br>• "failure" - Failed,<br>• "reschedule" - Forcing Reschedule,<br>• "error" - Internal Error,<br>• "quit" - Quit,<br>• "dead" - Died,<br>• "unknown" - Unknown,<br>• "restart" - Forcing Restart,<br>• "dormant" - Waiting For External Event |
| **job-status-code** | **[0..2^64-1]** | integer optional | Status Code Attributes: non-creatable, non-modifiable |
| **job-type** | | string optional | Job Type Attributes: non-creatable, non-modifiable |
| **job-username** | | string optional | User Name Attributes: non-creatable, non-modifiable |
| **job-uuid** | | uuid optional | UUID Attributes: non-creatable, non-modifiable |
| **job-vserver** | | vserver-name optional | Owning Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **job-priority**

[top]

Execution priority of a job. There are thread pools for each priority level. Higher priority jobs may run in the pools of lower priorities. So High-priority jobs may run in the High, Medium or Low thread pools, Medium-priority jobs may run in the Medium or Low thread pools and Low-priority jobs may only run in the Low thread pool. The exception to this is Exclusive jobs: Exclusive-priority jobs will only run in the Exclusive thread pool and only Exclusive-priority jobs will be run in the Exclusive thread pool. Possible values:

- "low" ,
- "medium" ,
- "high" ,
- "exclusive"

[none]

# Element definition: **job-state**

[top]

Jobs execute as self-contained state machines. They follow a series of careful steps from creation to destruction. These steps are dictated by the states that they find themselves in as well as the allowable list of states they may transition into. The state can be an indicator of whether a job is executing and if not, why that is the case. Possible values:

- "initial" - Initializing,
- "queued" - Queued,
- "running" - Running,
- "waiting" - Waiting For Another Job,
- "pausing" - Entering Paused State,
- "paused" - Paused,
- "quitting" - Entering Quit State,
- "success" - Succeeded,
- "failure" - Failed,
- "reschedule" - Forcing Reschedule,
- "error" - Internal Error,
- "quit" - Quit,
- "dead" - Died,
- "unknown" - Unknown,
- "restart" - Forcing Restart,
- "dormant" - Waiting For External Event

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **schedule-type**

[top]

Jobs may be scheduled according to one of three major styles: 'cron' is for jobs that should be run at a specific time or well-defined calendar date; 'interval' is for jobs that should be run on a regular period; 'builtin' is for jobs that should be run according to internal rules. Of these 'cron' and 'interval' may be customized. Possible values:

- "cron" ,
- "interval" ,
- "builtin" ,
- "unknown"

[none]

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **kerberos**


kerberos-config-get
kerberos-config-get-iter
kerberos-config-modify
kerberos-realm-create
kerberos-realm-delete
kerberos-realm-get-iter
kerberos-realm-modify


This set of ZAPIs allows Kerberos realm configuration and management.

## kerberos-config-get

[top]

Get Kerberos configuration information for a LIF.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | kerberos-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **interface-name** | | string | Logical interface. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | kerberos-config-info | The attributes of the kerberos-config. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## kerberos-config-get-iter

[top]

Get Kerberos configuration information for a group of LIFs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | kerberos-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 50 |
| **query** | | kerberos-config- | A query that specifies which objects to return. A query could be specified on any number of attributes in the kerberos-config |

| | | | |
|---|---|---|---|
| | | info optional | object. All kerberos-config objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | kerberos-config-info[] optional | The list of attributes of kerberos-config objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more kerberos-config objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# kerberos-config-modify

[top]

Modify Kerberos configuration information for a LIF

| Input Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string optional | Administrator password. |
| **admin-user-name** | | string optional | Administrator username. |
| **force** | | boolean optional | Force option to disable Kerberos security on a LIF (default:false). If set to true, any errors encountered when deleting the corresponding account on the KDC are ignored in which case the account should be deleted manually. |
| **interface-name** | | string | Logical interface. |
| **is-kerberos-enabled** | | boolean optional | If 'true', then kerberos security is enabled. |
| **keytab-uri** | | string optional | Keytab to load the uri from. |
| **machine-account** | | string optional | Machine Account Name. |
| **organizational-unit** | | string optional | Organizational Unit. |
| **service-principal-name** | | string optional | Kerberos service principal name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_CANT_SHARE_AD_KERBEROS_ACCOUNT** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# kerberos-realm-create

[top]

Create a new Kerberos realm configuration.

In Data ONTAP 8.2.x and prior versions, Kerberos realms were owned by Cserver and were accessible only from Admin Vserver LIFs using the input 'config-name'. The 'vserver' input was not required.

Starting from Data ONTAP 8.3.0, Kerberos realms are owned by data Vservers and are accessible from both Admin and data Vserver LIFs. The 'config-name' input can no longer be used as a key. The 'realm' input must be used instead. The 'vserver' input is required.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ad-server-ip** | | ip-address optional | IP Address of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft'. |
| **ad-server-name** | | string optional | Host name of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft' |
| **admin-server-ip** | | ip-address optional | IP address of the host where the Kerberos administration daemon is running. This is usually the master KDC. If this parameter is omitted, the IP address specified in kdc-ip is used. If specified, this should be the same as the kdc-ip if the kdc-vendor is 'microsoft'. |
| **admin-server-port** | | integer optional | The TCP port on the Kerberos administration server where the Kerberos administration service is running. The default for this parmater is 749. |
| **clock-skew** | | integer optional | The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock. The default for this parameter is 5 minutes. |
| **comment** | | string optional | Comment |
| **config-name** | | string optional | Kerberos configuration name. |
| **kdc-ip** | | ip-address | IP address of the Key Distribution Centre (KDC) server for this Kerberos realm. |
| **kdc-port** | | integer optional | TCP port on the KDC to be used for Kerberos communication. The default for this parameter is 88. |
| **kdc-vendor** | | kdc-vendor | The vendor of the Key Distribution Centre (KDC) server. If the configuration uses a Microsoft Active Directory (AD) domain for authentication, this field should be 'microsoft'. |
| **password-server-ip** | | ip-address optional | IP address of the host where the Kerberos password-changing server is running. Typically, this is the same as the host indicated in the adminserver-ip. If this parameter is omitted, the IP address in kdc-ip is used. |
| **password-server-port** | | integer optional | The TCP port on the Kerberos password-changing server where the Kerberos password-changing service is running. The default for this parameter is 464. |
| **realm** | | string | Kerberos realm name. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# kerberos-realm-delete

[top]

Delete the Kerberos realm configuration.

In Data ONTAP 8.2.x and prior versions, Kerberos realms were owned by Cserver and were accessible only from Admin Vserver LIFs using the input 'config-name'. The 'vserver' input was not required.

Starting from Data ONTAP 8.3.0, Kerberos realms are owned by data Vservers and are accessible from both Admin and data Vserver LIFs. The 'config-name' input can no longer be used as a key. The 'realm' input must be used instead. The 'vserver' input is required.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **config-name** | | string optional | Kerberos configuration name. |
| **realm** | | string optional | Kerberos realm name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# kerberos-realm-get-iter

[top]

Retrieve the list of Kerberos realm configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | kerberos-realm optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | kerberos-realm optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the kerberos-realm object. All kerberos-realm objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | kerberos-realm[] optional | The list of attributes of kerberos-realm objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more kerberos-realm objects to return. |
| **num-records** | **[0..2^32-** | integer | The number of records returned in this call. |

| | 1] | | |
|---|---|---|---|

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# kerberos-realm-modify

[top]

Modify the Kerberos realm configuration.

In Data ONTAP 8.2.x and prior versions, Kerberos realms were owned by Cserver and were accessible only from Admin Vserver LIFs using the input 'config-name'. The 'vserver' input was not required.

Starting from Data ONTAP 8.3.0, Kerberos realms are owned by data Vservers and are accessible from both Admin and data Vserver LIFs. The 'config-name' input can no longer be used as a key. The 'realm' input must be used instead. The 'vserver' input is required.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ad-server-ip** | | ip-address optional | IP Address of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft'. |
| **ad-server-name** | | string optional | Host name of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft' |
| **admin-server-ip** | | ip-address optional | IP address of the host where the Kerberos administration daemon is running. This is usually the master KDC. If this parameter is omitted, the IP address specified in kdc-ip is used. If specified, this should be the same as the kdc-ip if the kdc-vendor is 'microsoft'. |
| **admin-server-port** | | integer optional | The TCP port on the Kerberos administration server where the Kerberos administration service is running. The default for this parmater is 749. |
| **clock-skew** | | integer optional | The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock. The default for this parameter is 5 minutes. |
| **comment** | | string optional | Comment |
| **config-name** | | string optional | Kerberos configuration name. |
| **kdc-ip** | | ip-address optional | IP address of the Key Distribution Centre (KDC) server for this Kerberos realm. |
| **kdc-port** | | integer optional | TCP port on the KDC to be used for Kerberos communication. The default for this parameter is 88. |
| **kdc-vendor** | | kdc-vendor optional | The vendor of the Key Distribution Centre (KDC) server. If the configuration uses a Microsoft Active Directory (AD) domain for authentication, this field should be 'microsoft'. |
| **password-server-ip** | | ip-address optional | IP address of the host where the Kerberos password-changing server is running. Typically, this is the same as the host indicated in the adminserver-ip. If this parameter is omitted, the IP address in kdc-ip is used. |
| **password-server-port** | | integer optional | The TCP port on the Kerberos password-changing server where the Kerberos password-changing service is running. The default for this parameter is 464. |
| **realm** | | string optional | Kerberos realm name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **kdc-vendor**

[top]

Kerberos Key Distribution Center (KDC) Vendor Possible values:

- "microsoft" ,
- "other"

[none]

# Element definition: **kerberos-config-info**

[top]

Kerberos configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **admin-password** | | string optional | Administrator password for the Key Distribution Center. This is a required input. Attributes: non-creatable, modifiable |
| **admin-user-name** | | string optional | Administrator username for the Key Distribution Center. This is a required input. Attributes: non-creatable, modifiable |
| **force** | | boolean optional | Force option to disable Kerberos security on a LIF (default:false). If set to true, any errors encountered when deleting the corresponding account on the KDC are ignored in which case the account should be deleted manually. Attributes: non-creatable, modifiable |
| **interface-name** | | string optional | Logical interface. Attributes: key, non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **ip-address** | | string optional | Logical interface IP address. Attributes: non-creatable, non-modifiable |
| **is-kerberos-enabled** | | boolean optional | This is a required input.<br><br>If 'true', Kerberos security is enabled by creating an account in the Key Distribution Center using the Service Principal Name. If another logical interface uses the same Service Principal Name, the account is shared.<br><br>If 'false', Kerberos security is disabled and the associated account is deleted when it is not used by any logical interface. Attributes: non-creatable, modifiable |
| **keytab-uri** | | string optional | Load Keytab from URI. This field should not be specified when disabling Kerberos. Attributes: non-creatable, modifiable |
| **machine-account** | | string optional | Machine Account Name. Attributes: non-creatable, modifiable |
| **organizational-unit** | | string optional | Organization Unit. This option is available for a Microsoft AD KDC only. Attributes: non-creatable, modifiable |
| **permitted-enc-types** | | string[] optional | Permitted encryption types in the Vserver. Attributes: non-creatable, non-modifiable |
| **service-principal-name** | | string optional | Kerberos service principal name. This is a required input for enabling Kerberos. This input should not be specified when disabling Kerberos. Attributes: non-creatable, modifiable |
| **vserver** | | string optional | Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **kerberos-realm**

[top]

Kerberos realm configuration specifies the locations of Key Distribution Center (KDC) servers and administration daemons for the Kerberos realms of interest. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ad-server-ip** | | ip-address optional | IP Address of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft'. Attributes: optional-for-create, modifiable |
| **ad-server-name** | | string optional | Host name of the Active Directory Domain Controller (DC). This is a mandatory parameter if the kdc-vendor is 'microsoft' Attributes: optional-for-create, modifiable |
| **admin-server-ip** | | ip-address optional | IP address of the host where the Kerberos administration daemon is running. This is usually the master KDC. If this parameter is omitted, the IP address specified in kdc-ip is used. If specified, this should be the same as the kdc-ip if the kdc-vendor is 'microsoft'. Attributes: optional-for-create, modifiable |
| **admin-server-** | **[1..65535]** | integer | The TCP port on the Kerberos administration server where the Kerberos administration service is running. The default for this |

| | | | |
|---|---|---|---|
| **port** | | optional | parmater is 749. Attributes: optional-for-create, modifiable |
| **clock-skew** | **[0..2^32-1]** | integer optional | The clock skew in minutes is the tolerance for accepting tickets with time stamps that do not exactly match the host's system clock. The default for this parameter is 5 minutes. Attributes: optional-for-create, modifiable |
| **comment** | | string optional | Comment Attributes: optional-for-create, modifiable |
| **config-name** | | string optional | Kerberos configuration name. Attributes: key, non-creatable, non-modifiable |
| **kdc-ip** | | ip-address optional | IP address of the Key Distribution Centre (KDC) server for this Kerberos realm. Attributes: required-for-create, modifiable |
| **kdc-port** | **[1..65535]** | integer optional | TCP port on the KDC to be used for Kerberos communication. The default for this parameter is 88. Attributes: optional-for-create, modifiable |
| **kdc-vendor** | | kdc-vendor optional | The vendor of the Key Distribution Centre (KDC) server. If the configuration uses a Microsoft Active Directory (AD) domain for authentication, this field should be 'microsoft'. Attributes: required-for-create, modifiable Possible values:<br>• "microsoft" ,<br>• "other" |
| **password-server-ip** | | ip-address optional | IP address of the host where the Kerberos password-changing server is running. Typically, this is the same as the host indicated in the adminserver-ip. If this parameter is omitted, the IP address in kdc-ip is used. Attributes: optional-for-create, modifiable |
| **password-server-port** | **[1..65535]** | integer optional | The TCP port on the Kerberos password-changing server where the Kerberos password-changing service is running. The default for this parameter is 464. Attributes: optional-for-create, modifiable |
| **permitted-enc-types** | | string[] optional | Permitted encryption types on the Vserver. Attributes: non-creatable, non-modifiable |
| **realm** | | string optional | Kerberos realm name. Attributes: key, required-for-create, non-modifiable |
| **vserver-name** | | vserver-name optional | Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **kdc-vendor**

[top]

Kerberos Key Distribution Center (KDC) Vendor Possible values:

- "microsoft" ,
- "other"

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **ldap**


ldap-check-get-iter
ldap-client-create
ldap-client-delete
ldap-client-get-iter
ldap-client-modify
ldap-client-schema-copy
ldap-client-schema-delete
ldap-client-schema-get-iter
ldap-client-schema-modify
ldap-config-create
ldap-config-delete
ldap-config-get-iter
ldap-config-modify


This set of ZAPIs manages Lightweight Directory Access Protocol (LDAP) configuration.

## ldap-check-get-iter

[top]

Display the status of an LDAP configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ldap-status optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ldap-status optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ldap-client-check object. All ldap-client-check objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ldap-status[] optional | The list of attributes of ldap-client-check objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ldap-client-check objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| | |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **E_LDAP_VSERVER_OPSTATE_STOPPED** | |
| **E_LDAP_CONFIG_DISABLED** | |
| **E_LDAP_VSERVER_CONFIG_INVALID** | |

# ldap-client-create

[top]

Create a new Lightweight Directory Access Protocol (LDAP) client configuration for the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ad-domain** | | string optional | The Active Directory Domain Name for this LDAP configuration. The option is ONLY applicable for configurations using Active Directory LDAP servers. |
| **base-dn** | | ldap-dn optional | Indicates the starting point for searches within the LDAP directory tree. If omitted, searches will start at the root of the directory tree. |
| **base-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search. If omitted, this parameter defaults to 'subtree'. Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **bind-as-cifs-server** | | boolean optional | If set, the cluster will use the CIFS server's credentials to bind to the LDAP server. If omitted, this parameter defaults to 'true' if the configuration uses Active Directory LDAP and defaults to 'false' otherwise. |
| **bind-dn** | | ldap-dn optional | The Bind Distinguished Name (DN) is the LDAP identity used during the authentication process by the clients. This is required if the LDAP server does not support anonymous binds. This field is not used if 'bind-as-cfs-server' is set to 'true'. Example : cn=username,cn=Users,dc=example,dc=com |
| **bind-password** | | string optional | The password to be used with the bind-dn. |
| **group-dn** | | ldap-dn optional | The Group Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for group lookups. If not specified, group lookups will start at the base-dn. |
| **group-membership-filter** | | string optional | This indicates the custom filter to be used while looking up group membership from an LDAP server. |
| **group-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search when doing group lookups. Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |

| | | | |
|---|---|---|---|
| **is-netgroup-byhost-enabled** | | boolean optional | This indicates whether netgroup.byhost map should be queried for lookups. |
| **ldap-client-config** | | string | The name of the LDAP client configuration. |
| **ldap-servers** | | string[] optional | List of LDAP Servers to use for this configuration. The option is NOT applicable for configurations using ad-domain parameter. |
| **ldaps-enabled** | | boolean optional | Indicates whether LDAPS is enabled or not. |
| **min-bind-level** | | ldap-auth-method optional | The minimum authentication level that can be used to authenticate with the LDAP server. If omitted, this parameter defaults to 'sasl' if the configuration uses Active Directory LDAP. For configurations that use LDAP servers from other vendors, this parameter defaults to 'simple' if a 'bind-dn' is specified and 'anonymous' otherwise. Possible values:<br>• "anonymous" - Anonymous bind,<br>• "simple" - Simple bind,<br>• "sasl" - Simple Authentication and Security Layer (SASL) bind |
| **netgroup-byhost-dn** | | ldap-dn optional | The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup byhost lookups. If not specified, netgroup byhost lookups will start at the base-dn. |
| **netgroup-byhost-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search when doing netgroup byhost lookups. Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **netgroup-dn** | | ldap-dn optional | The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup lookups. If not specified, netgroup lookups will start at the base-dn. |
| **netgroup-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search when doing netgroup lookups. Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **obs-password** | | hex-string optional | Encrypted Password |
| **preferred-ad-servers** | | ip-address[] optional | Preferred Active Directory (AD) Domain controllers to use for this configuration. This option is ONLY applicable for configurations using Active Directory LDAP servers |
| **query-timeout** | **[0..10]** | integer optional | Maximum time in seconds to wait for a query response from the LDAP server. The default for this parameter is 3 seconds. |
| **referral-enabled** | | boolean optional | If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for LDAP referral chasing for this Vserver. |
| **return-** | | boolean | If set to true, returns the ldap-client on successful creation. |

| | | | |
|---|---|---|---|
| **record** | | optional | Default: false |
| **schema** | | string | LDAP schema to use for this configuration. The list of possible schemas can be obtained using the ldap-client-schema-get-iter API. |
| **servers** | | ip-address[] optional | (DEPRECATED)-List of LDAP Server IP addresses to use for this configuration. The option is NOT applicable for configurations using Active Directory LDAP servers. |
| **session-security** | | ldap-security optional | This indicates the level of security for LDAP communications. By default this option is none. Possible values:<br>• "none" - No Signing or Sealing.,<br>• "sign" - Sign LDAP traffic.,<br>• "seal" - Seal and Sign LDAP traffic |
| **tcp-port** | **[1..65535]** | integer optional | The TCP port on the LDAP server to use for this configuration. If omitted, this parameter defaults to 389. |
| **try-channel-binding** | | boolean optional | This indicates whether channel binding will be tried in case of TLS/LDAPS. |
| **use-start-tls** | | boolean optional | This indicates if start_tls will be used over LDAP connections. |
| **user-dn** | | ldap-dn optional | The User Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for user lookups. If this parameter is omitted, user lookups will start at the base-dn. |
| **user-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search when doing user lookups. Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | ldap-client optional | The ldap-client created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EDUPLICATEENTRY** | |
| | |
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |

# ldap-client-delete

[top]

Delete an existing Lightweight Directory Access Protocol (LDAP) client configuration from the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ldap-client-config** | | string | The name of the LDAP client configuration. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

| EINTERNALERROR | |
|---|---|

# ldap-client-get-iter

[top]

Retrieve the list of Lightweight Directory Access Protocol (LDAP) client configurations for the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ldap-client optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ldap-client optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ldap-client object. All ldap-client objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ldap-client[] optional | The list of attributes of ldap-client objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ldap-client objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |

# ldap-client-modify

[top]

Modify an existing Lightweight Directory Access Protocol (LDAP) client configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ad-domain** | | string optional | The Active Directory Domain Name for this LDAP configuration. The option is ONLY applicable for configurations using Active Directory LDAP servers. |
| **base-dn** | | ldap-dn optional | Indicates the starting point for searches within the LDAP directory tree. If omitted, searches will start at the root of the directory tree. |
| **base-scope** | | ldap-search- | This indicates the scope for LDAP search. If omitted, this parameter defaults to 'subtree'. Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the |

| | | | |
|---|---|---|---|
| | | scope optional | base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **bind-as-cifs-server** | | boolean optional | If set, the cluster will use the CIFS server's credentials to bind to the LDAP server. If omitted, this parameter defaults to 'true' if the configuration uses Active Directory LDAP and defaults to 'false' otherwise. |
| **bind-dn** | | ldap-dn optional | The Bind Distinguished Name (DN) is the LDAP identity used during the authentication process by the clients. This is required if the LDAP server does not support anonymous binds. This field is not used if 'bind-as-cfs-server' is set to 'true'. Example : cn=username,cn=Users,dc=example,dc=com |
| **bind-password** | | string optional | The password to be used with the bind-dn. |
| **group-dn** | | ldap-dn optional | The Group Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for group lookups. If not specified, group lookups will start at the base-dn. |
| **group-membership-filter** | | string optional | This indicates the custom filter to be used while looking up group membership from an LDAP server. |
| **group-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search when doing group lookups. Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **is-netgroup-byhost-enabled** | | boolean optional | This indicates whether netgroup.byhost map should be queried for lookups. |
| **ldap-client-config** | | string | The name of the LDAP client configuration. |
| **ldap-servers** | | string[] optional | List of LDAP Servers to use for this configuration. The option is NOT applicable for configurations using ad-domain parameter. |
| **ldaps-enabled** | | boolean optional | Indicates whether LDAPS is enabled or not. |
| **min-bind-level** | | ldap-auth-method optional | The minimum authentication level that can be used to authenticate with the LDAP server. If omitted, this parameter defaults to 'sasl' if the configuration uses Active Directory LDAP. For configurations that use LDAP servers from other vendors, this parameter defaults to 'simple' if a 'bind-dn' is specified and 'anonymous' otherwise. Possible values:<br>• "anonymous" - Anonymous bind,<br>• "simple" - Simple bind,<br>• "sasl" - Simple Authentication and Security Layer (SASL) bind |
| **netgroup-byhost-dn** | | ldap-dn optional | The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup byhost lookups. If not specified, netgroup byhost lookups will start at the base-dn. |
| | | | This indicates the scope for LDAP search when doing netgroup byhost lookups. Possible values: |

| | | | |
|---|---|---|---|
| **netgroup-byhost-scope** | | ldap-search-scope optional | • "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **netgroup-dn** | | ldap-dn optional | The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup lookups. If not specified, netgroup lookups will start at the base-dn. |
| **netgroup-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search when doing netgroup lookups. Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **obs-password** | | hex-string optional | Encrypted Password |
| **preferred-ad-servers** | | ip-address[] optional | Preferred Active Directory (AD) Domain controllers to use for this configuration. This option is ONLY applicable for configurations using Active Directory LDAP servers |
| **query-timeout** | **[0..10]** | integer optional | Maximum time in seconds to wait for a query response from the LDAP server. The default for this parameter is 3 seconds. |
| **referral-enabled** | | boolean optional | If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for LDAP referral chasing for this Vserver. |
| **schema** | | string optional | LDAP schema to use for this configuration. The list of possible schemas can be obtained using the ldap-client-schema-get-iter API. |
| **servers** | | ip-address[] optional | (DEPRECATED)-List of LDAP Server IP addresses to use for this configuration. The option is NOT applicable for configurations using Active Directory LDAP servers. |
| **session-security** | | ldap-security optional | This indicates the level of security for LDAP communications. By default this option is none. Possible values:<br>• "none" - No Signing or Sealing.,<br>• "sign" - Sign LDAP traffic.,<br>• "seal" - Seal and Sign LDAP traffic |
| **skip-config-validation** | | boolean optional | If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped. |
| **tcp-port** | **[1..65535]** | integer optional | The TCP port on the LDAP server to use for this configuration. If omitted, this parameter defaults to 389. |
| **try-channel-binding** | | boolean optional | This indicates whether channel binding will be tried in case of TLS/LDAPS. |
| **use-start-tls** | | boolean optional | This indicates if start_tls will be used over LDAP connections. |
| **user-dn** | | ldap-dn optional | The User Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for user lookups. If this parameter is omitted, user lookups will start at the base-dn. |
| | | ldap-search- | This indicates the scope for LDAP search when doing user lookups. Possible values:<br>• "base" - Searches only the base directory entry, |

| | | | |
|---|---|---|---|
| **user-scope** | | scope optional | "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |

| Errno | Description |
|---|---|
| **E_CIFS_COMMAND_OPTION_NOT_SUPPORTED_IN_WORKGROUP_MODE** | |

# ldap-client-schema-copy

[top]

Copy an existing LDAP schema. If the LDAP server that the storage system needs to query does not support any of the default read-only schemas, this API can be used to create an editable copy of an existing read-only schema. After copying the schema, the copy can be modified using the ldap-client-schema-modify API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-schema-name** | | string | New Schema Template Name |
| **schema** | | string | A name for the schema. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ldap-client-schema-delete

[top]

Delete an existing Lightweight Directory Access Protocol (LDAP) schema configuration. Only the schemas that are defined using the ldap-client-schema-copy API can be deleted using this API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **schema** | | string | A name for the schema. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ldap-client-schema-get-iter

[top]

Retrieve the list of Lightweight Directory Access Protocol (LDAP) client schema configurations that are defined for the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ldap-client-schema | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is |

| | | | |
|---|---|---|---|
| | | optional | available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ldap-client-schema optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ldap-client-schema object. All ldap-client-schema objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ldap-client-schema[] optional | The list of attributes of ldap-client-schema objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ldap-client-schema objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ldap-client-schema-modify

[top]

Modify an existing Lightweight Directory Access Protocol (LDAP) schema configuration. If the LDAP server that the storage system needs to query does not support any of the default read-only schemas, the ldap-client-schema-copy API can be used to create a editable copy of an existing read-only schema. After copying the schema, the copy can be modified using this API to support the target schema.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cn-group-attribute** | | string optional | Name that represents the RFC 2256 cn attribute used by RFC 2307 when working with groups. |
| **cn-netgroup-attribute** | | string optional | Name that represents the RFC 2256 cn attribute used by RFC 2307 when working with netgroups. |
| **comment** | | string optional | A comment that can be associated with the schema. |
| **enable-rfc2307bis** | | boolean optional | This indicates if the RFC 2307bis is enabled for client schema. |
| **gecos-attribute** | | string optional | Name that represents the RFC 2307 gecos attribute. |
| **gid-number-attribute** | | string optional | Name that represents the RFC 2307 gidNumber attribute. |
| **group-of-unique-names-object-class** | | string optional | Name that represents the RFC 2307bis groupOfUniqueNames object class. |
| **home-directory-attribute** | | string optional | Name that represents the RFC 2307 homeDirectory attribute. |
| **login-shell-attribute** | | string optional | Name that represents the RFC 2307 loginShell attribute. |
| **member-nis-netgroup-** | | string | Name that represents the RFC 2307 memberNisNetgroup |

| | | | |
|---|---|---|---|
| **attribute** | | optional | attribute. |
| **member-uid-attribute** | | string optional | Name that represents the RFC 2307 memberUid attribute. |
| **nis-mapentry-attribute** | | string optional | Name that represents the RFC 2307 nisMapEntry Attribute. |
| **nis-mapname-attribute** | | string optional | Name that represents the RFC 2307 nisMapName Attribute. |
| **nis-netgroup-object-class** | | string optional | Name that represents the RFC 2307 nisNetgroup object class. |
| **nis-netgroup-triple-attribute** | | string optional | Name that represents the RFC 2307 nisNetgroupTriple attribute. |
| **nis-object-class** | | string optional | Name that represents the RFC 2307 nisObject Object Class. |
| **posix-account-object-class** | | string optional | Name that represents the RFC 2307 posixAccount object class. |
| **posix-group-object-class** | | string optional | Name that represents the RFC 2307 posixGroup object class. |
| **schema** | | string | A name for the schema. |
| **uid-attribute** | | string optional | Name that represents the RFC 1274 userid attribute used by RFC 2307 as uid. |
| **uid-number-attribute** | | string optional | Name that represents the RFC 2307 uidNumber attribute. |
| **unique-member-attribute** | | string optional | Name that represents the RFC 2307bis uniqueMember attribute. |
| **user-password-attribute** | | string optional | Name that represents the RFC 2256 userPassword attribute used by RFC 2307. |
| **windows-account-attribute** | | string optional | Attribute name to be used to get the windows account information for a unix user account. |
| **windows-to-unix-attribute** | | string optional | Attribute name to be used to get the unix account information for a windows user account. |
| **windows-to-unix-no-domain-prefix** | | boolean optional | This indicates if the name for windows to unix name mapping should have no domain prefix. |
| **windows-to-unix-object-class** | | string optional | Name that represents the windowsToUnix object class. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ldap-config-create

[top]

Create a new association between a Lightweight Directory Access Protocol (LDAP) client configuration and a Vserver. A Vserver can have only one client configuration associated with it.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-config** | | string | The name of an existing Lightweight Directory Access Protocol (LDAP) client configuration. The LDAP client configuration can be created using the ldap-client-create API. The ldap-client-get-iter API can be used to retrieve the list of available LDAP client configurations for the cluster. |
| **client-enabled** | | boolean optional | If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for this Vserver. |

| | | | |
|---|---|---|---|
| **return-record** | | boolean optional | If set to true, returns the ldap-config on successful creation. Default: false |
| **skip-config-validation** | | boolean optional | If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | ldap-config optional | The ldap-config created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EDUPLICATEENTRY** | |
| **E_LDAP_VSERVER_CONFIG_INVALID** | |
| **E_LDAP_CLIENT_DISABLED_NOT_SUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# ldap-config-delete

[top]

Delete a Vserver's association with a Lightweight Directory Access Protocol (LDAP) configuration.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# ldap-config-get-iter

[top]

Retrieve the list of Lightweight Directory Access Protocol (LDAP) configurations in the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ldap-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ldap-config optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ldap-config object. All ldap-config objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ldap-config[] optional | The list of attributes of ldap-config objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ldap-config objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ldap-config-modify

[top]

Modify the Lightweight Directory Access Protocol (LDAP) configuration for a Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-config** | | string optional | The name of an existing Lightweight Directory Access Protocol (LDAP) client configuration. The LDAP client configuration can be created using the ldap-client-create API. The ldap-client-get-iter API can be used to retrieve the list of available LDAP client configurations for the cluster. |
| **client-enabled** | | boolean optional | If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for this Vserver. |
| **skip-config-validation** | | boolean optional | If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped. |

| Errno | Description |
|---|---|
| **E_LDAP_VSERVER_CONFIG_INVALID** | |
| **E_LDAP_CLIENT_DISABLED_NOT_SUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# Element definition: **hex-string**

[top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **ldap-auth-method**

[top]

anonymous|simple|sasl Possible values:

- "anonymous" - Anonymous bind,
- "simple" - Simple bind,
- "sasl" - Simple Authentication and Security Layer (SASL) bind

[none]

# Element definition: **ldap-client**

[top]

LDAP Client Information. Each entry specifies an LDAP client configuration that can be associated with a Vserver using the ldap-config-create API. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ad-domain** | | string optional | The Active Directory Domain Name for this LDAP configuration. The option is ONLY applicable for configurations using Active Directory LDAP servers. Attributes: optional-for-create, modifiable |
| **base-dn** | | ldap-dn optional | Indicates the starting point for searches within the LDAP directory tree. If omitted, searches will start at the root of the directory tree. Attributes: optional-for-create, modifiable |
| **base-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search. If omitted, this parameter defaults to 'subtree'. Attributes: optional-for-create, modifiable Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **bind-as-cifs-server** | | boolean optional | If set, the cluster will use the CIFS server's credentials to bind to the LDAP server. If omitted, this parameter defaults to 'true' if the configuration uses Active Directory LDAP and defaults to 'false' otherwise. Attributes: optional-for-create, modifiable |
| **bind-dn** | | ldap-dn optional | The Bind Distinguished Name (DN) is the LDAP identity used during the authentication process by the clients. This is required if the LDAP server does not support anonymous binds. This field is not used if 'bind-as-cfs-server' is set to 'true'. Example : cn=username,cn=Users,dc=example,dc=com Attributes: optional-for-create, modifiable |
| **bind-** | | string | The password to be used with the bind-dn. Attributes: optional- |

| | | | |
|---|---|---|---|
| **password** | | optional | for-create, modifiable |
| **group-dn** | | ldap-dn optional | The Group Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for group lookups. If not specified, group lookups will start at the base-dn. Attributes: optional-for-create, modifiable |
| **group-membership-filter** | | string optional | This indicates the custom filter to be used while looking up group membership from an LDAP server. Attributes: optional-for-create, modifiable |
| **group-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search when doing group lookups. Attributes: optional-for-create, modifiable Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **is-netgroup-byhost-enabled** | | boolean optional | This indicates whether netgroup.byhost map should be queried for lookups. Attributes: optional-for-create, modifiable |
| **is-owner** | | boolean optional | This indicates if the vserver owns the client configuration. Attributes: non-creatable, non-modifiable |
| **ldap-client-config** | | string optional | The name of the LDAP client configuration. Attributes: key, required-for-create, non-modifiable |
| **ldap-servers** | | string[] optional | List of LDAP Servers to use for this configuration. The option is NOT applicable for configurations using ad-domain parameter. Attributes: optional-for-create, modifiable |
| **ldaps-enabled** | | boolean optional | Indicates whether LDAPS is enabled or not. Attributes: optional-for-create, modifiable |
| **min-bind-level** | | ldap-auth-method optional | The minimum authentication level that can be used to authenticate with the LDAP server. If omitted, this parameter defaults to 'sasl' if the configuration uses Active Directory LDAP. For configurations that use LDAP servers from other vendors, this parameter defaults to 'simple' if a 'bind-dn' is specified and 'anonymous' otherwise. Attributes: optional-for-create, modifiable Possible values:<br>• "anonymous" - Anonymous bind,<br>• "simple" - Simple bind,<br>• "sasl" - Simple Authentication and Security Layer (SASL) bind |
| **netgroup-byhost-dn** | | ldap-dn optional | The Netgroup Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for netgroup byhost lookups. If not specified, netgroup byhost lookups will start at the base-dn. Attributes: optional-for-create, modifiable |
| **netgroup-byhost-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search when doing netgroup byhost lookups. Attributes: optional-for-create, modifiable Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| | | | The Netgroup Distinguished Name (DN), if specified, is used as |

| | | | |
|---|---|---|---|
| **netgroup-dn** | | ldap-dn optional | the starting point in the LDAP directory tree for netgroup lookups. If not specified, netgroup lookups will start at the base-dn. Attributes: optional-for-create, modifiable |
| **netgroup-scope** | | ldap-search-scope optional | This indicates the scope for LDAP search when doing netgroup lookups. Attributes: optional-for-create, modifiable Possible values:<br>• "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **obs-password** | | hex-string optional | Encrypted Password Attributes: optional-for-create, modifiable |
| **preferred-ad-servers** | | ip-address[] optional | Preferred Active Directory (AD) Domain controllers to use for this configuration. This option is ONLY applicable for configurations using Active Directory LDAP servers Attributes: optional-for-create, modifiable |
| **query-timeout** | **[0..10]** | integer optional | Maximum time in seconds to wait for a query response from the LDAP server. The default for this parameter is 3 seconds. Attributes: optional-for-create, modifiable |
| **referral-enabled** | | boolean optional | If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for LDAP referral chasing for this Vserver. Attributes: optional-for-create, modifiable |
| **schema** | | string optional | LDAP schema to use for this configuration. The list of possible schemas can be obtained using the ldap-client-schema-get-iter API. Attributes: required-for-create, modifiable |
| **servers** | | ip-address[] optional | (DEPRECATED)-List of LDAP Server IP addresses to use for this configuration. The option is NOT applicable for configurations using Active Directory LDAP servers. Attributes: optional-for-create, modifiable |
| **session-security** | | ldap-security optional | This indicates the level of security for LDAP communications. By default this option is none. Attributes: optional-for-create, modifiable Possible values:<br>• "none" - No Signing or Sealing.,<br>• "sign" - Sign LDAP traffic.,<br>• "seal" - Seal and Sign LDAP traffic |
| **skip-config-validation** | | boolean optional | If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped. Attributes: non-creatable, modifiable |
| **tcp-port** | **[1..65535]** | integer optional | The TCP port on the LDAP server to use for this configuration. If omitted, this parameter defaults to 389. Attributes: optional-for-create, modifiable |
| **try-channel-binding** | | boolean optional | This indicates whether channel binding will be tried in case of TLS/LDAPS. Attributes: optional-for-create, modifiable |
| **use-start-tls** | | boolean optional | This indicates if start_tls will be used over LDAP connections. Attributes: optional-for-create, modifiable |
| **user-dn** | | ldap-dn optional | The User Distinguished Name (DN), if specified, is used as the starting point in the LDAP directory tree for user lookups. If this parameter is omitted, user lookups will start at the base-dn. Attributes: optional-for-create, modifiable |
| | | | This indicates the scope for LDAP search when doing user lookups. Attributes: optional-for-create, modifiable Possible values: |

| | | | |
|---|---|---|---|
| **user-scope** | | ldap-search-scope optional | • "base" - Searches only the base directory entry,<br>• "onelevel" - Searches the immediate subordinates of the base directory entry,<br>• "subtree" - Searches the base directory entry and all its subordinates |
| **vserver** | | vserver-name-data-admin optional | Name of the Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **ldap-client-schema**

[top]

An LDAP Client Schema Definition. A schema definition is a way of defining what attribute names are to be used in LDAP queries to get information that the storage system needs for its operation. This will depend on the schema that the LDAP server supports. For example, to query for user account information, the LDAP query should ask for the 'posixAccount' class if the LDAP server is compatible with RFC-2307 and it should ask for 'User' class if the LDAP server is an Active Directory LDAP Server. The default LDAP configuration has two schemas defined namely 'RFC-2307' and 'AD-SFU'. The 'RFC-2307' schema is the default schema that should be used to query servers that support RFC-2307. The 'AD-SFU' schema is the default schema that should be used to query Active Directory LDAP servers. These schemas are read-only and cannot be modified. The default schemas will work with most common LDAP configurations. If it is required to support other schema configurations, 808 :existing schemas can be copied using the 'ldap-client-schema-copy' API and modified using the 'ldap-client-schema-modify' API to work for the new configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cn-group-attribute** | | string optional | Name that represents the RFC 2256 cn attribute used by RFC 2307 when working with groups. Attributes: optional-for-create, modifiable |
| **cn-netgroup-attribute** | | string optional | Name that represents the RFC 2256 cn attribute used by RFC 2307 when working with netgroups. Attributes: optional-for-create, modifiable |
| **comment** | | string optional | A comment that can be associated with the schema. Attributes: optional-for-create, modifiable |
| **enable-rfc2307bis** | | boolean optional | This indicates if the RFC 2307bis is enabled for client schema. Attributes: optional-for-create, modifiable |
| **gecos-attribute** | | string optional | Name that represents the RFC 2307 gecos attribute. Attributes: optional-for-create, modifiable |
| **gid-number-attribute** | | string optional | Name that represents the RFC 2307 gidNumber attribute. Attributes: optional-for-create, modifiable |
| **group-of-unique-names-object-class** | | string optional | Name that represents the RFC 2307bis groupOfUniqueNames object class. Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **home-directory-attribute** | | string optional | Name that represents the RFC 2307 homeDirectory attribute. Attributes: optional-for-create, modifiable |
| **is-owner** | | boolean optional | This indicates if the vserver owns the client schema. Attributes: non-creatable, non-modifiable |
| **login-shell-attribute** | | string optional | Name that represents the RFC 2307 loginShell attribute. Attributes: optional-for-create, modifiable |
| **member-nis-netgroup-attribute** | | string optional | Name that represents the RFC 2307 memberNisNetgroup attribute. Attributes: optional-for-create, modifiable |
| **member-uid-attribute** | | string optional | Name that represents the RFC 2307 memberUid attribute. Attributes: optional-for-create, modifiable |
| **nis-mapentry-attribute** | | string optional | Name that represents the RFC 2307 nisMapEntry Attribute. Attributes: optional-for-create, modifiable |
| **nis-mapname-attribute** | | string optional | Name that represents the RFC 2307 nisMapName Attribute. Attributes: optional-for-create, modifiable |
| **nis-netgroup-object-class** | | string optional | Name that represents the RFC 2307 nisNetgroup object class. Attributes: optional-for-create, modifiable |
| **nis-netgroup-triple-attribute** | | string optional | Name that represents the RFC 2307 nisNetgroupTriple attribute. Attributes: optional-for-create, modifiable |
| **nis-object-class** | | string optional | Name that represents the RFC 2307 nisObject Object Class. Attributes: optional-for-create, modifiable |
| **posix-account-object-class** | | string optional | Name that represents the RFC 2307 posixAccount object class. Attributes: optional-for-create, modifiable |
| **posix-group-object-class** | | string optional | Name that represents the RFC 2307 posixGroup object class. Attributes: optional-for-create, modifiable |
| **schema** | | string optional | A name for the schema. Attributes: key, required-for-create, non-modifiable |
| **uid-attribute** | | string optional | Name that represents the RFC 1274 userid attribute used by RFC 2307 as uid. Attributes: optional-for-create, modifiable |
| **uid-number-attribute** | | string optional | Name that represents the RFC 2307 uidNumber attribute. Attributes: optional-for-create, modifiable |
| **unique-member-attribute** | | string optional | Name that represents the RFC 2307bis uniqueMember attribute. Attributes: optional-for-create, modifiable |
| **user-password-attribute** | | string optional | Name that represents the RFC 2256 userPassword attribute used by RFC 2307. Attributes: optional-for-create, modifiable |
| **vserver** | | vserver-name-data-admin optional | Vserver Attributes: key, non-creatable, non-modifiable |
| **windows-account-attribute** | | string optional | Attribute name to be used to get the windows account information for a unix user account. Attributes: optional-for-create, modifiable |
| **windows-to-unix-attribute** | | string optional | Attribute name to be used to get the unix account information for a windows user account. Attributes: optional-for-create, modifiable |
| **windows-to-unix-no-domain-prefix** | | boolean optional | This indicates if the name for windows to unix name mapping should have no domain prefix. Attributes: optional-for-create, modifiable |
| **windows-to-unix-object-class** | | string optional | Name that represents the windowsToUnix object class. Attributes: optional-for-create, modifiable |

[top]

# Element definition: **ldap-config**

Lightweight Directory Access Protocol (LDAP) configuration. Specifies the LDAP client configuration that is associated with this Vserver and whether the configuration is enabled. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-config** | | string optional | The name of an existing Lightweight Directory Access Protocol (LDAP) client configuration. The LDAP client configuration can be created using the ldap-client-create API. The ldap-client-get-iter API can be used to retrieve the list of available LDAP client configurations for the cluster. Attributes: required-for-create, modifiable |
| **client-enabled** | | boolean optional | If true, the corresponding Lightweight Directory Access Protocol (LDAP) configuration is enabled for this Vserver. Attributes: optional-for-create, modifiable |
| **skip-config-validation** | | boolean optional | If true, validation of the the corresponding Lightweight Directory Access Protocol (LDAP) client configuration will be skipped. Attributes: optional-for-create, modifiable |
| **vserver** | | vserver-name-data-admin optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **ldap-dn**

[top]

LDAP Distinguished Name

[none]

# Element definition: **ldap-search-scope**

[top]

base|onelevel|subtree Possible values:

- "base" - Searches only the base directory entry,
- "onelevel" - Searches the immediate subordinates of the base directory entry,
- "subtree" - Searches the base directory entry and all its subordinates

[none]

# Element definition: **ldap-security**

[top]

The list of possible values for LDAP Security. Possible values:

- "none" - No Signing or Sealing.
- "sign" - Sign LDAP traffic.
- "seal" - Seal and Sign LDAP traffic.

[none]

# Element definition: **ldap-status**

[top]

LDAP Configuration Check When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-config** | | string optional | Specifies the LDAP Client configuration for the Vserver Attributes: non-creatable, non-modifiable |
| **ldap-dn-status-details** | | string[] optional | Specifies additional information about the status of a LDAP DN config. Attributes: non-creatable, non-modifiable |
| **ldap-status** | | boolean optional | Specifies the status of a LDAP service. Attributes: non-creatable, non-modifiable |
| **ldap-status-details** | | string optional | Specifies additional information about the status of a LDAP config. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Specifies the Vserver for the LDAP configuration. Attributes: key, non-creatable, non-modifiable |

# Element definition: **hex-string**

[top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

## Element definition: **ldap-auth-method**

[top]

anonymous|simple|sasl Possible values:

- "anonymous" - Anonymous bind,
- "simple" - Simple bind,
- "sasl" - Simple Authentication and Security Layer (SASL) bind

[none]

## Element definition: **vserver-name-data-admin**

[top]

The name of the Vserver.

[none]

# APIs in Category: **license-v2**


license-v2-add
license-v2-apply
license-v2-capacity-create
license-v2-capacity-get-iter
license-v2-cleanup-list-info
license-v2-delete
license-v2-delete-expired
license-v2-delete-unused
license-v2-entitlement-risk-get-iter
license-v2-leases-update
license-v2-license-manager-config-get
license-v2-license-manager-config-modify
license-v2-license-manager-status-get-iter
license-v2-list-info
license-v2-status-get-iter
license-v2-status-list-info
license-v2-subscription-create
license-v2-subscription-get-iter
system-license-aggregate-get-iter


This set of zapis allows management of 7-Mode and Cluster-Mode licenses for Data ONTAP 8.2 and later. License keys are controller based which requires a separate license for each controller. A typical license key has a serial number embedded in it that restrict its use on a specific controller only (with the exception of Site and Demo keys). In a cluster, a single license with an associated serial number can allow a package to be used in the cluster, but to be fully entitled for a package, one must install a license for each controller. Site and Demo licenses are cluster wide and only require a single license for the entire cluster.

## license-v2-add

[top]

Add license for a Data ONTAP service.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **codes** | | license-code-v2[] | Data ONTAP Cluster-Mode service/feature. 24 or 48 uppercase alpha only characters. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **license-v2-failure-list** | | license-v2-result[] optional | A list of failed license operations, one entry per license. |
| **license-v2-success-list** | | license-v2-added[] optional | A list of successfully added licenses, one entry per license. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# license-v2-apply

[top]

Add entitlements described in license content

| Input Name | Range | Type | Description |
|---|---|---|---|
| content | | string | Content of license specification |

| Errno | Description |
|---|---|
| EONTAPI_INVALID_LICENSE | |
| EONTAPI_INVALID_SIGNATURE | |
| EONTAPI_PLATFORM | |
| EONTAPI_ZERO_VALUE | |
| EONTAPI_TABLE_ERROR | |

# license-v2-capacity-create

[top]

Adds V2 capacity license.

| Input Name | Range | Type | Description |
|---|---|---|---|
| license-input | | string | Capacity license input. |

| Errno | Description |
|---|---|
| EONTAPI_INVALID_LICENSE | |
| EONTAPI_INVALID_CAPACITY | |
| EONTAPI_INVALID_SIGNATURE | |
| EONTAPI_PLATFORM | |
| EONTAPI_TABLE_ERROR | |
| EONTAPI_ZERO_CAPACITY | |

# license-v2-capacity-get-iter

[top]

Get V2 capacity license information. This command is deprecated in Data ONTAP 9.2 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | license-v2-capacity-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| | | optional | |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | license-v2-capacity-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the license object. All license objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | license-v2-capacity-info[] optional | The list of attributes of license objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more license objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# license-v2-cleanup-list-info

[top]

Returns licenses that can be cleaned up. A license can be cleaned up if it's a demo license and its expiration time has passed (expired), or if it is a license for a controller that is no longer part of a cluster (unused). One can use the cleanup apis to remove these licenses together, or alternatively, they can use the standard license-remove api to remove them one at a time.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **licenses** | | license-v2-cleanup[] optional | An array, one entry per each license. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# license-v2-delete

[top]

Removes license for a Data ONTAP service.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Package Possible values:<br>• "base" - Cluster Base License. This value has been deprecated in |

| | | | |
|---|---|---|---|
| **package** | | licensed-package | Data ONTAP 9.2,<br>• "nfs" - NFS License,<br>• "cifs" - CIFS License,<br>• "iscsi" - iSCSI License,<br>• "fcp" - FCP License,<br>• "snaprestore" - SnapRestore License,<br>• "snapmirror" - SnapMirror License,<br>• "flexclone" - FlexClone License,<br>• "snapvault" - SnapVault License,<br>• "snaplock" - SnapLock License,<br>• "snapmanagersuite" - SnapManagerSuite License,<br>• "snapprotectapps" - SnapProtectApp License,<br>• "v_storageattach" - Virtual Attached Storage License,<br>• "insight_balance" - OnCommand Balance License,<br>• "ocshift" - OnCommand Shift License,<br>• "cloud" - Cloud ONTAP License,<br>• "select" - ONTAP Select License,<br>• "tpm" - Trusted Platform Module License,<br>• "ve" - Volume Encryption License,<br>• "dp_optimized" - Data Protection Optimized Secondary License<br>• "snapmirror_sync" - SnapMirror Synchronous License<br>• "nvme_of" - NVMe-oF License<br>• "flexcache" - FlexCache License |
| **serial-number** | | node-serial-number optional | Serial number of the node associated with the license. If this parameter is not provided, the default serial number used is the cluster serial number. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# license-v2-delete-expired

[top]

Remove licenses that have expired in the cluster.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# license-v2-delete-unused

[top]

Remove licenses that have no controller affiliation in the cluster.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# license-v2-entitlement-risk-get-iter

[top]

Returns license entitlement risk for cluster mode packages.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | license-v2-entitlement-risk-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | license-v2-entitlement-risk-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the license object. All license objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | license-v2-entitlement-risk-info[] optional | The list of attributes of license objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more license objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# license-v2-leases-update

[top]

Attempt to reconcile capacity leases

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force renewal of valid leases. |
| **node** | | node-name optional | Node(s) to attempt renewal. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **results** | | leases-update-results | Results of reconciliation attempt. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# license-v2-license-manager-config-get

[top]

Get license manager configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | lm-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | lm-config | The attributes of the lm_config. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# license-v2-license-manager-config-modify

[top]

Modify license manager configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **host** | | string optional | License Manager Host |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# license-v2-license-manager-status-get-iter

[top]

Check accessibility of license manager

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | lm-status optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | lm- | A query that specifies which objects to return. A query could be |

| | | | |
|---|---|---|---|
| **query** | | status optional | specified on any number of attributes in the lm_status object. All lm_status objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | lm-status[] optional | The list of attributes of lm_status objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more lm_status objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# license-v2-list-info

[top]

Returns infomation for DATA ONTAP licenses.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **licenses** | | license-v2-info[] | An array, one entry per license. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# license-v2-status-get-iter

[top]

Get Data ONTAP licenses status information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | license-v2-license-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | license-v2-license-info | A query that specifies which objects to return. A query could be specified on any number of attributes in the license-v2 object. All license-v2 objects matching this query up to 'max-records' will be |

| | | | |
|---|---|---|---|
| | | optional | returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | license-v2-license-info[] optional | The list of attributes of license-v2 objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more license-v2 objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# license-v2-status-list-info

[top]

Returns license status information for cluster mode packages. This command is deprecated in Data ONTAP 9.2 and may be removed in a future release.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **license-v2-status** | | license-v2-status-info[] | An array, one entry per each licensable service. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# license-v2-subscription-create

[top]

Add V2 subscription license.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **license-input** | | string | Subscription license input. |

| Errno | Description |
|---|---|
| **EONTAPI_INVALID_LICENSE** | |
| **EONTAPI_INVALID_SIGNATURE** | |
| **EONTAPI_TABLE_ERROR** | |

# license-v2-subscription-get-iter

[top]

Get V2 subscription license information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | license-v2-subscription-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | license-v2-subscription-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the license object. All license objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | license-v2-subscription-info[] optional | The list of attributes of license objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more license objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-license-aggregate-get-iter

[top]

Get Data ONTAP aggregate license information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-license-aggregate-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | system-license-aggregate-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the system-license-aggregate object. All system-license-aggregate objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| | | | |
|---|---|---|---|

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | system-license-aggregate-info[] optional | The list of attributes of system-license-aggregate objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more system-license-aggregate objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **leases-update-results**

[top]

Lease Update Results When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **failed-to-update** | **[0..2^64-1]** | integer optional | Number of Leases Failed to Update Attributes: non-creatable, non-modifiable |
| **up-to-date** | **[0..2^64-1]** | integer optional | Number of Leases Up to Date Attributes: non-creatable, non-modifiable |
| **updated** | **[0..2^64-1]** | integer optional | Number of Leases Updated Attributes: non-creatable, non-modifiable |

# Element definition: **license-code-v2**

[top]

License Code V2

[none]

# Element definition: **license-v2-added**

[top]

A license entry that was successfully added to the controller or the cluster.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **customer-id** | | string optional | Customer Identification. This value is only present in site licenses. It is set to none for standard and demo licenses. Attributes: non-creatable, non-modifiable |
| **expiration-time** | | datetime optional | License expiration time. This value is only present in demo licenses. It is set to zero for permanent licenses such as standard and site licenses. Attributes: non-creatable, non-modifiable |
| **license-key** | | license-code-v2 optional | License Key. Attributes: non-creatable, non-modifiable |
| **package** | | licensed-package optional | Package Name. Attributes: non-creatable, non-modifiable |
| **package-description** | | string optional | Description of the package. Attributes: non-creatable, non-modifiable |
| **serial-number** | | node-serial-number optional | Serial Number. This value is only present in standard licenses. It is set to none for site and demo licenses. Attributes: non-creatable, non-modifiable |
| **type** | | license-v2-type optional | License Type. Attributes: non-creatable, non-modifiable |

# Element definition: **license-v2-capacity-info**

[top]

Information about a capacity license package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **current-capacity** | | integer optional | The node's current disk capacity. Attributes: non-creatable, non-modifiable |
| **expiration-time** | | datetime optional | License expiration time. Attributes: non-creatable, non-modifiable |
| **max-capacity** | | integer optional | Maximum licensed capacity. Absence of this element within a returned value implies that the maximum capacity is temporarily unlimited. Attributes: non-creatable, non-modifiable |
| **owner** | | string optional | Node that owns the serial number. Attributes: non-creatable, non-modifiable |
| | | | Name of the licensed package. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "nfs" - NFS License,<br>• "cifs" - CIFS License,<br>• "iscsi" - iSCSI License,<br>• "fcp" - FCP License,<br>• "snaprestore" - SnapRestore License,<br>• "snapmirror" - SnapMirror License,<br>• "flexclone" - FlexClone License, |

| | | | |
|---|---|---|---|
| **package** | | licensed-package optional | • "snapvault" - SnapVault License,<br>• "snaplock" - SnapLock Compliance License,<br>• "snapmanagersuite" - SnapManagerSuite License,<br>• "snapprotectapps" - SnapProtectApp License,<br>• "v_storageattach" - Virtual Attached Storage License,<br>• "snaplock_enterprise" - SnapLock Enterprise License,<br>• "insight_balance" - OnCommand Balance,<br>• "ocshift" - OnCommand Shift License,<br>• "cloud" - Cloud ONTAP License,<br>• "select" - ONTAP Select License,<br>• "tpm" - Trusted Platform Module License,<br>• "ve" - Volume Encryption License,<br>• "dp_optimized" - Data Protection Optimized Secondary License<br>• "snapmirror_sync" - SnapMirror Synchronous License<br>• "nvme_of" - NVMe-oF License<br>• "flexcache" - FlexCache License |
| **reported-state** | | reported-capacity-state optional | Current state of capacity license. Attributes: non-creatable, non-modifiable Possible values:<br>• "evaluation" - evaluation license in effect,<br>• "missing" - license has been purchased but not yet installed,<br>• "installed" - valid purchased license in effect,<br>• "warning" - purchased license in use, but attached capacity is approaching maximum entitled amount,<br>• "enforcement" - attached capacity exceeds amount permitted by purchased license |
| **serial-number** | | node-serial-number optional | Serial number of the node. Attributes: key, non-creatable, non-modifiable |

# Element definition: **license-v2-cleanup**

[top]

Status information about a licensable package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **owner** | | string optional | Name of the controller associated with the license. Attributes: non-creatable, non-modifiable |
| | | | Name of the licensed package. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "base" - Cluster Base License. This value has been deprecated in Data ONTAP 9.2,<br>• "nfs" - NFS License,<br>• "cifs" - CIFS License,<br>• "iscsi" - iSCSI License, |

| | | | |
|---|---|---|---|
| **package** | | licensed-package optional | • "fcp" - FCP License,<br>• "snaprestore" - SnapRestore License,<br>• "snapmirror" - SnapMirror License,<br>• "flexclone" - FlexClone License,<br>• "snapvault" - SnapVault License,<br>• "snaplock" - SnapLock License,<br>• "snapmanagersuite" - SnapManagerSuite License,<br>• "snapprotectapps" - SnapProtectApp License,<br>• "v_storageattach" - Virtual Attached Storage License,<br>• "insight_balance" - OnCommand Balance License,<br>• "ocshift" - OnCommand Shift License,<br>• "cloud" - Cloud ONTAP License,<br>• "select" - ONTAP Select License,<br>• "tpm" - Trusted Platform Module License,<br>• "ve" - Volume Encryption License,<br>• "dp_optimized" - Data Protection Optimized Secondary License<br>• "snapmirror_sync" - SnapMirror Synchronous License<br>• "nvme_of" - NVMe-oF License<br>• "flexcache" - FlexCache License |
| **reason** | | string optional | The reason the license can be cleaned up. Attributes: non-creatable, non-modifiable |
| **serial-number** | | node-serial-number optional | Serial number of the controller or cluster. Attributes: key, non-creatable, non-modifiable |

# Element definition: **license-v2-entitlement-risk-info**

[top]

Information about entitlement risk for license packages. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **action** | | string optional | Corrective action text. Attributes: non-creatable, non-modifiable |
| **action-code** | | license-entitlement-risk-action optional | Corrective action needed to reduce cluster license entitlement risk. Attributes: non-creatable, non-modifiable Possible values:<br>• "acquire_license" - Acquire a node-locked license,<br>• "verify_entitlement" - Verify all controllers are entitled,<br>• "verify_system_health" - Verify system health,<br>• "none" - None |
| **node-license-usage** | | node-license-usage-info[] optional | Node-locked license information and usage status for each node. |
| | | | Name of the license package Attributes: key, non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **package** | | licensed-package optional | • "nfs" - NFS License,<br>• "cifs" - CIFS License,<br>• "iscsi" - iSCSI License,<br>• "fcp" - FCP License,<br>• "snaprestore" - SnapRestore License,<br>• "snapmirror" - SnapMirror License,<br>• "flexclone" - FlexClone License,<br>• "snapvault" - SnapVault License,<br>• "snaplock" - SnapLock License,<br>• "snapmanagersuite" - SnapManagerSuite License,<br>• "snapprotectapps" - SnapProtectApp License,<br>• "v_storageattach" - Virtual Attached Storage License,<br>• "insight_balance" - OnCommand Balance License,<br>• "ocshift" - OnCommand Shift License,<br>• "cloud" - Cloud ONTAP License,<br>• "select" - ONTAP Select License,<br>• "tpm" - Trusted Platform Module License,<br>• "ve" - Volume Encryption License,<br>• "dp_optimized" - Data Protection Optimized Secondary License<br>• "snapmirror_sync" - SnapMirror Synchronous License<br>• "nvme_of" - NVMe-oF License<br>• "flexcache" - FlexCache License |
| **risk** | | license-entitlement-risk optional | Entitlement risk for the license package. Attributes: non-creatable, non-modifiable Possible values:<br><br>• "high" - Cluster license entitlement risk is high,<br>• "medium" - Cluster license entitlement risk is medium,<br>• "low" - Cluster license entitlement risk is low,<br>• "unlicensed" - No node-locked license present and corresponding features are not in use,<br>• "unknown" - License entitlement is unknown |

# Element definition: **license-v2-info**

[top]

Information about a licensable package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **customer-id** | | string optional | Customer Identification. This field is used to track site licenses issued to Enterprise Level Agreement customers. It will typical be set to "none" unless a unique customer id has been assigned. This value is reported in Auto Support, and can be used to correlate licensing information with backend business systems for tracking purposes. Attributes: non-creatable, non-modifiable |
| **description** | | string optional | Description of the licensed package. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **expiration-time** | | datetime optional | License expiration time. Attributes: non-creatable, non-modifiable |
| **legacy** | | boolean optional | Legacy License. A legacy license indicates that the license was previously installed prior to this release. Returns true if the license was installed prior to this release and false otherwise. |
| **owner** | | string optional | Controller or Cluster that owns the serial number. Attributes: non-creatable, non-modifiable |
| **package** | | licensed-package optional | Name of the licensed package. Attributes: key, required-for-create, non-modifiable Possible values:<br>• "base" - Cluster Base License. This value has been deprecated in Data ONTAP 9.2,<br>• "nfs" - NFS License,<br>• "cifs" - CIFS License,<br>• "iscsi" - iSCSI License,<br>• "fcp" - FCP License,<br>• "snaprestore" - SnapRestore License,<br>• "snapmirror" - SnapMirror License,<br>• "flexclone" - FlexClone License,<br>• "snapvault" - SnapVault License,<br>• "snaplock" - SnapLock License,<br>• "snapmanagersuite" - SnapManagerSuite License,<br>• "snapprotectapps" - SnapProtectApp License,<br>• "v_storageattach" - Virtual Attached Storage License,<br>• "insight_balance" - OnCommand Balance License,<br>• "ocshift" - OnCommand Shift License,<br>• "cloud" - Cloud ONTAP License,<br>• "select" - ONTAP Select License,<br>• "tpm" - Trusted Platform Module License,<br>• "ve" - Volume Encryption License,<br>• "dp_optimized" - Data Protection Optimized Secondary License<br>• "snapmirror_sync" - SnapMirror Synchronous License<br>• "nvme_of" - NVMe-oF License<br>• "flexcache" - FlexCache License |
| **serial-number** | | node-serial-number optional | Serial number of the controller or cluster. The license serial-number is reported in Auto Support also and can be used to correlate controller or cluster wide licensing information. Attributes: key, required-for-create, non-modifiable |
| **type** | | license-v2-type optional | License type. Attributes: non-creatable, non-modifiable Possible values:<br>• "license" ,<br>• "site" ,<br>• "demo" ,<br>• "subscr" ,<br>• "capacity" |

# Element definition: **license-v2-license-info**

[top]

Information about Data ONTAP licenses. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **detailed-status** | | string[] optional | Detailed status of license. Attributes: non-creatable, non-modifiable |
| **license** | | licensed-package optional | License Name. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "base" - (DEPRECATED)-Cluster Base License,<br>• "nfs" - NFS License,<br>• "cifs" - CIFS License,<br>• "iscsi" - iSCSI License,<br>• "fcp" - FCP License,<br>• "snaprestore" - SnapRestore License,<br>• "snapmirror" - SnapMirror License,<br>• "flexclone" - FlexClone License,<br>• "snapvault" - SnapVault License,<br>• "snaplock" - SnapLock License,<br>• "snapmanagersuite" - SnapManagerSuite License,<br>• "snapprotectapps" - SnapProtectApp License,<br>• "v_storageattach" - Virtual Attached Storage License,<br>• "insight_balance" - OnCommand Balance,<br>• "ocshift" - OnCommand Shift License,<br>• "cloud" - Cloud ONTAP License,<br>• "select" - ONTAP Select License,<br>• "tpm" - Trusted Platform Module License,<br>• "ve" - Volume Encryption License,<br>• "dp_optimized" - Data Protection Optimized Secondary License,<br>• "fabricpool" - FabricPool License,<br>• "snapmirror_sync" - SnapMirror Synchronous License,<br>• "nvme_of" - NVMe-oF License,<br>• "flexcache" - (DEPRECATED)-FlexCache License,<br>• "capacitypool" - Capacity Pool License,<br>• "mt_ek_mgmt" - Multi-tenant Encryption Key Management License,<br>• "s3" - S3 License,<br>• "snapmirror_cloud" - SnapMirror Cloud License,<br>• "anti_ransomware" - Anti-ransomware License,<br>• "s3_snapmirror" - S3-SnapMirror License,<br>• "s3_snapmirror_external" - S3-SnapMirror External License,<br>• "all_san_array" - All SAN Array (ASA) Software License |
| **scope** | | licensescope optional | Scope of the license. Valid scope: node/cluster/site. Attributes: non-creatable, non-modifiable Possible values:<br>• "na" - License scope NA,<br>• "site" - Site Scope,<br>• "cluster" - Cluster Scope,<br>• "node" - Node Scope,<br>• "pool" - Pool Scope |
| **status** | | licensestatus | Current status of the license. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "not_compliant" - Not Compliant,<br>• "eval" - Evaluation License,<br>• "partially_installed" - Partially Installed, |

| | | | |
|---|---|---|---|
| | | optional | • "valid" - Valid,<br>• "not_installed" - Not Installed,<br>• "not_applicable" - Not Applicable,<br>• "not_known" - Not Known |

# Element definition: **license-v2-result**

[top]

License operation result When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | Additional information of the failure. Attributes: non-creatable, non-modifiable |
| **entry** | | license-code-v2 optional | Failed license entry. Attributes: non-creatable, non-modifiable |
| **errcode** | | license-v2-op-status optional | Failure error code. Attributes: non-creatable, non-modifiable |

# Element definition: **license-v2-status-info**

[top]

Status information about a licensable package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | Description of the licensed package. Attributes: non-creatable, non-modifiable |
| **expiration-time** | | datetime optional | License expiration date. Attributes: non-creatable, non-modifiable |
| **method** | | licensed-method optional | Method in which a package is licensed in a cluster. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" - None,<br>• "license" - License,<br>• "site" - Site,<br>• "demo" - Demo, |

| | | | |
|---|---|---|---|
| | | | • "subscr" - Subscription |
| **package** | | licensed-package optional | Name of the licensed package. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "base" - Cluster Base License. This value has been deprecated in Data ONTAP 9.2,<br>• "nfs" - NFS License,<br>• "cifs" - CIFS License,<br>• "iscsi" - iSCSI License,<br>• "fcp" - FCP License,<br>• "snaprestore" - SnapRestore License,<br>• "snapmirror" - SnapMirror License,<br>• "flexclone" - FlexClone License,<br>• "snapvault" - SnapVault License,<br>• "snaplock" - SnapLock License,<br>• "snapmanagersuite" - SnapManagerSuite License,<br>• "snapprotectapps" - SnapProtectApp License,<br>• "v_storageattach" - Virtual Attached Storage License,<br>• "insight_balance" - OnCommand Balance License,<br>• "ocshift" - OnCommand Shift License,<br>• "cloud" - Cloud ONTAP License,<br>• "select" - ONTAP Select License,<br>• "tpm" - Trusted Platform Module License,<br>• "ve" - Volume Encryption License,<br>• "dp_optimized" - Data Protection Optimized Secondary License<br>• "snapmirror_sync" - SnapMirror Synchronous License<br>• "nvme_of" - NVMe-oF License<br>• "flexcache" - FlexCache License |
| **status-details** | | string optional | More information about cluster level license status. Attributes: non-creatable, non-modifiable |

# Element definition: **license-v2-subscription-info**

[top]

Information about a subscription license package. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **alert** | | string optional | Alert message for the given period Attributes: non-creatable, non-modifiable |
| **description** | | string optional | Description of the licensed package. Attributes: non-creatable, non-modifiable |
| **expiration** | | datetime optional | License expiration time. Attributes: non-creatable, non-modifiable |
| **is-default** | | true-false optional | Is the node using default license Attributes: non-creatable, non-modifiable |
| **owner** | | string | Node that owns the serial number. Attributes: non-creatable, non- |

| | | | |
|---|---|---|---|
| | | optional | modifiable |
| **package** | | licensed-package optional | Name of the licensed package. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "nfs" - NFS License,<br>• "cifs" - CIFS License,<br>• "iscsi" - iSCSI License,<br>• "fcp" - FCP License,<br>• "snaprestore" - SnapRestore License,<br>• "snapmirror" - SnapMirror License,<br>• "flexclone" - FlexClone License,<br>• "snapvault" - SnapVault License,<br>• "snaplock" - SnapLock License,<br>• "snapmanagersuite" - SnapManagerSuite License,<br>• "snapprotectapps" - SnapProtectApp License,<br>• "v_storageattach" - Virtual Attached Storage License,<br>• "insight_balance" - OnCommand Balance,<br>• "ocshift" - OnCommand Shift License,<br>• "cloud" - Cloud ONTAP License,<br>• "select" - ONTAP Select License,<br>• "tpm" - Trusted Platform Module License,<br>• "ve" - Volume Encryption License,<br>• "dp_optimized" - Data Protection Optimized Secondary License<br>• "snapmirror_sync" - SnapMirror Synchronous License<br>• "nvme_of" - NVMe-oF License<br>• "flexcache" - FlexCache License |
| **serial-number** | | node-serial-number optional | Serial number of the node. Attributes: key, non-creatable, non-modifiable |
| **state** | | licenseperiod optional | License state - valid/reminder/warning/enforcement. Attributes: non-creatable, non-modifiable Possible values:<br>• "valid" - License is valid,<br>• "reminder" - License is in reminder period,<br>• "warning" - License is in warning period,<br>• "enforcement" - License is in enforcement period |

# Element definition: **licensed-package**

[top]

Licensable Package Possible values:

- "base" - (DEPRECATED)-Cluster Base License,
- "nfs" - NFS License,
- "cifs" - CIFS License,
- "iscsi" - iSCSI License,
- "fcp" - FCP License,
- "snaprestore" - SnapRestore License,
- "snapmirror" - SnapMirror License,
- "flexclone" - FlexClone License,
- "snapvault" - SnapVault License,
- "snaplock" - SnapLock License,
- "snapmanagersuite" - SnapManagerSuite License,
- "snapprotectapps" - SnapProtectApp License,
- "v_storageattach" - Virtual Attached Storage License,
- "insight_balance" - OnCommand Balance,

- "ocshift" - OnCommand Shift License,
- "cloud" - Cloud ONTAP License,
- "select" - ONTAP Select License,
- "tpm" - Trusted Platform Module License,
- "ve" - Volume Encryption License,
- "dp_optimized" - Data Protection Optimized Secondary License,
- "fabricpool" - FabricPool License,
- "snapmirror_sync" - SnapMirror Synchronous License,
- "nvme_of" - NVMe-oF License,
- "flexcache" - (DEPRECATED)-FlexCache License,
- "capacitypool" - Capacity Pool License,
- "mt_ek_mgmt" - Multi-tenant Encryption Key Management License,
- "s3" - S3 License,
- "snapmirror_cloud" - SnapMirror Cloud License,
- "anti_ransomware" - Anti-ransomware License,
- "s3_snapmirror" - S3-SnapMirror License,
- "s3_snapmirror_external" - S3-SnapMirror External License,
- "all_san_array" - All SAN Array (ASA) Software License

[none]

# Element definition: **lm-config**

[top]

lm config info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **host** | | string optional | License Manager Host Attributes: non-creatable, modifiable |

# Element definition: **lm-status**

[top]

lm status info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **status** | | string optional | Status Attributes: non-creatable, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **node-serial-number**

[top]

Assigned Node serial-number

[none]

# Element definition: **system-license-aggregate-info**

[top]

Information about Data ONTAP aggregate license status. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-name** | | string optional | Aggregate name. Attributes: key, non-creatable, non-modifiable |
| **aggr-size** | | size optional | Physical size of an aggregate. Attributes: non-creatable, non-modifiable |
| **expiration** | | datetime optional | Lease expiration date of an aggregate. Attributes: non-creatable, non-modifiable |
| **licensed-size** | | size optional | Licensed size. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node Name Attributes: key, non-creatable, non-modifiable |
| | | | Current status of an aggregate. Attributes: non-creatable, non-modifiable Possible values:<br>• "lease_not_required" - Lease not required,<br>• "lease_up_to_date" - Lease is up to date, |

| | | | |
|---|---|---|---|
| **status** | | aggrlicstatus optional | • "lease_expired" - Lease expired,<br>• "lease_missing" - Lease missing,<br>• "plex_deleted" - Plex deleted,<br>• "aggregate_deleted" - Aggregate deleted,<br>• "aggregate_license_size_decreased" - Aggregate license size decreased,<br>• "aggregate_license_size_increased" - Aggregate license size increased,<br>• "aggregate_status_unknown" - Aggregate status unknown |

# Element definition: **aggrlicstatus**

[top]

Aggregate License Status Possible values:

- "lease_not_required" - Lease not required,
- "lease_up_to_date" - Lease is up to date,
- "lease_expired" - Lease expired,
- "lease_missing" - Lease missing,
- "plex_deleted" - Plex deleted,
- "aggregate_deleted" - Aggregate deleted,
- "aggregate_license_size_decreased" - Aggregate license size decreased,
- "aggregate_license_size_increased" - Aggregate license size increased,
- "aggregate_status_unknown" - Aggregate status unknown

[none]

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **license-code-v2**

[top]

License Code V2

[none]

# Element definition: **license-entitlement-risk**

[top]

high|medium|low|unlicensed|unknown Possible values:

- "high" - Cluster license entitlement risk is high,
- "medium" - Cluster license entitlement risk is medium,

- "low" - Cluster license entitlement risk is low,
- "unlicensed" - No node-locked license present and corresponding features are not in use,
- "unknown" - License entitlement is unknown

[none]

## Element definition: **license-entitlement-risk-action**

[top]

acquire-license|adjust-capacity|verify-entitlement|verify-system-health|none Possible values:

- "acquire_license" - Acquire a node-locked license,
- "adjust_capacity" - Acquire license for larger system disk capacity, or reduce system capacity,
- "verify_entitlement" - Verify all controllers are entitled,
- "verify_system_health" - Verify system health,
- "none" - None

[none]

## Element definition: **license-v2-op-status**

[top]

License Operation Status Possible values:

- "license_success" - Operation Completed Successfully,
- "license_invalid" - Failed: Invalid License Key,
- "license_expired" - Failed: License Expired,
- "license_notallowed" - Failed: Operation Not Allowed,
- "license_unavailable" - Failed: License NOT Available,
- "license_internal" - Failed: Internal Error,
- "license_err_unknown" - Failed: Unknown Error

[none]

## Element definition: **license-v2-type**

[top]

This field indicates the type of a license. A typical license will be of "license" type, which indicates that it's associated with a specific controller. A "site" license is a special license provided under Enterprise Level Agreements. A "demo" license is a temporary license with an expiration time. It is usually issued for trial purposes only. A "subscr" license is a subscription with expiration date. Possible values:

- "license" ,
- "site" ,
- "demo" ,
- "subscr" ,
- "capacity"

[none]

## Element definition: **licensed-method**

[top]

none|license|site|demo|subscr|capacity|enabled Possible values:

- "none" - None,
- "license" - License,
- "site" - Site,
- "demo" - Demo,
- "subscr" - Subscription,
- "capacity" - Capacity,
- "enabled" - Enabled

[none]

## Element definition: **licenseperiod**

[top]

valid|reminder|warning|enforcement Possible values:

- "valid" - License is valid,
- "reminder" - License is in reminder period,
- "warning" - License is in warning period,
- "enforcement" - License is in enforcement period

[none]

## Element definition: **licensescope**

[top]

License scope Possible values:

- "na" - License scope NA,
- "site" - Site Scope,
- "cluster" - Cluster Scope,
- "node" - Node Scope,
- "pool" - Pool Scope

[none]

## Element definition: **licensestatus**

[top]

License status Possible values:

- "not_compliant" - Not Compliant,
- "eval" - Evaluation License,

- "partially_installed" - Partially Installed,
- "valid" - Valid,
- "not_installed" - Not Installed,
- "not_applicable" - Not Applicable,
- "not_known" - Not Known

[none]

## Element definition: **node-license-usage-info**

[top]

Node-locked license information and usage status for each node.

| Name | Range | Type | Description |
|---|---|---|---|
| **in-use** | | true-false optional | Usage status for the node. Attributes: non-creatable, non-modifiable |
| **is-licensed** | | true-false optional | Whether the node has a node-locked license. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Name of the node. Attributes: non-creatable, non-modifiable |
| **serial-number** | | node-serial-number optional | Node Serial Number Attributes: key, non-creatable, non-modifiable |

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **node-serial-number**

[top]

Assigned Node serial-number

[none]

## Element definition: **reported-capacity-state**

[top]

evaluation|warning|missing|enforcement|installed Possible values:

- "evaluation" ,
- "warning" ,
- "missing" ,
- "enforcement" ,

- "installed"

[none]

## Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **true-false** [top]

True/False

[none]

# APIs in Category: **lock**

lock-break-iter
lock-get-iter

This set of APIs provides the ability to view or break the current lock state in the clustered ONTAP environment. Locks can be viewed or broken according to a wide range of query fields that are presented in the lock-info definition. When utilizing these APIs, it is suggested that users provide as many fields as possible to optimize query processing.

## lock-break-iter

[top]

Breaks one or more locks in the cluster that match the query.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of lock objects to be operated in this call. Default: 20 |
| **query** | | lock-info optional | If operating on a specific lock, this input element must specify all keys. If operating on lock objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of lock objects (just keys) that were not operated on due to some error. If set to false, the list of lock objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of lock objects (just keys) that were successfully operated on. If set to false, the list of lock objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | lock-break-iter-info[] optional | Information about lock objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching lock objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of lock objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of lock objects that matched the query and were successfully processed. |
| **success-list** | | lock-break-iter-info[] optional | The lock objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EVOLUMEQUIESCED** | |

| | |
|---|---|
| **EVOLUMEOFFLINE** | |
| **ELOCK_RECONSTRUCTION_IN_PROGRESS** | |
| **ELOCK_SYNC_IN_PROGRESS** | |
| **EINTERNALERROR** | |

# lock-get-iter

[top]

Returns information for one or more locks in the cluster that match the query.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | lock-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | lock-info optional | A query that specifies which locks to return. A query could be specified on any number of attributes in the lock object. All lock objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | lock-info[] optional | The list of attributes of lock objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more lock objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **ELOCK_RECONSTRUCTION_IN_PROGRESS** | |
| **EINTERNALERROR** | |

# Element definition: **lock-break-iter-info**

[top]

Information about the operation that was attempted/performed against lock object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **lock-key** | | lock-info | The key for the lock object to which the operation applies. |

# Element definition: **lock-info**

[top]

Information about a single lock in the cluster. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **bytelock-length** | **[0..2^64-1]** | integer optional | The length starting from the offset for a bytelock. Attributes: non-creatable, non-modifiable |
| **bytelock-offset** | **[0..2^64-1]** | integer optional | The starting offset for a bytelock. Attributes: non-creatable, non-modifiable |
| **client-address** | | string optional | The IP address (IPv4/IPv6) for a set of locks owned by a client. Unavailable for NFSv4 or NFSv4.1 locks. Attributes: non-creatable, non-modifiable |
| **client-address-type** | | string optional | The IP address interface type the client is connected over. Unavailable for NFSv4 or NFSv4.1 locks. Possible values:<br>• "ipv4" ,<br>• "ipv6" , |
| **client-id** | | string optional | A unique client-id for a set of locks owned by a client. Attributes: non-creatable, non-modifiable |
| **delegation-type** | | string optional | The type of delegation the lock has (NFSv4 only). Attributes: non-creatable, non-modifiable Possible values:<br>• "read" ,<br>• "write" |
| **flexcache-cluster** | | string optional | The name of the cluster hosting the FlexCache volume. |
| **flexcache-lock-authority** | | string optional | Indicates the lock authority granted/denied to a FlexCache volume. |
| **flexcache-volume** | | string optional | The name of the FlexCache volume that is the endpoint of the caching relationship, and is holding the lock. |
| **flexcache-vserver** | | string optional | The name of the Vserver hosting the FlexCache volume. |
| **is-bytelock-exclusive** | | boolean optional | Indicates if the bytelock is exclusive. Attributes: non-creatable, non-modifiable |
| **is-bytelock-mandatory** | | boolean optional | Indicates whether the bytelock is mandatory or advisory. Attributes: non-creatable, non-modifiable |
| **is-bytelock-soft** | | boolean optional | Indicates if the bytelock is softened. Attributes: non-creatable, non-modifiable A bytelock can become soft if an NFSv4 client loses connection. A soft bytelock may be reclaimed if the client reconnects. However, if another client were to request a bytelock that conflicts with a softened bytelock, then the softened bytelock will be released. |

| | | | |
|---|---|---|---|
| **is-bytelock-super** | | boolean optional | Indicates if the bytelock is a priveledged super lock. Attributes: non-creatable, non-modifiable A super bytelock is used to grant a byte range lock regardless of conflicting lock state on the system. If there is conflicting lock state, those locks will be released before graning the super lock. |
| **is-constituent** | | boolean optional | This field indicates if this volume is a constituent within another volume. For a FlexGroup, this field is true for all its constituents. This field is set to false for volumes which are not the constituents of a FlexGroup, including for constituents of an Infinite Volume. Attributes: non-creatable, non-modifiable |
| **is-flexcache-lock** | | boolean optional | This field indicates if it the lock is held on a FlexCache volume. |
| **is-sharelock-soft** | | boolean optional | Indicates if the sharelock is softened. Attributes: non-creatable, non-modifiable A sharelock can become soft if an NFSv4 client loses connection. A soft sharelock may be reclaimed if the client reconnects. However, if another client were to request a sharelock that conflicts with a softened sharelock, then the softened sharelock will be released. |
| **lif** | | string optional | The logical interface the lock was created over. Attributes: key, non-creatable, non-modifiable |
| **lock-state** | | string optional | The state of the lock. Attributes: non-creatable, non-modifiable Possible values:<br>• "granted" ,<br>• "revoking" ,<br>• "revoked" ,<br>• "gwaiting" ,<br>• "ewaiting" ,<br>• "adjusted" ,<br>• "denied" ,<br>• "timedout" ,<br>• "subsumed" ,<br>• "gone" ,<br>• "unused" ,<br>• "waiting" ,<br>• "timeout" |
| **lock-type** | | string optional | The type of lock. Attributes: non-creatable, non-modifiable Possible values:<br>• "byte_range" - locks over a specific byte range of a file,<br>• "share_level" - represent file opens,<br>• "op_lock" - provide client-side caching semantics for SMB,<br>• "delegation" - provide client-side caching for NFSv4 |
| **lockid** | | uuid optional | A unique ID for a lock. Attributes: key, non-creatable, non-modifiable |
| **node** | | string optional | The node that the lock is on. Attributes: non-creatable, non-modifiable |
| **oplock-cache-level** | | string optional | The current caching level for an oplock. Attributes: non-creatable, non-modifiable Possible values:<br>• "exclusive" ,<br>• "level2" ,<br>• "batch" ,<br>• "null" ,<br>• "read_batch" |

| | | | |
|---|---|---|---|
| **owner-id** | | string optional | A unique owner-id for a set of locks belonging to an owner. Attributes: non-creatable, non-modifiable |
| **path** | | string optional | The file path (/volume/file) that is being locked. Attributes: key, non-creatable, non-modifiable |
| **protocol** | | string optional | The protcol the lock was created with. Attributes: non-creatable, non-modifiable Possible values:<br>• "cifs" ,<br>• "fcache" ,<br>• "nfsv4" ,<br>• "nlm" ,<br>• "nfsv4.1" ,<br>• "crposix" ,<br>• "cdmi" |
| **sharelock-mode** | | string optional | The sharing level of a lock. Attributes: non-creatable, non-modifiable Possible values:<br>• "delete_on_close" ,<br>• "read_deny_read" ,<br>• "read_deny_write" ,<br>• "read_deny_all" ,<br>• "read_deny_delete" ,<br>• "read_deny_none" ,<br>• "read_deny_read_write" ,<br>• "read_deny_read_delete" ,<br>• "read_deny_write_delete" ,<br>• "write_deny_read" ,<br>• "write_deny_write" ,<br>• "write_deny_all" ,<br>• "write_deny_delete" ,<br>• "write_deny_none" ,<br>• "write_deny_read_write" ,<br>• "write_deny_read_delete" ,<br>• "write_deny_write_delete" ,<br>• "delete_deny_read" ,<br>• "delete_deny_write" ,<br>• "delete_deny_all" ,<br>• "delete_deny_delete" ,<br>• "delete_deny_none" ,<br>• "delete_deny_read_write" ,<br>• "delete_deny_read_delete" ,<br>• "delete_deny_write_delete" ,<br>• "read_write_deny_read" ,<br>• "read_write_deny_write" ,<br>• "read_write_deny_all" ,<br>• "read_write_deny_delete" ,<br>• "read_write_deny_none" ,<br>• "read_write_deny_read_write" ,<br>• "read_write_deny_read_delete" ,<br>• "read_write_deny_write_delete" ,<br>• "read_delete_deny_read" ,<br>• "read_delete_deny_write" ,<br>• "read_delete_deny_all" ,<br>• "read_delete_deny_delete" ,<br>• "read_delete_deny_none" ,<br>• "read_delete_deny_read_write" ,<br>• "read_delete_deny_read_delete" ,<br>• "read_delete_deny_write_delete" ,<br>• "write_delete_deny_read" , |

| | | | |
|---|---|---|---|
| | | | • "write_delete_deny_write" ,<br>• "write_delete_deny_all" ,<br>• "write_delete_deny_delete" ,<br>• "write_delete_deny_none" ,<br>• "write_delete_deny_read_write" ,<br>• "write_delete_deny_read_delete" ,<br>• "write_delete_deny_write_delete" ,<br>• "all_deny_read" ,<br>• "all_deny_write" ,<br>• "all_deny_all" ,<br>• "all_deny_delete" ,<br>• "all_deny_none" ,<br>• "all_deny_read_write" ,<br>• "all_deny_read_delete" ,<br>• "all_deny_write_delete" ,<br>• "none_deny_read" ,<br>• "none_deny_write" ,<br>• "none_deny_all" ,<br>• "none_deny_delete" ,<br>• "none_deny_none" ,<br>• "none_deny_read_write" ,<br>• "none_deny_read_delete" ,<br>• "none_deny_write_delete" |
| **smb-connect-state** | | string<br>optional | The connect state for a lock. (SMB only). Attributes: non-creatable, non-modifiable Possible values:<br>• "connected" ,<br>• "disconnected" ,<br>• "reconnecting" ,<br>• "timedout" |
| **smb-expiration-time** | **[0..2^32-1]** | integer<br>optional | The time left until a lock expires after being disconnected. (SMB only). Attributes: non-creatable, non-modifiable |
| **smb-open-group-id** | | string<br>optional | A unique open group ID for a set of locks. (SMB only). Attributes: non-creatable, non-modifiable |
| **smb-open-type** | | string<br>optional | The type of open for a lock (SMB only). Attributes: non-creatable, non-modifiable Possible values:<br>• "none" ,<br>• "durable" ,<br>• "persistent" |
| **volume** | | string<br>optional | The volume containing the files that are locked. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string<br>optional | The vserver the lock is associated with. Attributes: key, non-creatable, non-modifiable |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex

characters. Note that a leading '0x' is not used.

[none]

# APIs in Category: **lun**


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lun-unset-attribute
lun-unset-device-id

# lun-alignment-get-iter

[top]

Iterate over a list of lun objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-** | | lun-align- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | info optional | present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | lun-align-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the lun object. All lun objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | lun-align-info[] optional | The list of attributes of lun objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more lun objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# lun-alignment-reset-statistics

[top]

Reset LUN Alignment Statistics

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | lun-path | Path of the LUN |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# lun-clear-persistent-reservation-info

[top]

Clear the SCSI-2 reservation or SCSI-3 persistent reservation information for a given LUN. Note: In Data ONTAP Cluster-Mode, the LUN must either be offline or not mapped to clear the persistent reservation information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the lun. The path should start with '/vol/'. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_VDISK** | |

| | |
|---|---|
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_VDISK_NOT_DISABLED** | |

| Vfiler-enabled |
|---|
| Yes |

# lun-clone-list-info

[top]

Lists all LUN clones with valid backing snapshots in the given snapshot.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | string | Name of the snapshot. |
| **volume** | | string | Name of the volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **lun-clone-list** | | lun-clone-lists-info[] | List of LUN clones with valid backing snapshots in the given snapshot. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVDISK_ERROR_NO_SUCH_VOLUME** | |
| **EVDISK_ERROR_NO_SUCH_SNAPSHOT** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| Yes |

# lun-clone-split-start

[top]

Start the cloning of the given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the clone to split from the underlying parent. |
| **space-efficient-split-disabled** | | boolean optional | By default 'false', space-efficient LUN clone splitting is allowed. This parameter, if set to 'true', disables space-efficient splitting for this specific operation. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_ENOMEM** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_CLONING_STARTED** | |

| Errno | Description |
|---|---|
| EVDISK_ERROR_NO_SUCH_ATTRIBUTE | |
| EVOLUMEBUSY | |

| Vfiler-enabled |
|---|
| Yes |

# lun-clone-split-status-list-info

[top]

Get the cloning status of LUN(s).

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| clone-status | | clone-status-info[] | List of cloning statuses. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |
| EVDISK_ERROR_NO_SUCH_ATTRIBUTE | |
| EVOLUMEBUSY | |

| Vfiler-enabled |
|---|
| Yes |

# lun-clone-split-stop

[top]

Stop the cloning of the given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | string | Path of the LUN to stop cloning. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EONTAPI_EROFS | |
| EVDISK_ERROR_NO_SUCH_VDISK | |
| EVDISK_ERROR_NO_SUCH_ATTRIBUTE | |
| EVOLUMEBUSY | |

| Vfiler-enabled |
|---|
| Yes |

[top]

# lun-clone-start

Start the cloning of the given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN to clone. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_ENOMEM** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_CLONING_STARTED** | |
| **EVDISK_ERROR_NO_SUCH_ATTRIBUTE** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-clone-status-list-info

[top]

Get the cloning status of LUN(s).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string optional | Path of the LUN. If path is specified, only the status of that clone is returned. If path is not specified, then all cloning status are returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **clone-status** | | clone-status-info[] | List of cloning status. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVDISK_ERROR_NO_SUCH_ATTRIBUTE** | |
| **EVDISK_ERROR_NO_SUCH_CLONE** | |
| **EVDISK_ERROR_CLONE_NOT_SPLITTING** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-clone-stop

[top]

Stop the cloning of the given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN to stop cloning. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_NO_SUCH_ATTRIBUTE** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-config-check-alua-conflicts-info

[top]

Returns a list of LUNs that have both FCP and iSCSI maps at the same time when ALUA is enabled on at least one of such FCP or iSCSI igroups. These conflicts must be resolved before any further maps (to those LUNs) can can take place.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **conflicting-luns** | | conflicting-luns-list[] optional | If a lun is mapped to both FCP and iSCSI igroups at at the same time with ALUA enabled on at least one of those igroups, it leads to a conflict. These conflicts need to be resolved before any further maps can take place to the conflicting lun. Conflicts can either be resolved by unmapping one or more mappings or by disabling ALUA on FCP or iSCSI or both the igroups whichever is applicable. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_INITGROUP;** | |

# lun-config-check-cfmode-info

[top]

Returns a list of configuration warnings related to initiator groups and the FCP cfmode setting

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fcp-cfmode** | | string optional | Current FCP cfmode setting. Possible values: dual_fabric, mixed, partner, standby, single_image |
| **invalid-cfmode-settings** | | invalid-cfmode-setting-info optional | Local and partner cfmode settings if they do not match. cfmodes need to match on both filers in the cluster or cluster failover will not work properly |
| **invalid-ostype-cfmode-settings** | | invalid-ostype-cfmode-setting-info[] optional | List of initiator groups with invalid OS types for the fcp-cfmode. Some host operating systems are only compatible with certain fcp-cfmodes |

| | | | |
|---|---|---|---|
| **invalid-use-partner-cfmode-settings** | | invalid-use-partner-cfmode-setting-info[] optional | List of initiator groups with invalid use_partner settings for the FCP cluster failover mode (fcp-cfmode) Incorrect settings can cause hosts to lose LUNs during takeover. |
| **invalid-use-partner-ostype-settings** | | invalid-use-partner-ostype-setting-info[] optional | List of initiator groups with invalid use_partner settings for the initiator group's OS type. Some host operating systems should only have certain use_partner settings to ensure proper behavior during failover. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVAL** | |

# lun-config-check-info

[top]

Returns a list of LUN/FCP configuration warnings. These warnings are not related to filer cluster configuration.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **alua-setting-mismatch-info** | | alua-setting-mismatch-initiator-group[] optional | list of initiator groups for which the ALUA (Asymmetric Logical Unit Access) settings do not match between local and partner filers. ALUA is a T10 standard that specifies the access characteristics (in terms of performance and supported SCSI commands) of a Logical Unit that can be accessed through more than one target port. ALUA is typically used by host multi-path software to recognize primary and secondary paths to a Logical Unit when more than one path are available to the Logical Unit. If the ALUA setting does not match between the local and partner filers, it would affect the host multi-path software's ability to distinguish primary and secondary paths. This could lead to incorrect system behaviour. |
| **alua-setting-mismatch-initiators** | | alua-setting-mismatch-initiator-info[] optional | List of initiators which are members of initiator groups of differing alua settings. |
| **fcp-down-hbas** | | fcp-down-hba-info[] optional | list of HBA names that have no link or are configured down. |
| **invalid-vsa-settings** | | invalid-vsa-setting-info[] optional | List of initiator groups with invalid Volume Set Addressing (VSA) settings |
| **mixed-ostype-initiators** | | mixed-ostype-initiator-info[] optional | List of initiators which are members of initiator groups of differing OS types. |
| **mixed-vsa-** | | mixed-vsa- | List of initiators which are members of initiator groups with differing Volume Set Addressing (VSA) settings. An initiator can only be a |

| | | | |
|---|---|---|---|
| **initiators** | | initiator-info[] optional | member of initiator groups which have the same VSA setting across all the initiator groups it is a member of. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVAL** | |

# lun-config-check-single-image-info

[top]

Returns a list of configuration warnings that pertain to problems specific to the 'single_image' FCP cfmode. These errors must be fixed prior to upgrading any filer cluster to run in 'single_image' mode.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **conflicting-initiators** | | conflicting-initiator-info[] optional | List of initiators which belong to initiator groups on the local filer which have different os type settings from the initiator groups on the partner. |
| **conflicting-maps** | | conflicting-map-info[] optional | Only one lun in the cluster can be mapped to an initiator at a given lun-id. If a lun on each filer is mapped to the same initiator at the same lun-id there will be a conflict. These conflicts need to be resolved before a filer can be upgraded to run in the 'single_image' FCP cfmode. A conflict can be resolved by unmapping one lun and remapping it to an unused lun-id. |
| **invalid-nodename-settings** | | invalid-nodename-setting-info optional | When running in the the single_image cfmode the FCP node name needs to be same on each filer in the cluster. If the node names are different the node names will be returned. If the cfmode is not set to single_image, then the node names will not be checked |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_PARTNER_NOT_REACHABLE** | |

# lun-config-check-wwpn-conflicts-info

[top]

Determine if duplicate World Wide Port Names (WWPNs) are present on a cluster pair.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **conflicting-wwpns** | | conflict-wwpn[] optional | If duplicate World Wide Port Names (WWPNs) are present on the HA pair, it leads to a conflict. This causes incorrect Asymmetric Logical Unit Access (ALUA) states to be advertised for all LUNs. To resolve the conflict use 'lun config set' command to set local.single_image.key and partner.single_image.key on both the nodes of the HA pair. |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |
| **EONTAPI_ENOMEM** | |

# lun-copy-cancel

[top]

Cancels an ongoing LUN copy operation prior to creation of the new LUN. This operation will fail if the LUN already exists at the destination path; in that case, use the lun-destroy API to delete the LUN at the destination path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-uuid** | | uuid | Specifies the universally unique ID (UUID) of the job that started this copy operation. |
| **lun-index** | | integer optional | Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN copy operations that involve only one LUN, the lun-index value of zero is always correct. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EOD_INVALID_ECV** | |
| **EOBJECTNOTFOUND** | |
| **EOD_CANT_CANCEL_OPERATION** | |

# lun-copy-get-iter

[top]

Iterate over a list of LUN copy job detail objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | lun-copy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | lun-copy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the LUN copy job detail object. All LUN copy job detail objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | lun-copy-info[] optional | The list of attributes of LUN copy job detail objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more LUN copy job detail objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# lun-copy-modify

[top]

Modifies the maximum throughput of an ongoing copy operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| job-uuid | | uuid | Specifies the universally unique ID (UUID) of the job that started this copy operation. |
| lun-index | | integer optional | Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN copy operations that involve only one LUN, the lun-index value of zero is always correct. |
| max-throughput | | size | Specifies the maximum amount of data, in bytes, that can be transferred per second in support of this operation. This mechanism can be used to throttle a transfer, to reduce its impact on the performance of the source and destination nodes. Default: zero, indicating no throttling. NOTE: The specified value will be rounded up to the nearest megabyte. |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |
| EOD_INVALID_ECV | |
| EOBJECTNOTFOUND | |

# lun-copy-pause

[top]

Pauses an ongoing LUN copy operation. Use the lun-copy-resume API to resume the copy operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| job-uuid | | uuid | Specifies the universally unique ID (UUID) of the job that started this copy operation. |
| lun-index | | integer optional | Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN copy operations that involve only one LUN, the lun-index value of zero is always correct. |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |
| EOD_INVALID_ECV | |
| EOBJECTNOTFOUND | |

[top]

# lun-copy-resume

Resumes a paused LUN copy operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-uuid** | | uuid | Specifies the universally unique ID (UUID) of the job that started this copy operation. |
| **lun-index** | | integer optional | Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN copy operations that involve only one LUN, the lun-index value of zero is always correct. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EOD_INVALID_ECV** | |
| **EOBJECTNOTFOUND** | |

# lun-copy-start

[top]

Starts copying a group of LUNs from one volume to another. The destination volume can be located on the same Vserver as the original volume or on a different Vserver. If source-vserver is not specified, the source Vserver defaults to the target Vserver, i.e., an intra-Vserver copy. Intra-Vserver copy can be initiated by both cluster and Vserver administrators. Inter-Vserver copy can be initiated by cluster administrators only. Note: A cluster administrator must first create a Vserver peer relationship using vserver-peer-create API before a Vserver administrator can copy over LUNs from another Vserver in the cluster. This restriction does not apply to cluster administrators. Cluster administrators can initiate inter-Vserver LUN copy operations without creating a Vserver peer relationship.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-vserver** | | vserver-name | Specifies the name of the Vserver that will host the new LUNs. |
| **max-throughput** | **[0..2^63-1]** | integer optional | Specifies the maximum amount of data, in bytes, that can be transferred per second in support of this operation. This mechanism can be used to throttle a transfer, to reduce its impact on the performance of the source and destination nodes. Default: zero, indicating no throttling. NOTE: The specified value will be rounded up to the nearest megabyte. |
| **paths** | | lun-path-pair[] | Specifies an array of source and destination path pairs. If more than one pair of paths is specified, multiple LUNs will be copied. All the source LUNs must be on the same volume. All the LUNs must be copied into a single volume. |
| **promote-early** | | boolean optional | Specifies that the destination needs to be promoted early. Default: false. If the destination is promoted early, the new LUN will be visible immediately. Snapshots of the volume containing the new LUN cannot be taken until the LUN copy operation reaches 'Moving Data' status. If the destination is promoted late, the new LUN will be visible only after it has been fully framed. The LUN copy job will not block snapshots of the volume containing the new LUN. |
| | | | Specifies the full path to the source reference LUN, of the form /vol/[/]/. If a reference LUN is specified, data for other LUNs being copied will be transferred as a difference from the reference LUN. |

| | | | |
|---|---|---|---|
| **reference-path** | | string optional | This might save bandwidth and destination storage if the specified source LUNs share blocks. If provided, this input must be the same as one of the source LUN paths. This input is not allowed if only one source LUN is specified. |
| **source-vserver** | | vserver-name optional | Specifies the name of the Vserver hosting the LUNs to be copied. Default: same as destination-vserver (intra-Vserver copy). |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **job-uuid** | | uuid | Specifies the universally unique ID (UUID) for the LUN copy job. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EOD_INVALID_ECV** | |
| **EOD_DEST_LUN_EXISTS** | |
| **EOD_DEST_LUNS_NOT_ON_SAME_VOLUME** | |
| **EOD_DEST_IS_FLEXCACHE** | |
| **EQTREE_DOES_NOT_EXIST** | |
| **EOP_DISALLOWED_VSERVER_ROOT** | |
| **EOD_COPY_DUP_DEST_PATH** | |
| **EOD_SRC_LUN_NOT_FOUND** | |
| **EOD_SRC_LUNS_NOT_ON_SAME_VOLUME** | |
| **EOD_SRC_LUN_IS_PE** | |
| **EOD_LUN_IN_NVFAILED_STATE** | |
| **EFLI_LUN_BOUND_TO_FLI_ERROR** | |
| **EOD_LUN_MAX_COUNT_VIOLATION** | |
| **EOD_REF_PATH_NOT_IN_SOURCE_PATHS** | |
| **EOD_COPY_DEST_IS_SNAPSHOT** | |
| **EOD_NO_VSERVER_PEERING** | |
| **EOD_VSERVER_PEERING_NO_LUN_COPY_APP** | |
| **EOD_VSERVER_PEERING_NOT_READY** | |
| **EOD_DEST_IN_CFT_PRECOMMIT** | |

# lun-create-by-size

[top]

Create a new lun of given size, with initially zero contents. The lun is created at the path given. No file should already exist at the given path. The directory specified in the path must be a qtree root directory. The size of the created lun could be larger than the size specified, in order to get an integral number of cylinders while reporting the geometry using SAN protocols.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **class** | | string optional | The class of the LUN. Possible values:<br>• "regular" - The LUN is for normal blocks access,<br>• "protocol_endpoint" - The LUN is a vvol protocol endpoint,<br>• "vvol" - The LUN is a vvol data LUN.<br><br>The default value is "regular". |

| | | | |
|---|---|---|---|
| **comment** | | string optional | A description for the LUN being created. The comment can be at most 254 characters. |
| **foreign-disk** | | string optional | Foreign Disk serial number. New size of the LUN will be of exact capacity as that of the Foreign Disk. For Foreign LUN Import, the LUN and Foreign Disk must be the exact same capacity. Either size or foreign-disk must be provided for Data ONTAP Cluster-mode. This field is available in Data ONTAP 8.3 and later. |
| **ostype** | | lun-os-type optional | The os type for the LUN. The default type if not specified is "image". It is strongly recommended for the caller of this API to avoid using the "image" type because it could result in misconfigured LUNs. For example, a lun with ostype "image" could suffer major performance penalties when a Windows host is trying to access it. |
| **path** | | string | Path of the LUN. |
| **prefix-size** | **[0..2^63-1]** | integer optional | The size of the prefix stream for this lun in bytes. Certain OS types store a small portion of the data corresponding to partition tables (or similar structures) in the prefix stream. This is part of the lun data and is transparent to hosts that access the LUN via block protocols. The default size is based on the OS type. Giving a value here overrides the default, but, it is strongly recommended to avoid changing this default size. The value in this field must be a multiple of 512 bytes. Note that this value has no effect when the lun-os-type is "image". This option is available in Data ONTAP 8.1 and later. |
| **qos-adaptive-policy-group** | | string optional | QoS adaptive policy group defines measurable Service Level Objectives (SLOs) that adjust based on the LUN's allocated space or used space. This field is available in Data ONTAP 9.4 and later |
| **qos-policy-group** | | string optional | QoS policy group defines measurable Service Level Objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a lun, the system will not monitor and control the traffic to it. This field is available in Data ONTAP 8.2 and later |
| **size** | **[0..2^63-1]** | integer optional | New size for the LUN in bytes. This field is required for Data ONTAP 7-Mode. Either size or foreign-disk must be provided for Data ONTAP Cluster-mode. |
| **space-allocation-enabled** | | boolean optional | The space allocation attribute enables support for the SCSI Thin Provisioning features defined in the Logical Block Provisioning section of the SCSI SBC-3 standard. Hosts and file systems that do not support SCSI Thin Provisioning should not enable space allocation. The default is false. |
| **space-reservation-enabled** | | boolean optional | Default is true. If it is desired to manage space usage manually instead, this can be set to "false" which will create a LUN without any space being reserved. |
| **use-exact-size** | | boolean optional | Use the exact size specified instead of rounding to best fit geometry. If true, size must be a multiple of 512. The default value is false. This field may not be specified in combination with foreign-disk. This field is available in Data ONTAP 9.2 and later. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **actual-size** | **[0..2^63-1]** | integer | The actual size of the LUN that was created, in bytes. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EOFFLINE** | |
| **EISDIR** | |
| **EONTAPI_EEXIST** | |
| | |

| |
|---|
| **ENAMETOOLONG** |
| **EONTAPI_ENOENT** |
| **EFTYPE** |
| **EONTAPI_EINVAL** |
| **EONTAPI_ENOSPC** |
| **EOP_DISALLOWED_VSERVER_ROOT** |
| **EVDISK_ERROR_NOT_QTREE_ROOT** |
| **EVDISK_ERROR_NO_SUCH_VOLUME** |
| **EVDISK_ERROR_NO_SUCH_DIRECTORY** |
| **EVDISK_ERROR_FILE_IS_SPC_RESERVED** |
| **EVDISK_ERROR_INVALID_SNAPSHOT_PATH** |
| **EVDISK_ERROR_NOT_IN_SAME_VOLUME** |
| **EVDISK_ERROR_SIZE_TOO_SMALL** |
| **EVDISK_ERROR_SIZE_TOO_LARGE** |
| **EVDISK_ERROR_VDISK_EXISTS** |
| **EVDISK_ERROR_VOLUME_SPARSE** |
| **EVDISK_ERROR_TOO_MANY_LUNS** |
| **EVDISK_SYNC_CAPB_MISMATCH** |
| **EVOLUMEBUSY** |
| **E_QOS_OBJECT_OVERLAP_ERROR** |
| **E_QOS_NO_SUCH_PG** |
| **E_QOS_TOO_MANY_USER_WIDS** |
| **E_QOS_VSERVERIZATION_VIOLATION** |
| **E_QOS_LUN_CREATE_MODIFY** |
| **E_QOS_LUN_PG_REMOVE** |
| **EFLI_ERROR_NO_SUCH_FOREIGN_DISK** |
| **EFLIHI_DISK_READ_ERROR** |
| **EFLIHI_INVALID_FIELD** |
| **EFLIHI_RESOURCE_LIMIT** |
| **EFLI_UNSUPPORTED_SECTOR_SIZE** |

| **Vfiler-enabled** |
|---|
| **Yes** |

# lun-create-clone

[top]

Create a LUN clone.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **parent-lun-path** | | string | Path of original LUN. |
| **parent-snap** | | string | LUN path of the backing snapshot. |
| **path** | | string | Path of the LUN clone. |
| **space-reservation-enabled** | | boolean optional | By default, the lun is space-reserved. If it is desired to manage space usage manually instead, this can be set to "false" which will create a LUN without any space being reserved. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EONTAPI_EROFS | |
| EONTAPI_ENOMEM | |
| EVDISK_ERROR_NO_SUCH_VDISK | |
| EVDISK_ERROR_CLONING_STARTED | |
| EVOLUMEBUSY | |
| EVDISK_ERROR_SOURCE_IS_VMALIGNED | |

| Vfiler-enabled |
|---|
| Yes |

# lun-create-from-file

[top]

Create a lun from an existing file. A new lun is created, at the given lun path (which must be at a qtree root). A hard link is created to the existing file. The file contents are not copied or changed. The file can be resized to a larger size, rounding up to a cylinder boundary. NOTE: LUNs created from files cannot be relocated.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **class** | | string optional | The class of the LUN. Possible values:<br>• "regular" - The LUN is for normal blocks access,<br>• "protocol_endpoint" - The LUN is a vvol protocol endpoint,<br>• "vvol" - The LUN is a vvol data LUN.<br><br>The default value is "regular". |
| **comment** | | string optional | A description for the LUN being created. The comment can be at most 254 characters. |
| **file-name** | | string | A fully qualified filer path to the file to create the LUN from. This must be in the same qtree as the LUN being created. The file must also be in the root of the volume or in a qtree/regular directory in the root of the volume or in a regular directory in a qtree. |
| **ostype** | | lun-os-type optional | The os type for the LUN. The default type if not specified is "image". It is strongly recommended for the caller of this API to avoid using the "image" type because it could result in misconfigured LUNs. For example, a lun with ostype "image" could suffer major performance penalties when a Windows host is trying to access it. |
| **path** | | string | Would be Path of the newly created LUN if successful. This Path must not exist already (i.e a file or dir with this same path). |
| **qos-adaptive-policy-group** | | string optional | QoS adaptive policy group defines measurable service level objectives (SLOs) that adjust based on the LUN's allocated space or used space. This field is available in Data ONTAP 9.4 and later |
| **qos-policy-group** | | string optional | QoS policy group defines measurable Service Level Objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a lun, the system will not monitor and control the traffic to it. This field is available in Data ONTAP 8.2 and later |
| **space-allocation-enabled** | | boolean optional | The space allocation attribute enables support for the SCSI Thin Provisioning features defined in the Logical Block Provisioning section of the SCSI SBC-3 standard. Hosts and file systems that do not support SCSI Thin Provisioning should not enable space |

| | | | |
|---|---|---|---|
| | | | allocation. The default is false. |
| **space-reservation-enabled** | | boolean optional | Default is true. If it is desired to manage space usage manually instead, this can be set to false which will create a LUN without any space being reserved. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **actual-size** | **[0..2^63-1]** | integer | The actual size of the LUN that was created, in bytes. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EOFFLINE** | |
| **EISDIR** | |
| **EONTAPI_EEXIST** | |
| **ENAMETOOLONG** | |
| **EONTAPI_ENOENT** | |
| **EFTYPE** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_ENOSPC** | |
| **EOP_DISALLOWED_VSERVER_ROOT** | |
| **EVDISK_ERROR_NOT_QTREE_ROOT** | |
| **EVDISK_ERROR_NO_SUCH_VOLUME** | |
| **EVDISK_ERROR_NO_SUCH_DIRECTORY** | |
| **EVDISK_ERROR_SOURCE_IS_VDISK** | |
| **EVDISK_ERROR_FILE_IS_SPC_RESERVED** | |
| **EVDISK_ERROR_INVALID_SNAPSHOT_PATH** | |
| **EVDISK_ERROR_NOT_IN_SAME_VOLUME** | |
| **EVDISK_ERROR_SIZE_TOO_SMALL** | |
| **EVDISK_ERROR_SIZE_TOO_LARGE** | |
| **EVDISK_ERROR_VDISK_EXISTS** | |
| **EVDISK_ERROR_VOLUME_SPARSE** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_SOURCE_IS_VMALIGNED** | |
| **EVDISK_ERROR_UNSUPPORTED_INPUT** | |
| **EVDISK_ERROR_TOO_MANY_LUNS** | |
| **E_QOS_OBJECT_OVERLAP_ERROR** | |
| **E_QOS_NO_SUCH_PG** | |
| **E_QOS_TOO_MANY_USER_WIDS** | |
| **E_QOS_VSERVERIZATION_VIOLATION** | |
| **E_QOS_LUN_CREATE_MODIFY** | |
| **E_QOS_LUN_PG_REMOVE** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-create-from-snapshot

[top]

Creates a LUN in the active file system. The lun has the same initial contents as the referenced snapshot copy of an existing lun. (Note that no copy of the data is made.) Future writes go into the new lun. Reads of unmodified data are satisfied from the snapshot location. Reads of modified data are satisfied by first attempting to find the required buffer in the new lun. If a buffer is not found (buffer corresponds to a hole), it is looked for in the snapshot copy instead.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN. |
| **snapshot-lun-path** | | string | LUN path in the snapshot to be created from. |
| **space-reservation-enabled** | | boolean optional | By default, the lun is space-reserved. If it is desired to manage space usage manually instead, this can be set to "false" which will create a LUN without any space being reserved. |
| **type** | | lun-os-type optional | The os type for the LUN. The default type if not specified is "image". It is strongly recommended for the caller of this API to avoid using the "image" type because it could result in misconfigured LUNs. For example, a lun with ostype "image" could suffer major performance penalties when a Windows host is trying to access it. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **actual-size** | **[0..2^63-1]** | integer | The actual size of the LUN that was created, in bytes. |

| Errno |
|---|
| **EINVALIDINPUTERROR** |
| **EOFFLINE** |
| **EISDIR** |
| **EONTAPI_EEXIST** |
| **ENAMETOOLONG** |
| **EONTAPI_ENOENT** |
| **EFTYPE** |
| **EONTAPI_EINVAL** |
| **EONTAPI_ENOSPC** |
| **EVDISK_ERROR_NOT_QTREE_ROOT** |
| **EVDISK_ERROR_NO_SUCH_VOLUME** |
| **EVDISK_ERROR_NO_SUCH_DIRECTORY** |
| **EVDISK_ERROR_SOURCE_IS_VDISK** |
| **EVDISK_ERROR_FILE_IS_SPC_RESERVED** |
| **EVDISK_ERROR_INVALID_SNAPSHOT_PATH** |
| **EVDISK_ERROR_NOT_IN_SAME_VOLUME** |
| **EVDISK_ERROR_SIZE_TOO_SMALL** |
| **EVDISK_ERROR_SIZE_TOO_LARGE** |
| **EVDISK_ERROR_VOLUME_SPARSE** |
| **EVOLUMEBUSY** |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-destroy

[top]

Destroy the specified LUN. This operation will fail if the LUN is currently mapped and is online. The force option can be used to destroy it regardless of being online or mapped.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destroy-application-lun** | | boolean optional | Required to delete a LUN that belongs to an application. If true, override checks that prevent a LUN from being destroyed while it is part of an application. The default if not specified is "false". This field is available in Data ONTAP 9.2 and later. |
| **destroy-fenced-lun** | | boolean optional | If "true", override checks that prevent a LUN from being destroyed while it is fenced. If "false", attempting to destroy a fenced LUN will fail. The default if not specified is "false". This field is available in Data ONTAP 8.2 and later. |
| **force** | | boolean optional | If "true", override checks that prevent a LUN from being destroyed if it is online and mapped. If "false", destroying an online and mapped LUN will fail. The default if not specified is "false". |
| **path** | | string | Path of the LUN. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_ENOENT** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_VDISK_EXPORTED** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_VOLUME_TRANSITIONING** | |
| **EVDISK_ERROR_LUN_IN_SYNC_DR_CG** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-generate-serial

[top]

Generate a LUN Serial Number for later use.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **serial-number** | | string | Serial Number |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# lun-get-attribute

[top]

Get a named attribute for a given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Attribute to get. |
| **path** | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **value** | | string | Value of the attribute. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVDISK_ERROR_NO_SUCH_ATTRIBUTE** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-get-attributes

[top]

Get named attributes for a given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | Filter for the requested attribute names. SMF wildcards are allowed. If not specified, all available attributes on the LUN will be returned. |
| **path** | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | lun-attribute-info[] optional | List of selected attribute name/value pairs. If there are not user attributes set on the LUN, or no attributes match the 'name' filter if specified, this field will not be returned. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |

# lun-get-comment

[top]

Get the optional descriptive comment for a LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **comment** | | string | Comment for given LUN. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_ENOMEM** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_NO_SUCH_ATTRIBUTE** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-get-geometry

[top]

Get SCSI disk geometry for a given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **bytes-per-sector** | **[0..2^31-1]** | integer | Sector size in bytes. |
| **cylinders** | **[0..2^31-1]** | integer optional | Number of cylinders in the LUN The size of the LUN can be calculated like this: cylinders tracks-per-cylinder sectors-per-track X bytes-per-sector ---------- size This field is not present for LUNs that do not report Cylinder-Head-Sector geometry. |
| **max-resize-size** | **[0..2^63-1]** | integer | The maximum size this LUN can be resized to in bytes. LUN resize for LUNs that report Cylinder-Head-Sector (CHS) geometry is limited by the lun cylinder size which can not be increased beyond 65535. This number is calculated using a cylinder count of 65535, in place of the LUNs actual cylinder size. LUNs that do not report CHS geometry may be resized to the maximum LUN size supported by the current Data ONTAP version. |
| **sectors-per-track** | **[0..2^31-1]** | integer optional | Number of sectors in a track. This field is not present for LUNs that do not report Cylinder-Head-Sector geometry. |
| **size** | **[0..2^63-1]** | integer | LUN size in bytes. |
| **tracks-per-cylinder** | **[0..2^31-1]** | integer optional | Number of tracks in a cylinder. This is also commonly referred to as the number of heads. This field is not present for LUNs that do not report Cylinder-Head-Sector geometry. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-get-inquiry-info

[top]

Get the SCSI INQUIRY response data for vendor id (vid), product id (pid), and firmware revision (rev) based on the igroup that the lun in question is mapped to.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | The initiator group for which the vid/pid/rev information is to be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **firmware-revision** | | string | SCSI INQUIRY response revision (padded with spaces to 4-characters). |
| **product-id** | | string | SCSI INQUIRY response product id (padded with spaces to 16-characters). |
| **vendor-id** | | string | SCSI INQUIRY response vendor id (padded with spaces to 8-characters). |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-get-iter

[top]

Iterate over a list of lun objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | lun-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **disallow-lldb** | | boolean optional | Disallow use of the LUN location database. When true, this will cause the system to scan every volume for LUNs rather than directing the search to only those volumes known to have LUNs. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | lun-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the lun object. All lun objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | lun-info[] optional | The list of attributes of lun objects. |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more lun objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |
| **volume-errors** | | volume-error[] optional | List of errors encountered while retrieving LUN inventory |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# lun-get-maxsize

[top]

Returns the maximum possible size in bytes of a lun on a given volume or qtree. The user can pass the path to a volume or qtree in which the lun is to be created. This returns the maximum size for different types of LUNs and the possible maximum size with or without snapshot reserves.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the volume or qtree. |
| **type** | | lun-os-type | OS type of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **with-complete-snapshot-reserve** | **[0..2^63-1]** | integer | Maximum possible size for LUN with snapshot reserve assuming 100% fractional reserve |
| **with-snapshot-reserve** | **[0..2^63-1]** | integer | Maximum possible size for LUN with snapshot reserve. |
| **without-snapshot-reserve** | **[0..2^63-1]** | integer | Maximum possible size for LUN without snapshot reserve. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_ENOENT** | |
| **EOP_DISALLOWED_VSERVER_ROOT** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-get-minsize

[top]

Returns the minimum possible size in bytes. This returns the minimum size for different types of LUNs (based on the specified OS type). Space reservation does not affect the minimum lun size, thus only a single minimum size is returned.

| Input Name | Range | Type | Description |
|---|---|---|---|

| type | | lun-os-type | OS type of the LUN. |
|---|---|---|---|

| Output Name | Range | Type | Description |
|---|---|---|---|
| min-size | [0..2^63-1] | integer | Minimum possible size for LUN. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |

# lun-get-occupied-size

[top]

Get the size occupied by the LUN in the active FS.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| occupied-size | [0..2^63-1] | integer | Size occupied by the LUN in the Active FS in bytes. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EONTAPI_ENOMEM | |
| EVDISK_ERROR_NO_SUCH_VDISK | |
| EONTAPI_ESTALE | |
| EVOLUMEBUSY | |

| Vfiler-enabled |
|---|
| Yes |

# lun-get-persistent-reservation-info

[top]

Get the persistent reservation information for a given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | string | Path of the lun. The path should start with '/vol/'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| persistent-reservation | | persistent-reservation-info[] optional | This is the persistent reservation information for a given I_T nexus if any exist for the given lun. The communication path and state between an initiator and a target is called an Initiator_Target Nexus, or I_T Nexus. The I_T Nexus is the owner of the persistent reservation information. There can be several I_T Nexus that have registered per lun. Each I_T Nexus can only register one time per lun. |

| Errno | Description |
|---|---|
| EVDISK_ERROR_NO_SUCH_VDISK | |

| | |
|---|---|
| **EONTAPI_ENOMEM** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| Yes |

# lun-get-select-attribute

[top]

Get the select attribute for the specified LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **creation-time** | | string | The time this lun was created, in human readable format. This field is deprecated in Data ONTAP 8.1. Instead, use creation-timestamp. |
| **creation-timestamp** | **[0..2^31-1]** | integer | The time this lun was created, in seconds since January 1, 1970. This field is available in Data ONTAP 8.1 and later. |
| **previous-serial** | | string optional | The serial number of the previous lun. If this lun is not a clone or copy, no previous-serial number exists. |
| **select-attribute** | | string | The select attribute for the lun. Possible values:<br>• "active" - this is an active lun,<br>• "copy" - this is a clone or copy of an active lun,<br>• "mirror" - this is a mirror of an active lun. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| Yes |

# lun-get-serial-number

[top]

Get the serial number for the specified LUN. Prior to Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and slash (/) and hyphen (-) characters. Starting Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and the characters /-#$%&*+<=>?[!]^~@ .

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **serial-number** | | string | Serial number for the LUN. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-get-space-reservation-info

[top]

Queries the space reservation settings for the named LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Name of the LUN to be queried. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean | Whether or not the LUN has space reservation enabled. |

| Errno | Description |
|---|---|
| **EFILENOTFOUND** | |
| **EINTERNALERROR** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-get-target-device-id

[top]

Returns the SCSI Target Device Id.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **lun-serial-id** | | string | Serial number of the lun. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **target-device-id** | | string | SCSI Target Device Id. This is defined by Network Appliance. Currently a string of numbers preceded by "naa.600A098". |

| Errno | Description |
|---|---|

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |

| Vfiler-enabled |
|---|
| Yes |

# lun-get-vdisk-attributes

[top]

Lookup a LUN path and storage system by serial number.

| Input Name | Range | Type | Description |
|---|---|---|---|
| serial-number | | string | Serial number for the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| filer-name | | string | In Data ONTAP 7-Mode, this is the name of the storage system or vfiler containing the LUN. In Data ONTAP Cluster-Mode, this is the name of the Vserver containing the LUN. |
| path | | string | Path for the specified LUN, for example: "/vol/vol0/lun1". |
| vdisk-snapshot-name | | string | Path to the backing snapshot file for the LUN, for example: "/vol/vol1/.snapshot/snapshot/lun". This field will be empty if the LUN is not backed by a snapshot file. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EONTAPI_EROFS | |
| ENOENT | |
| EVDISK_ERROR_NO_SUCH_VDISK | |
| EVOLUMEBUSY | |

| Vfiler-enabled |
|---|
| Yes |

# lun-has-scsi-reservations

[top]

Queries for all types of scsi reservations covering both iSCSI and FCP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | string | Path of the lun. The path should start with '/vol/'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| is-reservation-held | | boolean | 'true' if given LUN has a scsi-2 or scsi-3 style reservation held, 'false' otherwise. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| | |

| | |
|---|---|
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

# lun-import-create

[top]

Create a LUN import relationship with the purpose of importing foreign disk data into the LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **foreign-disk** | | string | Foreign Disk Serial Number |
| **path** | | lun-path | Path of the LUN |
| **vserver** | | string | Vserver containing the LUN |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EFLI_ERROR_NO_SUCH_FOREIGN_DISK** | |
| **EFLI_ERROR_DISK_NOT_MARKED_FOREIGN** | |
| **EFLI_FOREIGN_DISK_ALREADY_IN_IMPORT** | |
| **EFLI_LUN_ALREADY_IN_IMPORT** | |
| **EFLI_CAPACITY_MISMATCH** | |
| **EFLI_BLOCK_SIZE_MISMATCH** | |
| **EFLI_FOREIGN_DISK_NOT_ACCESSIBLE** | |
| **EFLI_FOREIGN_DISK_HAS_NO_LOCAL_PATH** | |
| **EFLI_FOREIGN_DISK_OPEN_FAILED** | |
| **EFLI_LUN_NOT_MAPPED** | |
| **EFLI_LUN_NOT_BOUND** | |
| **EFLI_FOREIGN_DISK_HAS_RESERVATIONS_ZAPI** | |
| **EFLI_LUN_SHOULD_BE_OFFLINE** | |
| **EFLI_NOT_REGULAR_LUN** | |
| **EFLI_SPACE_ALLOC_NOT_ALLOWED** | |
| **E_SAN_NOT_READY** | |

# lun-import-delete

[top]

Deletes the import relationship of the specified LUN or the specified foreign disk.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force flag. If set to true, the import relationship would be deleted even if import is in progress. Default: false |
| **foreign-** | | string | |

| | | | |
|---|---|---|---|
| **disk** | | optional | Foreign disk serial number |
| **path** | | lun-path optional | Path of the LUN |
| **vserver** | | string optional | Vserver containing the LUN |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EFLI_ERROR_NO_SUCH_FOREIGN_DISK** | |
| **EFLI_LUN_NOT_IN_IMPORT** | |
| **EFLI_FOREIGN_DISK_NOT_IN_IMPORT** | |
| **EFLI_IMPORT_IN_PROGRESS** | |
| **EFLI_IMPORT_VERIFY_IN_PROGRESS** | |
| **EFLI_FOREIGN_DISK_IMPORT_IN_PROGRESS** | |
| **EFLI_FOREIGN_DISK_IMPORT_VERIFY_IN_PROGRESS** | |
| **EFLI_DELETE_NO_LUN** | |
| **EFLI_DELETE_NO_LUN_FOREIGN_DISK** | |
| **E_SAN_NOT_READY** | |

# lun-import-get-iter

[top]

Iterate over a list of LUN objects that are in a relationship with a foreign disk.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | lun-import-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | lun-import-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Foreign LUN Import relationship object. All Foreign LUN Import relationship objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | lun-import-info[] optional | The list of attributes of Foreign LUN Import relationship objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Foreign LUN Import relationship objects to return. |
| **num-records** | **[0..2^32-** | integer | The number of records returned in this call. |

| | | | |
|---|---|---|---|
| | 1] | | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# lun-import-pause

[top]

Pause the import for the specified LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | lun-path | LUN Path |
| vserver | | string | Vserver Name |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVDISK_ERROR_NO_SUCH_VDISK | |
| EFLI_LUN_NOT_IN_IMPORT | |
| EFLI_IMPORT_NOT_STARTED | |
| EFLI_IMPORT_ALREADY_STARTED | |
| EFLI_IMPORT_COMPLETED | |
| EFLI_NOT_CURRENT_NODE | |
| E_SAN_NOT_READY | |

# lun-import-resume

[top]

Resume the import for the specified LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| path | | lun-path | LUN Path |
| vserver | | string | Vserver Name |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVDISK_ERROR_NO_SUCH_VDISK | |
| EFLI_LUN_NOT_IN_IMPORT | |
| EFLI_IMPORT_NOT_PAUSED | |
| EFLI_RESUME_FAILED | |
| EFLI_NOT_CURRENT_NODE | |
| E_SAN_NOT_READY | |

# lun-import-start

[top]

Start the import for the specified LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | lun-path | LUN Path |
| **vserver** | | string | Vserver Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EFLI_LUN_NOT_IN_IMPORT** | |
| **EFLI_IMPORT_VERIFY_IN_PROGRESS** | |
| **EFLI_IMPORT_ALREADY_STARTED** | |
| **EFLI_IMPORT_IN_PAUSED_ZAPI** | |
| **EFLI_DST_NO_SPACE** | |
| **EFLI_DST_NOT_AVAILABLE** | |
| **EFLI_VERIFY_ACTIVE** | |
| **EFLI_NOT_CURRENT_NODE** | |
| **E_SAN_NOT_READY** | |

# lun-import-stop

[top]

Stop and abort the import for the specified LUN. All import checkpoint data will be lost.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | lun-path | LUN Path |
| **vserver** | | string | Vserver Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EFLI_LUN_NOT_IN_IMPORT** | |
| **EFLI_IMPORT_NOT_STARTED** | |
| **EFLI_IMPORT_ALREADY_STOPPED** | |
| **EFLI_NOT_READY** | |
| **EFLI_NOT_CURRENT_NODE** | |
| **E_SAN_NOT_READY** | |

# lun-import-throttle

[top]

Modify the max throughput limit for the specified import relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **max-throughput-limit** | | size | Maximum Throughput Limit(in bytes per sec) at which the given import will be throttled. |
| **path** | | lun-path | Path of the LUN |
| **vserver** | | string | Vserver containing the LUN |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EFLI_LUN_NOT_IN_IMPORT** | |
| **EFLI_NOT_CURRENT_NODE** | |
| **EFLI_THROTTLE_NOSUPPORT** | |
| **E_SAN_NOT_READY** | |

# lun-import-verify-start

[top]

Start the verification of the foreign disk and LUN data. The import admin/operational state must be stopped/stopped or started/completed. The verification does a block for block comparison of the LUN and foreign disk. If the verification detects a mismatch between the foreign disk and LUN then the verify will stop.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | lun-path | Path of the LUN |
| **vserver** | | string | Vserver containing the LUN |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EFLI_LUN_NOT_IN_IMPORT** | |
| **EFLI_IMPORT_VERIFY_ALREADY_STARTED** | |
| **EFLI_NOT_CURRENT_NODE** | |
| **EFLI_IMPORT_NOT_COMPLETE** | |
| **EFLI_LUN_ONLINE_VERIFY_FAIL** | |
| **E_SAN_NOT_READY** | |

# lun-import-verify-stop

[top]

Stop the verify for the specified LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | lun-path | Path of the LUN |
| **vserver** | | string | Vserver containing the LUN |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVDISK_ERROR_NO_SUCH_VDISK | |
| EFLI_LUN_NOT_IN_IMPORT | |
| EFLI_IMPORT_VERIFY_NOT_IN_PROGRESS | |
| EFLI_NOT_CURRENT_NODE | |
| E_SAN_NOT_READY | |

# lun-initiator-list-map-info

[top]

List all the LUNs mapped to an initiator

| Input Name | Range | Type | Description |
|---|---|---|---|
| initiator | | string | initiator to check |

| Output Name | Range | Type | Description |
|---|---|---|---|
| lun-maps | | lun-map-info[] optional | List of lun maps for the given initiator. |

| Errno | Description |
|---|---|
| EINVAL | |
| EAPIERROR | |

| Vfiler-enabled |
|---|
| Yes |

# lun-initiator-logged-in

[top]

Determine if an initiator is logged in via FCP or iSCSI.

| Input Name | Range | Type | Description |
|---|---|---|---|
| initiator | | string | Name of FCP or iSCSI initiator to check. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| is-logged-in | | boolean | true if initiator is logged into the filer, false otherwise. |

| Errno | Description |
|---|---|
| EINVAL | |
| EAPIERROR | |

| Vfiler-enabled |
|---|
| Yes |

# lun-list-info

[top]

Get the status (size, online/offline state, shared state, comment string, serial number, LUN mapping) of the given LUN, or all LUNs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **get-clone-backing-snapshot** | | boolean optional | If specified, the name of the backing snapshot for a LUN clone is returned. The default value is false. |
| **path** | | string optional | Path of LUN. If specified, only the information of that LUN is returned. This option can only be used if volume-name is not used. |
| **volume-name** | | string optional | Name of a volume. If specified, only the information of the LUNs in that volume is returned. This option can only be used if path is not specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **are-vols-busy** | | boolean | Indicates whether any volumes are moving. If true, the output of this command cannot be considered authoritative. Users needing authoritative data should retry until this output parameter is false. |
| **are-vols-onlining** | | boolean | Indicates whether any volumes are still in the process of onlining. If true, the output of this command cannot be considered authoritative. Users needing authoritative data should retry until this output parameter is false. |
| **luns** | | lun-info[] | Information of a list of LUNs. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **ENOSYS** | |
| **EONTAPI_ENOMEM** | |
| **EONTAPI_ESTALE** | |
| **EVDISK_ERROR_VOLUMES_ONLINING** | |
| **EVDISK_ERROR_NO_SUCH_VOLUME** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-map

[top]

Maps the LUN to all the initiators in the specified initiator group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **additional-reporting-node** | | node-name optional | Report the newly created LUN map from the specified node and its HA partner in addition to the current owning nodes of the LUN. This field is available in Data ONTAP 8.3 and later. |
| **force** | | boolean optional | Forcibly map the lun, disabling mapping conflict checks with the high-availability partner. If not specified all conflict checks are performed. In Data ONTAP Cluster-Mode, this field is accepted for backwards compatibility and is ignored. |
| **initiator-group** | | string | Initiator group to map to the given LUN. |
| **lun-id** | **[0..4095]** | integer optional | If the lun-id is not specified, the smallest number that can be used for the various initiators in the group is automatically picked. |
| **path** | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **lun-id-assigned** | **[0..4095]** | integer | LUN ID assigned for this map. If lun-id is not supplied, this will be an auto-assigned LUN ID, otherwise it will be the same as the supplied LUN ID if map is successful. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_ENOSPCAGGR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_INITGROUP_HAS_VDISK** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_NO_EXPORTED_VDISK_SHARE_WRITE** | |
| **EVDISK_ERROR_PARTNER_HAS_LUN** | |
| **EVDISK_ERROR_PARTNER_NOT_REACHABLE** | |
| **EVDISK_ERROR_LUN_HAS_ALUA_ENABLED_ISCSI_IGROUP** | |
| **EVDISK_ERROR_LUN_HAS_ALUA_ENABLED_FCP_IGROUP** | |
| **EVDISK_ERROR_LUN_HAS_ISCSI_IGROUP** | |
| **EVDISK_ERROR_LUN_HAS_FCP_IGROUP** | |
| **EVDISK_ERROR_LUN_HAS_ALUA_CONFLICTS** | |
| **EVDISK_ERROR_TOO_MANY_LUNS** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEOFFLINE** | |
| **E_SAN_MISSING_REQUIRED_LIFS** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-map-add-reporting-nodes

[top]

Add nodes to the list reporting the LUN map. If no specific action is provided, adds all the nodes in the current failover group for the LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **all** | | boolean optional | When specified and true, report the LUN from all eligible nodes. |

| | | | |
|---|---|---|---|
| **destination-aggregate** | | string optional | The name of an aggregate. When specified, adds the nodes appropriate for the aggregate in preparation for a mobility event that will change the LUN's containing aggregate to the value specified. |
| **destination-volume** | | string optional | The name of a volume. When specified, addds teh nodes appropriate for the volume in preparation for a mobility event that will change the LUN's containing volume to the value specified. |
| **igroup** | | string | The initiator group the LUN is mapped to. |
| **nodes** | | filer-id[] optional | The name of one or more nodes. When specified, add the specific nodes and HA partners to the map. |
| **path** | | string | The path of the LUN. |

| Errno | Description |
|---|---|
| **EAGGRDOESNOTEXIST** | |
| **EAPIUNSUPPORTEDVERSION** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EDISABLED** | |
| **EVDISK_ERROR_NO_SUCH_LUNMAP** | |
| **EVOLUMEDOESNOTEXIST** | |
| **E_SAN_NOT_READY** | |

# lun-map-get-iter

[top]

Iterate over a list of LUN map detail objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | lun-map-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | lun-map-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the LUN map detail object. All LUN map detail objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | lun-map-info[] optional | The list of attributes of LUN map detail objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more LUN map detail objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| | | | |
|---|---|---|---|
| **volume-errors** | | volume-error[] optional | List of errors encountered while retrieving LUN inventory |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# lun-map-list-info

[top]

Returns a list of initiator groups and their members (the initiators) mapped to the given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | LUN for which the initiator group list is requested. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **initiator-groups** | | initiator-group-info[] optional | List of initiator groups that are mapped to the given LUN. |

| Errno | Description |
|---|---|
| **EFILENOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-map-remove-reporting-nodes

[top]

Remove nodes from the list reporting the LUN map. If no specific action is provided, remove all nodes not in the current failover group for the LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **igroup** | | string | The initiator group the LUN is mapped to. |
| **nodes** | | filer-id[] optional | The name of one or more nodes. When specified, remove the specific nodes and HA partners from the map. |
| **path** | | string | The path of the LUN. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EDISABLED** | |
| **EVDISK_ERROR_NO_SUCH_LUNMAP** | |
| **E_SAN_NOT_READY** | |

# lun-move

[top]

Move (rename) a LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-path** | | string | New path of the LUN being moved to. |
| **path** | | string | Path of the LUN to be moved. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EISDIR** | |
| **EONTAPI_EEXIST** | |
| **EOFFLINE** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_NOT_QTREE_ROOT** | |
| **EVDISK_ERROR_NOT_IN_SAME_VOLUME** | |
| **EVDISK_ERROR_VDISK_EXISTS** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IN_SYNC_DR_CG** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-move-cancel

[top]

Cancels an ongoing LUN move operation prior to creation of the new LUN. This operation will fail if the LUN already exists at the destination path; in that case, allow the current move operation to complete and then move it back using the lun-move-start API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-uuid** | | uuid | Specifies the universally unique ID (UUID) of the job that started this move operation. |
| **lun-index** | | integer optional | Specifies an additional unique element identifying one LUN among many that could be possibly moved as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN move operations that involve only one LUN, the lun-index value of zero is always correct. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EOD_INVALID_ECV** | |

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EOD_CANT_CANCEL_OPERATION** | |

# lun-move-get-iter

[top]

Iterate over a list of LUN move job detail objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | lun-move-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | lun-move-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the LUN move job detail object. All LUN move job detail objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | lun-move-info[] optional | The list of attributes of LUN move job detail objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more LUN move job detail objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# lun-move-modify

[top]

Modifies the maximum throughput of an ongoing move operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-uuid** | | uuid | Specifies the universally unique ID (UUID) of the job that started this move operation. |
| **lun-index** | | integer optional | Specifies an additional unique element identifying one LUN among many that could be possibly moved as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN move operations that involve only one LUN, the lun-index value of zero is always correct. |
| | | | Specifies the maximum amount of data, in bytes, that can be transferred |

| | | | |
|---|---|---|---|
| **max-throughput** | | size | per second in support of this operation. This mechanism can be used to throttle a transfer, to reduce its impact on the performance of the source and destination nodes. Default: zero, indicating no throttling. NOTE: The specified value will be rounded up to the nearest megabyte. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EOD_INVALID_ECV** | |
| **EOBJECTNOTFOUND** | |

# lun-move-pause

[top]

Pauses an ongoing LUN move operation. Use the lun-move-resume API to resume the move operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-uuid** | | uuid | Specifies the universally unique ID (UUID) of the job that started this move operation. |
| **lun-index** | | integer optional | Specifies an additional unique element identifying one LUN among many that could be possibly moved as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN move operations that involve only one LUN, the lun-index value of zero is always correct. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EOD_INVALID_ECV** | |
| **EOBJECTNOTFOUND** | |

# lun-move-resume

[top]

Resumes a paused LUN move operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **job-uuid** | | uuid | Specifies the universally unique ID (UUID) of the job that started this move operation. |
| **lun-index** | | integer optional | Specifies an additional unique element identifying one LUN among many that could be possibly moved as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. For LUN move operations that involve only one LUN, the lun-index value of zero is always correct. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EOD_INVALID_ECV** | |
| **EOBJECTNOTFOUND** | |

# lun-move-start

[top]

Starts a LUN move operation to move one or more LUNs from one volume to another within a Vserver. The destination volume can be located on the same node as the source volume or on a different node. NOTE: LUNs created from files cannot be moved.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **max-throughput** | **[0..2^63-1]** | integer optional | Specifies the maximum amount of data, in bytes, that can be transferred per second in support of this operation. This mechanism can be used to throttle a transfer, to reduce its impact on the performance of the source and destination nodes. Default: zero, indicating no throttling. NOTE: The specified value will be rounded up to the nearest megabyte. |
| **paths** | | lun-path-pair[] | Specifies an array of source and destination path pairs. If more than one pair of paths is specified, multiple LUNs will be moved. All the source LUNs must be on the same volume. All the LUNs must be moved into a single volume. |
| **promote-late** | | boolean optional | Specifies that the destination needs to be promoted late. Default: false. If the destination is promoted early, the new LUN will be visible immediately. Snapshots of the volume containing the new LUN cannot be taken until the LUN move operation reaches 'Moving Data' status. If the destination is promoted late, the new LUN will be visible only after it has been fully framed. The LUN move job will not block snapshots of the volume containing the new LUN. |
| **reference-path** | | string optional | Specifies the full path to the source reference LUN, of the form /vol/[/]/. If a reference LUN is specified, data for other LUNs being moved will be transferred as a difference from the reference LUN. This might save bandwidth and destination storage if the specified source LUNs share blocks. If provided, this input must be the same as one of the source LUN paths. This input is not allowed if only one source LUN is specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **job-uuid** | | uuid | Specifies universally unique ID (UUID) for the LUN move job. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EOD_INVALID_ECV** | |
| **EOD_DEST_LUN_EXISTS** | |
| **EOD_DEST_LUNS_NOT_ON_SAME_VOLUME** | |
| **EOD_MOVE_DUP_DEST_PATH** | |
| **EOD_DEST_IS_FLEXCACHE** | |
| **EQTREE_DOES_NOT_EXIST** | |
| **EOP_DISALLOWED_VSERVER_ROOT** | |
| **EOD_SRC_LUN_NOT_FOUND** | |
| **EOD_SRC_LUNS_NOT_ON_SAME_VOLUME** | |
| **EOD_SRC_LUN_IS_PE** | |
| **EOD_LUN_IN_NVFAILED_STATE** | |
| **EFLI_LUN_BOUND_TO_FLI_ERROR** | |
| **EOD_LUN_MAX_COUNT_VIOLATION** | |

| | |
|---|---|
| **EOD_REF_PATH_NOT_IN_SOURCE_PATHS** | |
| **E_SAN_MISSING_REQUIRED_LIFS** | |
| **E_SAN_NOT_READY** | |
| **EOD_MOVE_DEST_IS_SNAPSHOT** | |
| **EOD_SRC_IS_DP** | |
| **EOD_SRC_IS_SNAPSHOT** | |
| **EOD_DEST_IN_CFT_PRECOMMIT** | |
| **E_SAN_NOT_READY** | |

# lun-offline

[top]

Disables block-protocol accesses to the LUN. Mappings, if any, configured for the lun are not altered. Note that unless explicitly offlined, a lun is online.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_VDISK_NOT_ENABLED** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IS_BUSY** | |
| **EFLI_LUN_BOUND_TO_FLI_ERROR** | |
| **EVDISK_ERROR_VOLUME_TRANSITIONING** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-online

[top]

Re-enables block-protocol accesses to the lun.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Forcibly online the lun, disabling mapping conflict checks with the high-availability partner. If not specified all conflict checks are performed. In Data ONTAP Cluster-Mode, this field is accepted for backwards compatibility and is ignored. |
| **path** | | string | Path of the LUN. |

| Errno | Description |
|---|---|
| | |

| | |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_VDISK_NOT_DISABLED** | |
| **EVDISK_ERROR_NO_EXPORTED_VDISK_SHARE_WRITE** | |
| **EVDISK_ERROR_PARTNER_HAS_LUN** | |
| **EVDISK_ERROR_PARTNER_NOT_REACHABLE** | |
| **EVDISK_ERROR_LUN_HAS_NO_SERIAL_NO** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IS_BUSY** | |
| **EVDISK_ERROR_VOLUME_TRANSITIONING** | |
| **EFLI_VERIFY_LUN_ONLINE_FAIL** | |
| **EFLI_CREATE_RESYNC_PENDING** | |
| **E_SAN_NOT_READY** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

# lun-os-type-list

[top]

Displays the supported values and descriptions for lun-os-type.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **ostypes** | | system-api-enum-value-info[] | Enumeration type name/value pair |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# lun-port-has-scsi-reservations

[top]

Queries for all types of scsi reservations covering both iSCSI and FCP for a given initiator name. Initiator name can be FCP portname in case of FCP or iSCSI node name for iSCSI.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the lun. The path should start with '/vol/'. |
| **portname** | | string | Initiator FCP portname or iSCSI node name. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-reservation-held** | | boolean | 'true' if given LUN has a scsi-2 or scsi-3 style reservation held, 'false' otherwise. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |

| | |
|---|---|
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |

| Vfiler-enabled |
|---|
| Yes |

# lun-reset-stats

[top]

Resets (zeroes) block-protocol access statistics for LUN(s).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string optional | Path of the LUN. If path is specified, the stats of that LUN will be reset. If path is not specified, stats of all LUNs are reset. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| Yes |

# lun-resize

[top]

Changes the size of the LUN. Note that client-side operations may be needed to ensure that client software recognizes the changed size. For Data ONTAP Cluster-Mode 8.3 and later, LUN resize is not allowed while the LUN is in import relationship with a Foreign LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Forcibly reduce the size. This is required for reducing the size of the LUN to avoid accidentally reducing the LUN size. |
| **path** | | string | Path of the LUN. |
| **size** | **[0..2^63-1]** | integer | New size for the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **actual-size** | **[0..2^63-1]** | integer | Actual new size. This may be different from the specified size due to the requested size not fitting on a cylinder boundary. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_SIZE_TOO_LARGE** | |
| **EVDISK_ERROR_RESIZE_TOO_LARGE** | |

| | |
|---|---|
| **EONTAPI_NOSPC** | |
| **EVDISK_ERROR_MUST_SPECIFY_F_FLAG** | |
| **EVDISK_ERROR_SIZE_TOO_SMALL** | |
| **EVDISK_ERROR_SIZE_UNCHANGED** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_VOLUME_UNPROCESSED** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IS_BUSY** | |
| **EFLI_LUN_BOUND_TO_FLI_ERROR** | |
| **EVDISK_ERROR_VOLUME_TRANSITIONING** | |
| **EVDISK_SYNC_CAPB_MISMATCH** | |
| **E_SAN_NOT_READY** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

# lun-restore-status

[top]

Get state of LUN restore.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-running** | | boolean | 'true' if file restore is currently running for this vdisk, 'false' otherwise. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

# lun-set-attribute

[top]

Set a named attribute for a given LUN. Attributes are arbitrary key/value pairs for application-defined use.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Application-defined attribute to set. In order to prevent conflicts between separate applications, it is recommended that applications prefix attribute |

| | | | |
|---|---|---|---|
| **name** | | string | names with their registered Internet domain name reversed component by component, and an application identifier. For example: "com.example.widgetapp.attribute". The following attributes are reserved by the system and may not be set: "custom", "cylinder_size", "dev_id", "enabled", "extent_size", "host_stamp", "path_last", "pserial", "pSerial", "serial", "snapshot", "snapshot_path_last", "type". In older versions of Data ONTAP, attempting to set a system-reserved attribute may adversely affect data integrity and availability of the storage system. Clients of this API must therefore take special care to not use any system-reserved attribute names. |
| **path** | | string | Path of the LUN. |
| **value** | | string | Value to set the attribute to. In Data ONTAP Cluster-mode, the combined size of "name" and "value" must not exceed 4092 bytes. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EONTAPI_EPERM** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_VOLUME_UNPROCESSED** | |
| **EVDISK_ERROR_ATTR_TOO_BIG** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IS_BUSY** | |
| **EONTAPI_EROFS** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-set-comment

[top]

Set the optional descriptive comment for a LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string | Comment to set for given LUN. |
| **path** | | string | Path of the LUN. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_ENOMEM** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_NO_SUCH_ATTRIBUTE** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_VOLUME_UNPROCESSED** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-set-device-id

[top]

Set a SCSI peripheral device identifying information value on a LUN. In Data ONTAP 7-Mode, the value set will be returned in response to the vendor unique SCSI command GET DEV ID. In Data ONTAP Cluster-Mode, the value set will be returned in response to the SCSI command REPORT IDENTIFYING INFORMATION for the appropriate INFORMATION TYPE:

- 0000000b - Peripheral Device Identifying Information, a binary string 1 to 64 bytes long. In addition, if the Peripheral Device Identifying Information is between 00000001h (1d) and 0000270Fh (9999d), it will be returned in response to the vendor unique SCSI command GET DEV ID.
- 0000010b - Peripheral Device Text Identifying Information, a UTF-8 string 1 to 255 bytes long.

Either or both peripheral device identifying information values may be set or cleared independently.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **device-id** | | string | SCSI Peripheral Device Identifying Information. In Data ONTAP 7-Mode or if device-id-type is "legacy", the value must be an integer in the range [1..9999]. If device-id-type is "binary", the value must be a 2 to 64 byte value encoded as a hexadecimal string, for example "0000270F". If device-id-type is "text", the value is a free-form UTF-8 string between 1 and 255 bytes in length. |
| **device-id-type** | | string optional | Indicate which peripheral device identifying information value to change. Possible values:<br>• "legacy" - Set the Peripheral Device Identifying Information for REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000000b) appropriate for the the vendor unique SCSI command GET DEV ID and in the format compatible with Data ONTAP 7-Mode,<br>• "binary" - Set the Peripheral Device Identifying Information for REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000000b). This format allows setting all 64 bytes of the identifying information,<br>• "text" - Set the Peripheral Device Text Identifying Information for REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000010b).<br>The default value is "legacy". |
| **path** | | string | Path of the LUN. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **VDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_VDISK_NOT_DISABLED** | |
| **EVDISK_ERROR_INVALID_DEVICE_ID** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_VOLUME_UNPROCESSED** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **E_SAN_NOT_READY** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IS_BUSY** | |

| Vfiler-enabled |
|---|

| Yes |
|---|

# lun-set-qos-policy-group

[top]

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | lun-path | Path of the LUN |
| **qos-adaptive-policy-group** | | string optional | QoS Adaptive Policy Group for the LUN. Setting this value to 'none' removes the LUN from an adaptive policy group. |
| **qos-policy-group** | | string optional | QoS Policy Group for the LUN. Setting this value to 'none' removes the lun from a policy group. |

| Errno | Description |
|---|---|
| **E_QOS_OBJECT_OVERLAP_ERROR** | |
| **E_QOS_NO_SUCH_PG** | |
| **E_QOS_TOO_MANY_USER_WIDS** | |
| **E_QOS_GENERAP_OP_ERROR** | |
| **E_QOS_VSERVERIZATION_VIOLATION** | |
| **E_QOS_LUN_CREATE_MODIFY** | |
| **E_QOS_LUN_PG_REMOVE** | |

# lun-set-select-attribute

[top]

Set the select attribute for the specified LUN. The select attribute is used by multi-pathing software to discriminate between LUNs when mirrored or cloned copies of a vdisk are mapped to the same host.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN. |
| **select-value** | | string | Sets the select attribute for the lun. Possible values:<br>• "active" - this is an active lun,<br>• "copy" - this is a clone or copy of an active lun,<br>• "mirror" - this is a mirror of an active lun. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_VOLUME_UNPROCESSED** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
| --- |
| Yes |

# lun-set-serial-number

[top]

Set the serial number for the specified LUN. The lun must first be made offline before changing the serial number. Prior to Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and slash (/) and hyphen (-) characters. Starting Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and the characters /-#$%&*+<=>?[!]^~@ . The caller must ensure the provided serial number is globally unique and not assigned to any other LUN on this or any other ONTAP cluster.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **path** | | string | Path of the LUN. |
| **serial-number** | | string | Serial number for the LUN. The caller must ensure the serial number is globally unique. |

| Errno | Description |
| --- | --- |
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_VDISK_NOT_DISABLED** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_VOLUME_UNPROCESSED** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IS_BUSY** | |

| Vfiler-enabled |
| --- |
| Yes |

# lun-set-share

[top]

Enables file system protocol-based access to a lun. By default, all accesses are disallowed. Note that file permissions and ACL entries still apply.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **path** | | string | Path of the LUN. |
| **share-type** | | string | Possible values: all, none, read, write |

| Errno | Description |
| --- | --- |
| **EINVALIDINPUTERROR** | |
| **VDISK_ERROR_NO_SUCH_VDISK** | |
| **VDISK_ERROR_NO_EXPORTED_VDISK_SHARE_WRITE** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
| --- |
| Yes |

# lun-set-space-alloc

[top]

Modify the attributes of lun object.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **enable** | | boolean | LUN space allocation setting |
| **path** | | lun-path | Path of the LUN |

| Errno | Description |
| --- | --- |
| **E_SAN_NOT_READY** | |

# lun-set-space-reservation-info

[top]

Sets the space reservation settings for the named LUN.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **enable** | | boolean | Enable or disable space reservation on this LUN. |
| **path** | | string | Path to the LUN for which the space reservations need to be set. |

| Errno | Description |
| --- | --- |
| **EFILENOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ESETSPCRESERROR** | |
| **EONTAPI_ENOSPC** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVDISK_ERROR_VOLUME_UNPROCESSED** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IS_BUSY** | |
| **EONTAPI_EROFS** | |

| Vfiler-enabled |
| --- |
| Yes |

# lun-snap-usage-list-info

[top]

Lists all LUNs backed by data in the specified snapshot. It also lists the corresponding snapshots in

which these LUNs exist.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | string | Name of the snapshot. |
| **volume** | | string | Name of the volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **lun-snap-usage-luns** | | lun-snap-usage-lun-info[] | List of LUNs backed by data in the specified snapshot. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVDISK_ERROR_NO_SUCH_VOLUME** | |
| **EVDISK_ERROR_NO_SUCH_SNAPSHOT** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-start

[top]

Starts block-protocol accesses to the lun.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN. The path should start with '/vol/' (for example, "/vol/vol0/lun1"). |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_ENOENT** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_VDISK_NOT_STOPPED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-stats-get-iter

[top]

Iterate over a list of lun objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | lun- | Specify the attributes that should be returned. If not present, all |

| | | | |
|---|---|---|---|
| **desired-attributes** | | stats-info optional | attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | lun-stats-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the lun object. All lun objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | lun-stats-info[] optional | The list of attributes of lun objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more lun objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# lun-stats-list-info

[top]

Get block-protocol access statistics (in bytes) for LUN(s).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string optional | Path of the LUN. If path is specified, only the stats of that LUN is returned. If path is not specified, stats of all LUNs are returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **lun-stats** | | lun-stats-info[] | List of LUN stats. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

[top]

# lun-unmap

Reverses the effect of lun-map on the specified LUN for the specified group. For Data ONTAP Cluster-Mode 8.3 and later, if LUN is in import relationship, the last LUN map can not be deleted.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group** | | string | Initiator group to unmap from. |
| **path** | | string | Path of the LUN. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EROFS** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_NO_EXPORTED_VDISK_SHARE_WRITE** | |
| **EVDISK_ERROR_NO_SUCH_EXPORT** | |
| **EVDISK_ERROR_NO_SUCH_INITGROUP** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEOFFLINE** | |
| **EFLI_LUN_BOUND_TO_FLI_ERROR** | |
| **E_SAN_NOT_READY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# lun-unset-attribute

[top]

Clear a named attribute for a given LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of attribute to unset. The following attributes are reserved by the system and may not be unset: "custom", "cylinder_size", "dev_id", "enabled", "extent_size", "host_stamp", "path_last", "pserial", "pSerial", "serial", "snapshot", "snapshot_path_last", "type". In older versions of Data ONTAP, attempting to unset a system-reserved attribute may adversely affect data integrity and availability of the storage system. Clients of this API must therefore take special care to not use any system-reserved attribute names. |
| **path** | | string | Path of the LUN. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVDISK_ERROR_NO_SUCH_VDISK** | |
| **EONTAPI_EPERM** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_NO_SUCH_ATTRIBUTE** | |
| **EVDISK_ERROR_VOLUME_UNPROCESSED** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **E_SAN_NOT_READY** | |

| | |
|---|---|
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IS_BUSY** | |

| Vfiler-enabled |
|---|
| Yes |

# lun-unset-device-id

[top]

Remove a SCSI peripheral device identifying information value from a LUN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **device-id-type** | | string optional | Indicate which peripheral device identifying information to remove. Possible values:<br>• "binary" - Remove the Peripheral Device Identifying Information returned in response to the SCSI commands REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000000b) and GET DEV ID,<br>• "text" - Remove the Peripheral Device Text Identifying Information returned in response to the SCSI command REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000010b).<br>The default value is "binary". |
| **path** | | string | Path of the LUN. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **VDISK_ERROR_NO_SUCH_VDISK** | |
| **EVDISK_ERROR_VDISK_NOT_DISABLED** | |
| **EVOLUMEBUSY** | |
| **EVDISK_ERROR_VOLUME_UNPROCESSED** | |
| **EVDISK_ERROR_RESTORE_INACCESSIBLE** | |
| **E_SAN_NOT_READY** | |
| **EVDISK_ERROR_LUN_IS_QUIESCED** | |
| **EVDISK_ERROR_LUN_IS_BUSY** | |

| Vfiler-enabled |
|---|
| Yes |

# Element definition: **alua-setting-mismatch-initiator-group**

[top]

Information about an initiator group that has an ALUA (Asymmetric Logical Unit Access) setting mismatch on local and partner filers.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | name of the initiator group. |
| **local-alua-is-** | | boolean | true if ALUA (Asymmetric Logical Unit Access) is enabled for |

| | | | |
|---|---|---|---|
| **enabled** | | | initiator-group-name on the local filer. |
| **partner-alua-is-enabled** | | boolean | true if ALUA (Asymmetric Logical Unit Access) is enabled for initiator-group-name |

# Element definition: **alua-setting-mismatch-initiator-info**

[top]

Information about an initiator that is a member of igroups that have an alua setting mismatch. Also contains partner alua mismatch issues.

| Name | Range | Type | Description |
|---|---|---|---|
| **alua-is-enabled** | | boolean | true if ALUA (Asymmetric Logical Unit Access) is enabled for initiator-group-name. |
| **initiator-group-name** | | string | name of the initiator group name that the initiator belongs to. |
| **initiator-name** | | string | name of the initiator. |

# Element definition: **clone-status-info**

[top]

Status of a cloning.

| Name | Range | Type | Description |
|---|---|---|---|
| **blocks-completed** | | integer | Number of blocks completed. |
| **blocks-total** | | integer | Total blocks to clone. The percentage complete is (completed * 100) / total |
| **path** | | string | LUN path being cloned. |

# Element definition: **conflict-wwpn**

[top]

WWPN that has the conflict.

[none]

# Element definition: **conflicting-initiator-info**

[top]

Fibre channel initiator that belongs to igroups on the local filer which have a different OS type than the initiator groups that this initiator belongs to on the partner filer. This conflict can produce unexpected host behavior and must be fixed.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-local-os-type** | | initiator-group-os-type | OS type of the initiator on the local filer |

| | | | |
|---|---|---|---|
| **initiator-name** | | string | Fibre channel initiator node name that has a different OS type on the local filer than the partner filer. |
| **initiator-partner-os-type** | | initiator-group-os-type | OS type of the initiator on the partner filer |

# Element definition: **conflicting-luns-list**

[top]

List of the conflicting LUNs.

| Name | Range | Type | Description |
|---|---|---|---|
| **conflict-lun-path** | | string | Path of the lun that has the conflict. The format is: /vol// or /vol/// |

# Element definition: **conflicting-map-info**

[top]

lun mapping conflict.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-name** | | string | Fibre channel initiator node name that has a lun mapped from both filers in the cluster using the same LUN-id. |
| **lun-id** | | integer | lun-id used in mappings to the initiator from both filers in the cluster. |

# Element definition: **fcp-down-hba-info**

[top]

Information about a down FCP HBA

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter** | | string | Which FC adapter. |
| **state** | | string | Description of HBAs state. Possible values: STARTUP UNINITIALIZED INITIALIZING FIRMWARE LINK NOT CONNECTED WAITING FOR LINK UP ONLINE LINK DISCONNECTED RESETTING OFFLINE OFFLINED BY USER/SYSTEM Unknown state |

# Element definition: **filer-id**

[top]

Filer UUID

[none]

# Element definition: **initiator-group-info**

[top]

Information about an initiator group.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-alua-enabled** | | boolean | Boolean value to indicate if this initiator group has ALUA (Asymmetric Logical Unit Access) features enabled for luns mapped to this initiator group. |
| **initiator-group-delete-on-unmap** | | boolean optional | Boolean value to indicate if this initiator group will be automatically deleted when unmapped from a LUN if it is no longer part of any other LUN maps. This field is available in Data ONTAP 9.2 and later. |
| **initiator-group-name** | | string | Name of this initiator group. |
| **initiator-group-os-type** | | initiator-group-os-type | OS type of the initiator group |
| **initiator-group-portset-name** | | string optional | Name of the portset that is bound to the initiator group, if any. |
| **initiator-group-report-scsi-name-enabled** | | boolean optional | Boolean value to indicate whether to report or hide SCSI Name String (8h) Descriptor to initiator's INQUIRY VPD 0x83 page command. This field is available in Data ONTAP 8.1.0 and later. |
| **initiator-group-throttle-borrow** | | boolean | Boolean value to indicate that the igroups throttle reserve may be exceeded if the igroup attempts to use more than it has reserved. |
| **initiator-group-throttle-reserve** | | integer | Percentage of filer SCSI command blocks reserved for this initiator group's exclusive usage. |
| **initiator-group-type** | | string | Type of the initiators in this group. Possible values: "iscsi", "fcp", "mixed". |
| **initiator-group-use-partner** | | boolean optional | Boolean value to indicate if this initiator group is configured for its luns to require the use of host multi-pathing software for correct high-availability failover operation. In Data ONTAP 7-Mode, this value is optional and is only returned for FCP initiator groups on an storage system in an HA pair. In Data ONTAP Cluster-Mode, this field will always be 'true'. |
| **initiator-group-uuid** | | string optional | This value is Universally-unique identifier (UUID) of this initiator group.<br><br>The UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hexadecimal characters, the second through fourth groupings have four hexadecimal characters each, and the fifth and final grouping has 12 hexadecimal characters. Note that a leading '0x' is not used.<br><br>This field is available in Data ONTAP 7-mode 7.3.6, 8.0.2, 8.1.0 and later for the igroup-list-info API. This field is available in Data ONTAP Cluster-Mode 8.1.0 and later for the igroup-get-iter and lun-map-list-info APIs. |

| | | | |
|---|---|---|---|
| | | | Here is an example of an actual UUID:<br><br>35d6ca90-c759-11df-8b6d-00a098132c6c |
| **initiator-group-vsa-enabled** | | boolean | Boolean value to indicate if this initiator group has Volume Set Addressing (VSA) enabled or disabled. |
| **initiators** | | initiator-info[] optional | List of initiators belonging to this group. |
| **lun-id** | **[0..4095]** | integer optional | LUN identifier to which the LUN is mapped at the host. This value is optional and is only returned for the lun-map-list-info api. |
| **vserver** | | string optional | Name of the vserver hosting this initiator group |

# Element definition: **invalid-cfmode-setting-info**

[top]

local and partner cfmode settings

| Name | Range | Type | Description |
|---|---|---|---|
| **local-fcp-cfmode** | | string | cfmode setting of the local filer Possible values: dual_fabric, mixed, partner, standby, single_image |
| **partner-fcp-cfmode** | | string | cfmode setting of the partner filer Possible values: dual_fabric, mixed, partner, standby, single_image |

# Element definition: **invalid-nodename-setting-info**

[top]

Information about different FCP node names

| Name | Range | Type | Description |
|---|---|---|---|
| **local-fcp-node-name** | | string | FCP node name for the local filer |
| **partner-fcp-node-name** | | string | FCP node name for the partner filer |

# Element definition: **invalid-ostype-cfmode-setting-info**

[top]

Information about an invalid initiator group OS type and cfmode combination

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of this initiator group. |
| **initiator-group-os-type** | | initiator-group-os-type | OS type of the initiator group |

# Element definition: **invalid-use-partner-cfmode-setting-info**

[top]

Information about an invalid initiator group use_partner and cfmode

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of this initiator group. |
| **is-use-partner-enabled** | | boolean | If true this initiator group's members are allowed to use the partner port. |

# Element definition: **invalid-use-partner-ostype-setting-info**

[top]

Information about an invalid initiator group OS type and use_partner combination

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of this initiator group. |
| **initiator-group-os-type** | | initiator-group-os-type | OS type of the initiator group |
| **is-use-partner-enabled** | | boolean | If true this initiator group's members are allowed to use the partner port. |

# Element definition: **invalid-vsa-setting-info**

[top]

Information about an initiator group with an invalid Volume Set Addressing (VSA) setting for its OS type. Only 'hpux' initiator groups should have VSA enabled. All other initiator groups should have it disabled. Incorrect settings can cause hosts to not be able to access some or all of their LUNs.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name** | | string | Name of this initiator group. |
| **initiator-group-os-type** | | initiator-group-os-type | OS type of the initiator group |
| **is-vsa-enabled** | | boolean | If true, members of this initiator group will use VSA on the filer. |

# Element definition: **lun-align-info**

[top]

LUN alignment Info of a LUN When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **alignment** | | alignment-state optional | Alignment of the LUN. Possible values: aligned, misaligned, partial-writes, indeterminate. Attributes: non-creatable, non-modifiable Possible values:<br>• "aligned" - All or most of the IO to the LUN is aligned to the underlying file,<br>• "misaligned" - A significant amount of IO to the LUN is not aligned to the underlying file,<br>• "partial_writes" - A significant amount of IO to the LUN is partial,<br>• "indeterminate" - There is not enough IO to determine the LUN's alignment state |
| **multiprotocol-type** | | lun-os-type optional | The ostype for the LUN. Caller should specify a non-default ostype Attributes: non-creatable, non-modifiable Possible values:<br>• "vmware" - The LUN will be used to store a VMware Virtual Machine File System (VMFS) containing Virtual Machine Disk Files (VMDKs).,<br>• "hyper_v" - The LUN will be used to store Hyper-V VHDs (Virtual Hard Disks).,<br>• "windows_2008" - The LUN will be used to store a Windows filesystem with a Master Boot Record (MBR) partition table on Windows 2008 or later.,<br>• "windows_gpt" - The LUN will be used to store a Windows filesystem with a GUID Partition Table (GPT).,<br>• "windows" - The LUN will be used to store a Windows filesystem with a Master Boot Record (MBR) partition table.,<br>• "linux" - The LUN will be used to store a Linux filesystem with no partition table.,<br>• "xen" - The LUN will be used to provide storage for XenServer.,<br>• "solaris" - The LUN will be used to store a Solaris filesystem in a single slice partition.,<br>• "solaris_efi" - The LUN will be used to store a Solaris filesystem with an EFI partition table.,<br>• "hpux" - The LUN will be used to store an HP-UX filesystem.,<br>• "aix" - The LUN will be used to store an AIX filesystem.,<br>• "netware" - The LUN will be used to store a Netware filesystem.,<br>• "openvms" - The LUN will be used to store an OpenVMS filesystem.,<br>• "image" - The default type indicating no assumptions will be made about the data stored in the LUN. |
| **partition-count** | **[0..2^32-1]** | integer optional | Number of partitions on the LUN. Attributes: non-creatable, non-modifiable |
| **partition-** | | partition-scheme | Partition scheme on the LUN. Possible values: mbr and gpt Attributes: non-creatable, non-modifiable Possible values:<br>• "mbr" - Master Boot Record Partition Table Scheme,<br>• "gpt" - GUID Partition Table Scheme, |

| | | | |
|---|---|---|---|
| **scheme** | | optional | • "unknown" - Unrecognized partition scheme or an unformatted LUN,<br>• "sun_vtoc" - Sun VTOC Partition Table Scheme,<br>• "aix" - IBM AIX Disk Label |
| **partition-table** | | partition-list-entry[] optional | Partition entries on the LUN. |
| **path** | | lun-path optional | Path of the LUN Attributes: key, non-creatable, non-modifiable |
| **read-alignment-histogram** | | read-histogram-entry[] optional | Histogram of read operations of size 4k in percentage value. |
| **read-partial-blocks** | **[0..2^32-1]** | integer optional | Total number of read operations of non 4k size in percentage value. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver hosting the LUN Attributes: key, non-creatable, non-modifiable |
| **write-alignment-histogram** | | write-histogram-entry[] optional | Histogram of write operations of size 4k in percentage value. |
| **write-partial-blocks** | **[0..2^32-1]** | integer optional | Total number of write operations of non 4k size in percentage value. Attributes: non-creatable, non-modifiable |

# Element definition: **lun-attribute-info**

[top]

LUN attribute name / value pair

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the attribute. |
| **value** | | string | Value of the attribute. |

# Element definition: **lun-clone-lists-info**

[top]

Details of the LUN clone in the specified snapshot.

| Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the LUN clone. |

# Element definition: **lun-copy-info**

[top]

Information about a LUN copy job When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cutover-time** | | time-interval optional | Specifies time, in seconds, between the start of\" the LUN copy job and when the new LUN was ready for I/O. Attributes: non-creatable, non-modifiable |
| **destination-path** | | lun-path optional | Specifies the full path to the new LUN, of the form /vol/[/]/. Example: /vol/dest_vol/dest_lun. Attributes: non-creatable, non-modifiable |
| **destination-vserver** | | string optional | Specifies the name of the Vserver that will host the new LUN. Attributes: non-creatable, non-modifiable |
| **elapsed-time** | | time-interval optional | Specifies elapsed time, in seconds, since the start of the LUN copy job. Attributes: non-creatable, non-modifiable |
| **is-destination-ready** | | boolean optional | Indicates if the destination ready to be mapped (in case of a regular LUN) or bound (in case of a VVOL): true if the lun is ready, false if the lun is not ready. Attributes: non-creatable, non-modifiable |
| **is-promoted-early** | | boolean optional | Specifies if the destination LUN has been promoted early. Attributes: non-creatable, non-modifiable |
| **is-snapshot-fenced** | | boolean optional | Indicates if the volume containing the new LUN is ready for snapshot creation: true if the volume containing the new LUN is not ready for snapshot creation, false if the volume is ready for snapshot creation. Attributes: non-creatable, non-modifiable |
| **job-status** | | sfod-scanner-status optional | Specifies the current status of the LUN copy transfer. Attributes: non-creatable, non-modifiable Possible values:<br>• "preparing" - Preparing,<br>• "allocation_map" - Allocating,<br>• "data" - Moving Data,<br>• "destroying" - Destroying,<br>• "paused_manual" - Manually Paused,<br>• "paused_error" - Paused by Error,<br>• "complete" - Complete,<br>• "destroyed" - Destroyed,<br>• "terminated_manual" - Manually Terminated |
| **job-uuid** | | uuid optional | Specifies the universal unique ID (UUID) of the job that started this copy operation. Attributes: key, non-creatable, non-modifiable |
| **last-failure-reason** | | string optional | Specifies the most recent error message from the LUN copy job. Attributes: non-creatable, non-modifiable |
| **lun-index** | **[0..2^32-1]** | integer optional | Specifies an additional unique element identifying one LUN among many that could be possibly copied as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. Attributes: key, non-creatable, non-modifiable |
| **max-throughput** | | size optional | Specifies the rate limit for the data transfer, in bytes per second. Attributes: non-creatable, non-modifiable |
| **progress-percent** | **[0..100]** | integer optional | Specifies the amount of data, as a percentage of total data, that has been copied over to the new LUN. Attributes: non-creatable, non-modifiable |
| **scanner-progress** | | size optional | Specifies the amount of data, in bytes, that has been copied over to the new LUN. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **scanner-total** | | size optional | Specifies the total amount of data, in bytes, that will be copied over to the new LUN. Attributes: non-creatable, non-modifiable |
| **source-path** | | lun-path optional | Specifies the full path to the LUN to be copied, of the form /vol/[/]/. Example: /vol/src_vol/src_lun. Attributes: non-creatable, non-modifiable |
| **source-snapshot-instance-uuid** | | string optional | Specifies the universal unique ID (UUID) of the physical data layout of the source Snapshot volume. This value corresponds to snapshot-instance-uuid element of the snapshot-info structure. If the value is not specified it indicates that the LUN is not being copied from a Snapshot volume. Attributes: non-creatable, non-modifiable |
| **source-vserver** | | string optional | Specifies the name of the Vserver hosting the LUN to be copied. Attributes: non-creatable, non-modifiable |

# Element definition: **lun-import-info**

[top]

Information of a Foreign LUN Import relationship When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **administrative-status** | | fli-admin-state-enum optional | Administrative status of the import operation Attributes: non-creatable, non-modifiable Possible values:<br>• "stopped" ,<br>• "started" ,<br>• "paused" |
| **compared-blocks** | **[0..2^64-1]** | integer optional | Number of compared blocks. This element will be returned only when import verification is in progress. Attributes: non-creatable, non-modifiable |
| **current-throughput** | | size optional | Current Throughput (per sec) Attributes: non-creatable, non-modifiable |
| **estimated-remaining-duration** | | timeticks optional | Estimated Remaining Duration Attributes: non-creatable, non-modifiable |
| **failure-reason** | | string optional | Failure Reason Attributes: non-creatable, non-modifiable |
| **foreign-disk** | | string optional | Foreign Disk Serial Number Attributes: key, required-for-create, non-modifiable |
| **import-current-node** | | string optional | Import Current Node. The current node where import is running and where foreign disk I/Os are serviced. During takeover or giveback the import-current-node can change. Attributes: non-creatable, non-modifiable |
| **import-home-node** | | string optional | Import Home Node Attributes: non-creatable, non-modifiable |
| **imported-blocks** | **[0..2^64-1]** | integer optional | Blocks Imported Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **max-throughput-limit** | | size optional | Maximum Throughput Limit (per sec) Attributes: non-creatable, non-modifiable |
| **operation-in-progress** | | fli-operation-enum optional | Current operation in progress Attributes: non-creatable, non-modifiable Possible values:<br>• "import" ,<br>• "verify" |
| **operational-status** | | fli-operational-state-enum optional | Operational status of the import operation Attributes: non-creatable, non-modifiable Possible values:<br>• "in_progress" ,<br>• "failed" ,<br>• "completed" ,<br>• "stopped" ,<br>• "paused" |
| **path** | | lun-path optional | Path of the LUN Attributes: required-for-create, non-modifiable |
| **percent-complete** | **[0..2^32-1]** | integer optional | Percent Complete Attributes: non-creatable, non-modifiable |
| **qos-policy-group** | | string optional | QoS Policy Group Attributes: non-creatable, non-modifiable |
| **total-blocks** | **[0..2^64-1]** | integer optional | Total Blocks Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver containing the LUN Attributes: key, non-creatable, non-modifiable |

# Element definition: **lun-info**

[top]

Information of a LUN.

| Name | Range | Type | Description |
|---|---|---|---|
| **alignment** | | string optional | Alignment of the LUN. Possible values: "aligned", "misaligned", "partial_writes" or "indeterminate". |
| **application** | | string optional | The name of the LUN's application. This field is available in Data ONTAP 9.2 and later when the LUN is provisioned for use with an application. |
| **application-uuid** | | string optional | The unique identifier for the LUN's application. This field is available in Data ONTAP 9.2 and later when the LUN is provisioned for use with an application. |
| **backing-snapshot** | | string optional | Path to the backing snapshot file for a LUN, if there is one. Only returned if it has one. Note: This element is not returned for LUNs which are in snapshots. |
| **block-size** | **[0..2^31-1]** | integer optional | Disk block size of the LUN in bytes. This field is unavailable while the LUN is fenced for a restore operation. |
| **class** | | string optional | The class of the LUN. Possible values:<br>• "regular" - The LUN is intended for normal blocks access,<br>• "protocol_endpoint" - The LUN is a VMware vvol protocol endpoint,<br>• "vvol" - The LUN is a VMware vvol data LUN. |

| | | | |
|---|---|---|---|
| **clone-backing-snapshot** | | string optional | |
| **comment** | | string optional | User-specified comment for the LUN. This field is unavailable when the LUN is in a snapshot or while the LUN fenced for a restore operation. |
| **creation-timestamp** | **[0..2^31-1]** | integer optional | The time this LUN was created, in seconds since January 1, 1970. This field is unavailable when the LUN is in a snapshot or while the LUN fenced for a restore operation. |
| **device-binary-id** | | string optional | SCSI Peripheral Device Identifying Information returned in response to the SCSI command REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000000b). Value is encoded as a hexadecimal string, representing 1 to 64 bytes. Only present if a Peripheral Device Identifying Information value has been set on the LUN. |
| **device-id** | **[1..9999]** | integer optional | SCSI Peripheral Device Identifying Information returned in response to the vendor unique SCSI command GET DEV ID. Only present if a Peripheral Device Identifying Information value appropriate for GET DEV ID has been set on the LUN. |
| **device-text-id** | | string optional | SCSI Peripheral Device Text Identifying Information returned in response to the SCSI command REPORT IDENTIFYING INFORMATION (INFORMATION TYPE 0000010b). Value is a free-form UTF-8 string between 1 and 255 bytes in length. Only present if a Peripheral Device Text Identifying Information value has been set on the LUN. |
| **is-clone** | | boolean optional | "true" if the lun is a clone "false" otherwise. |
| **is-clone-autodelete-enabled** | | boolean optional | "true" if the lun clone is allowed to be deleted by autodelete in try/disrupt mode. autodelete will be allowed to delete the lun clone in try/disrupt mode if configured. "false" otherwise. The lun clone will not be deleted by autodelete in try/disrupt mode if configured. |
| **is-inconsistent-import** | | boolean optional | "true" if the lun contains a partial import of a foreign disk, "false" otherwise. |
| **is-restore-inaccessible** | | boolean optional | If true, the LUN is fenced for I/O and management operations due to an ongoing restore operation. If false, the LUN is available for normal operations. |
| **is-space-alloc-enabled** | | boolean optional | Whether or not the LUN has space allocation enabled. This field is unavailable when the LUN is in a snapshot or while fenced for a restore operation. The space allocation attribute enables support for the SCSI Thin Provisioning features defined in the Logical Block Provisioning section of the SCSI SBC-3 standard. |
| **is-space-reservation-enabled** | | boolean optional | Whether or not the LUN has space reservation enabled. This field is unavailable when the LUN is in a snapshot or while fenced for a restore operation |
| **mapped** | | boolean optional | Whether or not the LUN is mapped to any initiators. "true" if mapped, "false" otherwise. This field is not applicable to LUNs where the class attribute is set to 'vvol'. |
| **multiprotocol-type** | | lun-os-type optional | OS type of the LUN This field is unavailable while the LUN is fenced for a restore operation. |
| **node** | | node-name optional | Node hosting the LUN. This field is available in Data ONTAP 8.3 and later. |
| **online** | | boolean | "true" if the LUN is online, "false" if the LUN is offline. In Data ONTAP 8.3 and later, the 'state' field may be used to distinguish between specific access states. |

| | | | |
|---|---|---|---|
| **path** | | string | Path of the LUN. |
| **prefix-size** | **[0..2^63-1]** | integer optional | Size of the prefix stream for this LUN in bytes. This is either the default value for the OS type of the LUN or value specified in lun-create-by-size API. This field is unavailable while the LUN is fenced for a restore operation. This field is available in Data ONTAP 8.1 and later. |
| **qos-adaptive-policy-group** | | string optional | QoS adaptive policy group defines measurable service level objectives (SLOs) that adjust based on the LUN's allocated space or used space. This field is available in Data ONTAP 9.4 and later. |
| **qos-policy-group** | | string optional | QoS policy group defines measurable Service Level Objectives (SLOs) that apply to the storage objects with which the policy group is associated. This field is only present if the LUN is assigned to a QoS policy This field is available in Data ONTAP 8.2 and later. |
| **qtree** | | string | Name of the qtree containing the LUN. |
| **read-only** | | boolean optional | "true" if the LUN is read only, "false" if read/write. This field is unavailable while the LUN is fenced for a restore operation. |
| **serial-7-mode** | | string optional | The serial number of the LUN used by Data ONTAP 7-Mode prior to transitioning the LUN. This field is available in Data ONTAP 8.3 and later. |
| **serial-number** | | string optional | Serial number of the LUN. Prior to Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and slash (/) and hyphen (-) characters. Starting Data ONTAP 8.1 release, the serial number is a 12-character string formed of upper and lower-case letters, numbers, and the characters /-#$%&*+<=>?[!]^~@ . This field is unavailable when the LUN is in a snapshot. |
| **share-state** | | string | Share state of the LUN. Possible values: "all", "none", read", "unknown", "write". In the very rare case that the share state can not be determined, "unknown" is returned. |
| **size** | **[0..2^63-1]** | integer optional | Size of this LUN in bytes in the active FS. This field is unavailable while the LUN is fenced for a restore operation. |
| **size-used** | **[0..2^63-1]** | integer optional | Number of bytes used by this LUN. This field is unavailable while the LUN is fenced for a restore operation. |
| **staging** | | boolean | "true" if the LUN is a temporary staging LUN, "false" otherwise. |
| **state** | | string optional | The access state of the LUN. Possible values:<br>• "online" - LUN is online,<br>• "offline" - LUN is administratively offline or a more detailed offline reason is not available,<br>• "foreign_lun_error" - LUN has been automatically taken offline due to a media error on the associated foreign LUN,<br>• "nvfail" - LUN has been automatically taken offline due to an NVRAM failure,<br>• "space_error" - LUN has been automatically taken offline due to insufficient space.<br><br>This field is available in Data ONTAP 8.3 and later. |
| **suffix-size** | **[0..2^63-1]** | integer optional | Size of the suffix stream for this LUN in bytes. This value is determined by the OS type of the LUN at creation time. This field is unavailable while the LUN is fenced for a restore operation. This field is available in Data ONTAP 8.1 and later. |
| **uuid** | | string optional | Universal unique identifier (UUID) for the LUN. This field is unavailable when the LUN is in a snapshot. |
| **volume** | | string | Name of the volume containing the LUN. |
| **vserver** | | string optional | Vserver containing the LUN. |

# Element definition: **lun-map-info**

[top]

Information about a lun mapping

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group** | | string | Initiator group used to map the lun to the requested initiator. |
| **initiator-group-uuid** | | string | The Universally-unique identifier (UUID) of the initiator group. |
| **lun-id** | **[0..4095]** | integer | Logical Unit Number which the lun is mapped to for the requested initiator. |
| **lun-uuid** | | string | The Universally-unique identifier (UUID) of the LUN. |
| **node** | | node-name | The owning node of the LUN. |
| **path** | | string | Path of the LUN which is mapped to the requested initiator. |
| **reporting-nodes** | | node-name[] optional | The list of nodes reporting the LUN map to SCSI initiators. If not provided, the map is reported on all applicable LIFs on all nodes. |
| **vserver** | | string optional | Vserver containing the initiator group |

# Element definition: **lun-move-info**

[top]

LUN Move Status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cutover-time** | | time-interval optional | Specifies time, in seconds, between the start of\" the LUN move job and when the new LUN was ready for I/O. Attributes: non-creatable, non-modifiable |
| **destination-path** | | lun-path optional | Specifies the full path to the new LUN, of the form /vol//[]/. Example: /vol/dest_vol/dest_lun. Attributes: non-creatable, non-modifiable |
| **elapsed-time** | | time-interval optional | Specifies elapsed time, in seconds, since the start of the LUN move job. Attributes: non-creatable, non-modifiable |
| **is-destination-ready** | | boolean optional | Indicates if the destination ready to be mapped (in case of a regular LUN) or bound (in case of a VVOL): true if the lun is ready, false if the lun is not ready. Attributes: non-creatable, non-modifiable |
| **is-promoted-** | | boolean | Specifies if the destination LUN has been promoted late. Attributes: |

| | | | |
|---|---|---|---|
| **late** | | optional | non-creatable, non-modifiable |
| **is-snapshot-fenced** | | boolean optional | Indicates if the volume containing the new LUN is ready for snapshot creation: true if the volume containing the new LUN is not ready for snapshot creation, false if the volume is ready for snapshot creation. Attributes: non-creatable, non-modifiable |
| **job-status** | | sfod-scanner-status optional | Specifies the current status of the LUN move job. Attributes: non-creatable, non-modifiable Possible values:<br>• "preparing" - Preparing,<br>• "allocation_map" - Allocating,<br>• "data" - Moving Data,<br>• "destroying" - Destroying,<br>• "paused_manual" - Manually Paused,<br>• "paused_error" - Paused by Error,<br>• "complete" - Complete,<br>• "destroyed" - Destroyed,<br>• "terminated_manual" - Manually Terminated |
| **job-uuid** | | uuid optional | Specifies the universal unique ID (UUID) of the job that started this move operation. Attributes: key, non-creatable, non-modifiable |
| **last-failure-reason** | | string optional | Specifies the most recent error message from the LUN move job. Attributes: non-creatable, non-modifiable |
| **lun-index** | **[0..2^32-1]** | integer optional | Specifies ann additional unique element identifying one LUN among many that could be possibly move as part of a job. LUN index is an identifier ordered by the LUN path arrays provided during create. Attributes: key, non-creatable, non-modifiable |
| **max-throughput** | | size optional | Specifies the rate limit for the data transfer, in bytes per second. Attributes: non-creatable, non-modifiable |
| **progress-percent** | **[0..100]** | integer optional | Specifies the amount of data, as a percentage of total data, that has been moved over to the new LUN. Attributes: non-creatable, non-modifiable |
| **scanner-progress** | | size optional | Specifies the amount of data, in bytes, that has been moved over to the new LUN. Attributes: non-creatable, non-modifiable |
| **scanner-total** | | size optional | Specifies the total amount of data, in bytes, that will be moved over to the new LUN. Attributes: non-creatable, non-modifiable |
| **source-path** | | lun-path optional | Specifies the full path to the LUN to be moved, of the form /vol/[/]/. Example: /vol/src_vol/src_lun. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Specifies the name of the Vserver containing the source and destination volumes. Attributes: non-creatable, non-modifiable |

# Element definition: **lun-os-type**

[top]

The image type of the lun. This value determines the proper alignment settings for the desired host filesystem layout. Possible values:

- "aix" The LUN will be used to store an AIX filesystem,
- "hpux" The LUN will be used to store an HP-UX filesystem,
- "hyper_v" The LUN will be used to store Hyper-V VHDs (Virtual Hard Disks),
- "image" The default type indicating no assumptions will be made about the data stored in the LUN,
- "linux" The LUN will be used to store a Linux filesystem with no partition table,
- "netware" The LUN will be used to store a Netware filesystem,
- "openvms" The LUN will be used to store an OpenVMS filesystem,

- "solaris" The LUN will be used to store a Solaris filesystem in a single slice partition,
- "solaris_efi" The LUN will be used to store a Solaris filesystem with an EFI partition table,
- "vmware" The LUN will be used to store a VMware Virtual Machine File System (VMFS) containing Virtual Machine Disk Files (VMDKs),
- "windows" The LUN will be used to store a Windows filesystem with a Master Boot Record (MBR) partition table.
- "windows_2008" The LUN will be used to store a Windows filesystem with a Master Boot Record (MBR) partition table on Windows 2008 or later,
- "windows_gpt" The LUN will be used to store a Windows filesystem with a GUID Partition Table (GPT),
- "xen" The LUN will be used to provide storage for XenServer.

[none]

# Element definition: **lun-path**

[top]

LUN Path

[none]

# Element definition: **lun-path-pair**

[top]

A pair of source and destination LUN paths

| Name | Range | Type | Description |
|---|---|---|---|
| **destination-path** | | string | Specifies the full path to the new LUN, of the form /vol/[/]/. Example: /vol/dest_vol/dest_lun. |
| **source-path** | | string | Specifies the full path to the source LUN, of the form /vol/[/]/. Example: /vol/src_vol/src_lun. |

# Element definition: **lun-snap-usage-lun-info**

[top]

Details of the LUN backed by specified snapshot.

| Name | Range | Type | Description |
|---|---|---|---|
| **backing-store** | | string | Path of the LUN serving as the backing store. |
| **path** | | string | Path of the LUN. |
| **snapshot** | | string | Name of the snapshot in which the LUN exists. |

# Element definition: **lun-stats-info**

[top]

Stats for a LUN.

| Name | Range | Type | Description |
|---|---|---|---|
| **block-size** | | integer optional | Disk block size for this LUN in bytes. This attribute is unavailable when the LUN is fenced for a restore operation. |
| **last-zeroed** | **[0..2^64-1]** | integer optional | Total number of seconds since the statistics for this lun were last zeroed. |
| **other-ops** | **[0..2^64-1]** | integer | Total number of other SCSI ops executed. |
| **path** | | string | path of the LUN. (for example, "/vol/vol0/lun1") |
| **read-blocks** | **[0..2^64-1]** | integer optional | Number of disk blocks read. This attribute is unavailable when the LUN is fenced for a restore operation. |
| **read-ops** | **[0..2^64-1]** | integer | Total number of SCSI read ops executed. |
| **scsi-errors** | **[0..2^64-1]** | integer | Total number of SCSI errors. |
| **vserver** | | string optional | Vserver containing the lun |
| **write-blocks** | **[0..2^64-1]** | integer optional | Number of disk blocks written. This attribute is unavailable when the LUN is fenced for a restore operation. |
| **write-ops** | **[0..2^64-1]** | integer | Total number of SCSI write ops executed. |

# Element definition: **mixed-ostype-initiator-info**

[top]

Information about an initiator which is a member of initiator groups of differing OS types. An initiator can only be a member of initiator groups which have the same OS type across all the initiator groups it is a member of.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name-1** | | string | Name of this initiator group. |
| **initiator-group-name-2** | | string | Name of this initiator group. |
| **initiator-group-os-type-1** | | initiator-group-os-type | OS type of the initiator group |
| **initiator-group-os-type-2** | | initiator-group-os-type | OS type of the initiator group |
| **initiator-name** | | string | Name of the initiator. |

# Element definition: **mixed-vsa-initiator-info**

[top]

Information about an initiator which is a member of initiator groups with differing Volume Set Addressing (VSA) settings. This will cause unexpected problems with the initiator.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-name-1** | | string | Name of the first initiator group that the initiator is a member of. |
| **initiator-group-name-2** | | string | Name of the second initiator group that the initiator is a member of. |
| **initiator-name** | | string | Name of the initiator. |
| **is-vsa-enabled-1** | | boolean | If true, members of the first initiator group, identified by initiator-group-name-1, will use VSA on the filer. |

| | | | |
|---|---|---|---|
| **is-vsa-enabled-2** | | boolean | If true, members of the second initiator group, identified by initiator-group-name-2, will use VSA on the filer. |

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **persistent-reservation-info**

[top]

Information about the persistent reservation

| Name | Range | Type | Description |
|---|---|---|---|
| **fcp-pr-nexus** | | fcp-pr-nexus optional | This is the I_T_Nexus info for an FCP type reservation. |
| **iscsi-pr-nexus** | | iscsi-pr-nexus optional | This is the I_T_Nexus info for an iSCSI type reservation. |
| **reservation-key** | | string optional | Value of persistent reservation key that is registered for the given lun. |
| **reservation-type** | | string | Type of persistent reservation. Possible values: "fcp", "iscsi". |
| **reservation-type-code** | | string optional | Type of persistent reservation held by the I_T_Nexus, if any. Please refer to the SCSI Primary Command (SPC) specification for full details on reservation types. Possible values:<br>• "read shared",<br>• "write exclusive",<br>• "exclusive access",<br>• "write exclusive registrants only",<br>• "exclusive access registrants only",<br>• "write exclusive all registrants",<br>• "exclusive access all registrants". |
| **scsi-revision** | | string | The SCSI specification revision for the reservation. Possible values: "scsi2", "scsi3". |

## Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **system-api-enum-value-info**

[top]

Enumeration type name/value pair When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | Description of the enumeration value Attributes: non-creatable, non-modifiable |
| **value** | | string optional | Name of the enumeration value Attributes: key, non-creatable, non-modifiable |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **volume-error**

[top]

The error code of a given volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **errno** | | integer optional | The error code of the snapshot operation for a given volume. It is returned only when an error is found. |
| **name** | | volume-name | Name of a volume. |
| **reason** | | string optional | Description of the error. It is returned only when an error is found. |
| **vserver** | | string optional | Virtual server containing the volume. |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

## Element definition: **alignment-state** [top]

aligned|misaligned|partial-writes|indeterminate Possible values:

- "aligned" - All or most of the IO to the LUN is aligned to the underlying file,
- "misaligned" - A significant amount of IO to the LUN is not aligned to the underlying file,
- "partial_writes" - A significant amount of IO to the LUN is partial,
- "indeterminate" - There is not enough IO to determine the LUN's alignment state

[none]

## Element definition: **fcp-pr-nexus** [top]

Information about FCP nexus owning the persistent reservation These two components identify the relationship between the FCP initiator and the target.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-port** | | string | FCP initiator port part of I_T_Nexus owning the persistent reservation key. |
| **target-port** | | string optional | FCP target port part of I_T_Nexus owning the persistent reservation key. |
| **third-party-initiator-port** | | string optional | The FCP port name (WWPN) of the third-party initiator the reservation is being held for. For use in SCSI-2 only. |

## Element definition: **fli-admin-state-enum** [top]

stopped|started|paused Possible values:

- "stopped" ,
- "started" ,
- "paused"

[none]

## Element definition: **fli-operation-enum** [top]

import|verify Possible values:

- "import" ,

- "verify"

[none]

## Element definition: **fli-operational-state-enum**

[top]

in_progress|failed|completed|stopped|paused Possible values:

- "in_progress" ,
- "failed" ,
- "completed" ,
- "stopped" ,
- "paused"

[none]

## Element definition: **initiator-group-os-type**

[top]

The operating system of the initiator group. This value modifies the finer details of SCSI protocol interaction for initiators in the group. Possible values:

- "aix" The initiators belong to an AIX host,
- "default" The initiators belong to an unknown host type,
- "hpux" The initiators belong to an HP-UX host,
- "hyper_v" The initiators belong to a Hyper-V parent host,
- "linux" The initiators belong to a Linux host,
- "netware" The initiators belong to a NetWare host,
- "openvms" The initiators belong to an OpenVMS host,
- "solaris" The initiators belong to a Solaris host,
- "vmware" The initiators belong to a VMware ESX host,
- "windows" The initiators belong to a Windows host,
- "xen" The initiators belong to a Xen hypervisor host.

[none]

## Element definition: **initiator-info**

[top]

Information about one initiator.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-name** | | string | Name of the initiator. |

## Element definition: **iscsi-pr-nexus**

[top]

Information about iSCSI nexus owning the persistent reservation These three components identify the relationship between the iSCSI initiator and the target.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string | Name of initiator holding the reservation i.e. iqn.1987-06.com.initvendor1:appsrv.sn.2346. |
| **isid** | | string | The Initiator Session ID for the persistent reservation owner. The ISID is a numeric Initiator Session ID assigned by the initiator which acts as part of the initiators identity. |
| **third-party-initiator-name** | | string optional | The name of the third-party initiator the reservation is being held for. For use in SCSI-2 only. i.e. iqn.1987-06.com.initvendor1:appsrv.sn.2346. |
| **tpgroup-tag** | **[0..2^16-1]** | integer optional | The target portal group tag of the persistent reservation owner. |
| **tpgtag** | | string optional | The target portal group tag of the persistent reservation owner. For historical reasons, the value is represented as a 4-byte hexadecimal number in little-endian byte order. |

# Element definition: **partition-list-entry**

[top]

Partition entries on the LUN.

| Name | Range | Type | Description |
|---|---|---|---|
| **partition-offset** | **[0..2^64-1]** | integer optional | Partition start offset. Attributes: non-creatable, non-modifiable |
| **partition-type** | | string optional | Type of the partition in the partition table. Attributes: non-creatable, non-modifiable |

# Element definition: **partition-scheme**

[top]

aix|gpt|mbr|sun-vtoc|unknown Possible values:

- "mbr" - Master Boot Record Partition Table Scheme,
- "gpt" - GUID Partition Table Scheme,
- "unknown" - Unrecognized partition scheme or an unformatted LUN,
- "sun_vtoc" - Sun VTOC Partition Table Scheme,
- "aix" - IBM AIX Disk Label

[none]

# Element definition: **read-histogram-entry**

[top]

Histogram of read operations of size 4k in percentage value.

| | | | |
|---|---|---|---|

| Name | Range | Type | Description |
|---|---|---|---|
| **bin-number** | **[0..2^32-1]** | integer optional | Histogram bin number Attributes: non-creatable, non-modifiable |
| **bin-value** | **[0..2^32-1]** | integer optional | Read histogram bin percentage value. Attributes: non-creatable, non-modifiable |

# Element definition: **sfod-scanner-status**

[top]

Preparing|Allocation-Map|Data|Destroying|Paused-Manual|Paused-Error|Complete|Destroyed|Terminated-Manual Possible values:

- "preparing" - Preparing,
- "allocation_map" - Allocating,
- "data" - Moving Data,
- "destroying" - Destroying,
- "paused_manual" - Manually Paused,
- "paused_error" - Paused by Error,
- "complete" - Complete,
- "destroyed" - Destroyed,
- "terminated_manual" - Manually Terminated

[none]

# Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

# Element definition: **timeticks**

[top]

Time, in seconds Range : [0..2^32-1].

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **write-histogram-entry**

[top]

Histogram of write operations of size 4k in percentage value.

| Name | Range | Type | Description |
|---|---|---|---|
| **bin-number** | **[0..2^32-1]** | integer optional | Histogram bin number Attributes: non-creatable, non-modifiable |
| **bin-value** | **[0..2^32-1]** | integer optional | Write histogram bin percentage value. Attributes: non-creatable, non-modifiable |

# APIs in Category: **metrocluster**


metrocluster-check-aggregate-eligibility-get
metrocluster-check-aggregate-eligibility-get-iter
metrocluster-check-aggregate-get-iter
metrocluster-check-capture-status-get
metrocluster-check-cluster-get-iter
metrocluster-check-config-replication-get
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metrocluster-check-lif-repair-placement
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metrocluster-config-replication-cluster-storage-configuration-get
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metrocluster-is-configured
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metrocluster-operation-statistics-get-iter
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metrocluster-show-lif-placement-failures-get-iter
metrocluster-switchback
metrocluster-switchover
metrocluster-unconfigure
metrocluster-vserver-get-iter
metrocluster-vserver-resync


## metrocluster-check-aggregate-eligibility-get

[top]

This API returns information regarding the eligibility of aggregates to host configuration replication volumes used for the replication of metrocluster configuration data.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | aggr-name | The aggregate being evaluated for config-replication volume hosting eligibility. |
| **desired-attributes** | | metrocluster-check-aggregate-eligibility-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | metrocluster-check-aggregate-eligibility-info | The attributes of the metrocluster-check-aggregate-eligibility. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# metrocluster-check-aggregate-eligibility-get-iter

[top]

This API returns information regarding the eligibility of aggregates to host configuration replication volumes used for the replication of metrocluster configuration data.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-check-aggregate-eligibility-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-check-aggregate-eligibility-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-check-aggregate-eligibility object. All metrocluster-check-aggregate-eligibility objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-check-aggregate-eligibility-info[] optional | The list of attributes of metrocluster-check-aggregate-eligibility objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster-check-aggregate-eligibility objects to return. |
| **num-records** | **[0..2^32-** | integer | The number of records returned in this call. |

| | | | |
|---|---|---|---|
| | 1] | | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# metrocluster-check-aggregate-get-iter

[top]

Iterate over a list of metrocluster-check-aggregate-info objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | metrocluster-check-aggregate-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | metrocluster-check-aggregate-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | metrocluster-check-aggregate-info[] optional | The list of attributes of metrocluster objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# metrocluster-check-capture-status-get

[top]

This API returns information regarding the capture status of replicated metrocluster configuration data.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | metrocluster-check-capture- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is |

| | | | |
|---|---|---|---|
| | | status-info optional | available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | metrocluster-check-capture-status-info | The attributes of the metrocluster-check-capture-status. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# metrocluster-check-cluster-get-iter

[top]

Iterate over a list of metrocluster-check-cluster-info objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-check-cluster-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-check-cluster-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-check-cluster-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-check-config-replication-get

[top]

Obtain the results of the MetroCluster config replication checks.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-check-config-replication-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | metrocluster-check-config-replication-info | The attributes of the metrocluster. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# metrocluster-check-get-iter

[top]

Iterate over a list of metrocluster-check-info objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-check-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-check-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-check-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-check-lif-repair-placement

[top]

The MetroCluster-check-lif-repair-placement API verifies LIF placement in the destination cluster for the sync-source Vserver LIF in a MetroCluster setup.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **lif** | | string optional | sync-source Vserver LIF |
| **vserver** | | string | sync-source Vserver in the MetroCluster configuration |

| Errno | Description |
|---|---|
| **EMCC_LIF_REPAIR_STREAM_ERROR** | |
| **EMCC_CHECK_SUGGEST_VSERVER_ON_REMOTE_CLUSTER** | |

# metrocluster-check-lif-update-vserver-name

[top]

The MetroCluster-check-lif-update-vserver-name API updates the Vserver name for failed LIF placement entries for Vserver LIFs after the Vserver has been renamed in a MetroCluster setup.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **all** | | boolean optional | all Vservers that have been renamed |
| **vserver-uuid** | | string optional | Vserver UUID |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# metrocluster-check-node-get-iter

[top]

Iterate over a list of metrocluster-check-node-info objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-check-node-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-check-node-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-check-node-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-check-run

[top]

The metrocluster-check-run API starts a check on the metrocluster configuration. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **skip-dr-simulation** | | boolean optional | If this is set to true, switchover and switchback simulations are skipped. |
| **start-on-node-and-skip-node-version-checks** | | string optional | Specify which Node Job Starts On and Skip Node Version Checks |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer optional | Check Job Id |
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EMCC_CHECK_INTERNAL_ERROR_WITH_REASON** | |
| **EMCC_CLEAR_CHECK_RESULTS_FAIL** | |
| **EMCC_CLUSTER_PEER_UNAVAILABLE** | |
| **EMCC_CONFIGURE_NOT_DONE** | |
| **EMCC_FIJI_POINT** | |
| **EMCC_PEER_CHECK_FAIL** | |
| **EMCC_UNASSIGN_INTERNAL_ERROR** | |

# metrocluster-check-volume-get-iter

[top]

Iterate over a list of metrocluster-check-volume objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-check-volume-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-check-volume-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-check-volume-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-config-diff-get

[top]

Provides the differences in attributes of a specified configuration instance between two clusters in DR relationship for MetroCluster. This helps in verifying if the configuration of interest is replicated correctly from source cluster to destination cluster. If the source configuration matches that of destination, EOBJECTNOTFOUND is returned, indicating that the difference is nil. This API can be invoked on the source cluster or destination cluster. Note: The configuration objects replicated as part of MetroCluster and their keys can potentially change from release to release. If a program has opted to use those as inputs for selection, it may have to be adjusted for updated versions of Data ONTAP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | config-cluster-diff-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination-cluster-uuid** | | uuid | External UUID of destination cluster |
| **instance** | [0..2^32- | integer | The count of object instance |

| | | | |
|---|---|---|---|
| | 1] | | |
| **keys** | | key-value-pair[] | List of key:value pairs of the specific configuration instance compared - for example, volume:vol1 |
| **object** | | string | The Cluster-Domain configuration object being compared - for example, aggrView |
| **source-cluster-uuid** | | uuid | External UUID of source cluster |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | config-cluster-diff-info | The attributes of the metrocluster. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |

# metrocluster-config-diff-get-iter

[top]

Provides the differences in configuration between two clusters in DR relationship for MetroCluster. If an object is not specified, the differences for all replicated objects are shown. If the source configuration matches that of destination, EOBJECTNOTFOUND is returned, indicating that the difference is nil. This API can be invoked on the source cluster or destination cluster. Note: The configuration objects replicated as part of MetroCluster and their keys can potentially change from release to release. If a program has opted to use those as inputs for selection, it may have to be adjusted for updated versions of Data ONTAP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | config-cluster-diff-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | config-cluster-diff-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | config-cluster-diff-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string | Tag for the next call. Not present when there are no more |

| | | | |
|---|---|---|---|
| | | optional | metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |

# metrocluster-config-replication-cluster-storage-configuration-get

[top]

The metrocluster-config-replication-cluster-storage-configuration-get API returns information regarding the configuration of the cluster-wide storage associated with cross-cluster replication of metrocluster configuration data.

On Data ONTAP 8.3, metrocluster cannot be enabled simultaneously with Async Vserver DR. For this reason this command will return an error if Async Vserver DR is currently enabled on the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-cr-storage-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | metrocluster-cr-storage-info | The attributes of the metrocluster. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# metrocluster-config-replication-cluster-storage-configuration-modify

[top]

The metrocluster-config-replication-cluster-storage-configuration-modify API modifies nformation regarding the configuration of the cluster-wide storage associated with cross-cluster replication of metrocluster configuration data.

If input is not provided for a particular value, then the item is not modified in the storage configuration.

On Data ONTAP 8.3, metrocluster cannot be enabled simultaneously with Async Vserver DR. For this reason this command will return an error if Async Vserver DR is currently enabled on the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disallowed-aggregates** | | aggr-name[] optional | Specifies the list of aggregates that are disallowed for use by the metrocluster configuration replication. An admin may modify this value to exclude aggregates. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# metrocluster-config-replication-resync-status-get

[top]

Get MetroCluster configuration replication synchronization information

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | metrocluster-config-replication-resync-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | metrocluster-config-replication-resync-status-info | The attributes of the metrocluster. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# metrocluster-configure

[top]

The metrocluster-configure API configures a node and its DR partner to mirror NVRAM and be configured to participate in a DR switchover. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| node-name | | string optional | Name of the node |
| refresh | | boolean optional | This optional parameter, if set to true, causes the node to refresh the configuration of its partners and to discard the previous configuration. This is defaulted to false |
| start-on-node-and-skip-node-version-checks | | string optional | Specify which Node Job Starts On and Skip Node Version Checks |

| Output Name | Range | Type | Description |
|---|---|---|---|
| result-error-code | [0..2^32-1] | integer optional | Error code, if the operation caused an error. |
| result-error-message | | string optional | Error description, if the operation caused an error. |

| | | | |
|---|---|---|---|
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EMCC_NODE_NOT_IN_CLUSTER** | |

# metrocluster-create-periodic-job

[top]

The create-periodic-job API creates the periodic check job.

| Errno | Description |
|---|---|
| **EMCC_CHECK_INTERNAL_ERROR_WITH_REASON** | |
| **EMCC_CONFIGURE_NOT_DONE** | |
| **EMCC_FIJI_POINT** | |
| **EMCC_UNASSIGN_INTERNAL_ERROR** | |

# metrocluster-delete-periodic-job

[top]

The delete-periodic-job API deletes the periodic check job.

| Errno | Description |
|---|---|
| **EMCC_CHECK_INTERNAL_ERROR_WITH_REASON** | |
| **EMCC_CONFIGURE_NOT_DONE** | |
| **EMCC_FIJI_POINT** | |
| **EMCC_UNASSIGN_INTERNAL_ERROR** | |

# metrocluster-disable-periodic-check

[top]

The metrocluster-disable-periodic-check API disables periodic check on the metrocluster configuration.

| Errno | Description |
|---|---|
| **EMCC_CHECK_INTERNAL_ERROR_WITH_REASON** | |
| **EMCC_CONFIGURE_NOT_DONE** | |
| **EMCC_FIJI_POINT** | |
| **EMCC_UNASSIGN_INTERNAL_ERROR** | |

# metrocluster-enable-periodic-check

[top]

The enable-periodic-check API enables periodic check on the metrocluster configuration.

| Errno | Description |
|---|---|
| **EMCC_CHECK_INTERNAL_ERROR_WITH_REASON** | |
| **EMCC_CONFIGURE_NOT_DONE** | |
| **EMCC_FIJI_POINT** | |
| **EMCC_UNASSIGN_INTERNAL_ERROR** | |

# metrocluster-get

[top]

Get MetroCluster configuration information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | metrocluster-info | The attributes of the metrocluster. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# metrocluster-heal

[top]

The metrocluster-heal API heals aggregates and partner roots in preparation for a DR switchback. Healing of aggregates and partner roots is done in two phases by the admin. DR partner nodes must be powered off and remote disk shelves must be powered on before calling this API. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **healing-phase** | | string | Specifies the healing phase. The first phase heals aggregates by resyncing mirrored plexes and replaying the nvlogs of non-mirrored aggregates. The second phase heals the root aggregates of partner nodes. Possible values:<br>• "aggregates" ,<br>• "root_aggregates" |
| **start-on-node-and-skip-node-** | | string | Specify which Node Job Starts On and Skip Node Version Checks |

| | | | |
|---|---|---|---|
| **version-checks** | | optional | |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EMCC_LOCAL_CLUSTER_NOT_CONFIGURED** | |
| **EMCC_HEAL_AGGRS_BYPASS_INVALID_DRC_STATE** | |
| **EMCC_HEAL_AGGRS_INVALID_DRC_STATE** | |
| **EMCC_HEAL_ROOTS_INVALID_DRC_STATE** | |

# metrocluster-interconnect-adapter-get-iter

[top]

Iterate over a list of metrocluster-interconnect-adapter objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-interconnect-adapter optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-interconnect-adapter optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster interconnect adapter object. All metrocluster interconnect adapter objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-interconnect-adapter[] optional | The list of attributes of metrocluster interconnect adapter objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster interconnect adapter objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

| | |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# metrocluster-interconnect-ipfo-get-iter

[top]

Iterate over a list of metrocluster-interconnect-ipfo objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-interconnect-ipfo optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-interconnect-ipfo optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster interconnect ipfo object. All metrocluster interconnect ipfo objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-interconnect-ipfo[] optional | The list of attributes of metrocluster interconnect ipfo objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster interconnect ipfo objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# metrocluster-interconnect-mirror-get-iter

[top]

Iterate over a list of metrocluster-interconnect-mirror objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-interconnect-mirror | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is |

| | | | |
|---|---|---|---|
| | | optional | available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-interconnect-mirror optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster interconnect mirror object. All metrocluster interconnect mirror objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-interconnect-mirror[] optional | The list of attributes of metrocluster interconnect mirror objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster interconnect mirror objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# metrocluster-interconnect-mirror-multipath-get-iter

[top]

Iterate over a list of metrocluster-interconnect-mirror-multipath objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-interconnect-mirror-multipath optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-interconnect-mirror-multipath optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster interconnect mirror multipath object. All metrocluster interconnect mirror multipath objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | metrocluster- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | interconnect-mirror-multipath[] optional | The list of attributes of metrocluster interconnect mirror multipath objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster interconnect mirror multipath objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# metrocluster-interconnect-remotecluster-get-iter

[top]

Get MetroCluster Interconnect Remote Cluster Reachable

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-interconnect-remotecluster-reachable optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-interconnect-remotecluster-reachable optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-interconnect-remotecluster-reachable[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-is-configured

[top]

The metrocluster-is-configured API returns a value indicating if the cluster is configured for MetroCluster.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-mcc-config** | | boolean | Is MetroCluster Configured |

| Errno | Description |
|---|---|
| **EOK** | |
| **EMCC_UNABLE_TO_DETERMINE_METROCLUSTER_CONFIGURATION** | |

# metrocluster-node-get-iter

[top]

Iterate over a list of metrocluster-node-info objects belonging to MetroCluster nodes

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-node-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-node-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-node-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-operation-get-iter

[top]

Iterate over a list of MetroCluster operations and their details

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-operation-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-operation-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-operation-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-operation-statistics-get-iter

[top]

Iterate over a list of Metrocluster operation statistics.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-operation-statistics-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-operation-statistics-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-** | | metrocluster-operation- | |

| | | | |
|---|---|---|---|
| **list** | | statistics-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-progress-table-get-iter

[top]

Iterate over a list of metrocluster-progress-table-info objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-progress-table-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-progress-table-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-progress-table-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-show-lif-placement-failures-get-iter

[top]

Iterate over a list of LIF placement failures in a MetroCluster setup.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **desired-attributes** | | metrocluster-show-lif-placement-failures optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-show-lif-placement-failures optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-show-lif-placement-failures[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-switchback

[top]

The metrocluster-switchback API initiates the switchback of storage and client access from nodes in the DR site to their home nodes. The home nodes and storage shelves must be powered on and reachable by nodes in the DR site. The metrocluster heal-aggregates and metrocluster heal-roots APIs must have successfully completed before running the metrocluster-switchback API. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **override-cluster-stream-resync-errors** | | boolean optional | If this optional parameter is set to true, the system overrides errors during the cluster stream resync phase that might prevent the switchback operation. This is defaulted to false |
| **override-vetoes** | | boolean optional | If this optional parameter is set to true, the system overrides subsystem vetoes that might prevent the switchback operation. This is defaulted to false |
| **override-vserver-stream-resync-errors** | | boolean optional | If this optional parameter is set to true, the system overrides errors during the vserver stream resync phase that might prevent the switchback operation. This is defaulted to false |
| **simulate** | | boolean | If this optional parameter is set to true, the system runs a simulation of the switchback operation to make sure all the |

| | | | |
|---|---|---|---|
| | | optional | prerequisites for the operation are met. This is defaulted to false. |
| **start-on-node-and-skip-node-version-checks** | | string optional | Specify which Node Job Starts On and Skip Node Version Checks |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer optional | Switchback Job Id |
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EMCC_CONFIGURE_NOT_DONE** | |
| **EMCC_FIJI_POINT** | |
| **EMCC_HA_CONFIGURE_NOT_DONE** | |
| **EMCC_INTERNAL_ERROR** | |
| **EMCC_INTERNAL_ERROR_WITH_REASON** | |
| **EMCC_INVALID_RELATIONSHIP_TYPE** | |
| **EMCC_LOCAL_CLUSTER_NOT_CONFIGURED** | |
| **EMCC_NODE_NOT_IN_CLUSTER** | |
| **EMCC_UNASSIGN_INTERNAL_ERROR** | |
| **EMCC_SB_INVALID_DRC_STATE** | |
| **EMCC_SB_NODE_NOT_CONFIGURED** | |
| **EMCC_SB_NOT_ALLOWED_ON_DISASTER_CLUSTER** | |
| **EMCC_SB_NSO_PRIMARY_HEALTH_CHECK_FAILED** | |
| **EMCC_SB_RECOVERY_STATE_UNKNOWN** | |

# metrocluster-switchover

[top]

The metrocluster-switchover API initiates the switchover of storage and client access from a disaster stricken site to the DR site. Nodes in the disaster stricken site must be powered off and unreachable by nodes in the DR site before initiating the switchover operation. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **automatic** | | boolean optional | This is a hidden option. It is used when Automatic USO is done programatically in 2-node MCC configurations. |
| **controller-replacement** | | boolean optional | If this optional parameter is used, the nodes in the DR site will be halted. |
| | | | If set to true, all volumes being switched over will have their in- |

| | | | |
|---|---|---|---|
| **force-nvfail-all** | | boolean optional | nvfailed-state set to true by the switchover API. Also the force-nvfail-on-dr option will be set to true on the volumes that are not already enabled. The default value is false. |
| **forced-on-disaster** | | boolean optional | This option is used when all the nodes on the disaster stricken site are powered off and unreachable. In absence of this parameter, the command implies a planned switchover operation |
| **override-vetoes** | | boolean optional | If this optional parameter is used, the system overrides subsystem vetoes that might prevent the switchover operation |
| **retry-failed-nodes** | | string[] optional | This optional parameter is available at the advanced privilege level. When a list of nodes is specified by name or UUID, the switchover API is directed to those nodes only. The option is used to make the list of nodes redo a previously failed switchover operation. By default all eligible nodes are switched over |
| **simulate** | | boolean optional | If this optional parameter is set to true, the system runs a simulation of the negotiated switchover operation to make sure all the prerequisites for the operation are met. This is defaulted to false. |
| **start-on-node-and-skip-node-version-checks** | | string optional | Specify which Node Job Starts On and Skip Node Version Checks |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer optional | Switchover Job Id |
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EMCC_CONFIGURE_NOT_DONE** | |
| **EMCC_FIJI_POINT** | |
| **EMCC_INTERNAL_ERROR** | |
| **EMCC_INTERNAL_NODE_ERROR** | |
| **EMCC_LOCAL_CLUSTER_NOT_CONFIGURED** | |
| **EMCC_NODE_NOT_IN_CLUSTER** | |
| **EMCC_NOT_MCC_CONFIG** | |
| **EMCC_SO_INVALID_PARAMS** | |
| **EMCC_UNASSIGN_INTERNAL_ERROR** | |
| **EMCC_NSO_FAILED_DOWN_NODES** | |
| **EMCC_SB_NSO_PRIMARY_HEALTH_CHECK_FAILED** | |
| **EMCC_SB_NSO_PRIMARY_NODES_NOT_HEALTHY** | |
| **EMCC_SO_DRC_NOT_IN_PARTIAL_STATE** | |
| **EMCC_SO_INVALID_DRC_STATE** | |
| **EMCC_SO_LOC_NODE_NOT_IN_QUORUM** | |
| **EMCC_SO_NODE_INVALID_DRC_STATE** | |
| **EMCC_SO_NO_NODES_CAPABLE** | |

# metrocluster-unconfigure

[top]

The metrocluster-unconfigure API wipes the configuration from nodes in a DR group which are in the local cluster where the API is issued. This includes all the nodes in the specified DR group in that local cluster. Nodes in the DR group are disallowed from participating in the metrocluster switchover after the configuration has been wiped. This API is used to tear down a metrocluster setup. The tear down of a node is completed when the hardware that activates the node for metrocluster, such as an FC-VI adapter, is removed or deactivated. A job will be spawned to operate on the metrocluster and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **dr-group-id** | **[0..2^32-1]** | integer optional | Identifier for the DR group |
| **start-on-node-and-skip-node-version-checks** | | string optional | Specify which Node Job Starts On and Skip Node Version Checks |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EMCC_CONFIGURE_NOT_DONE** | |
| **EMCC_DR_PARTNERS_CONFIG_NOT_DONE** | |
| **EMCC_FIJI_POINT** | |
| **EMCC_INTERNAL_ERROR** | |
| **EMCC_INTERNAL_NODE_ERROR** | |
| **EMCC_INVALID_DR_GROUP_ID** | |
| **EMCC_LOCAL_CLUSTER_NOT_CONFIGURED** | |
| **EMCC_NODE_NOT_IN_CLUSTER** | |
| **EMCC_UNASSIGN_INTERNAL_ERROR** | |
| **EMCC_UNASSIGN_NODE_ALREADY_DONE** | |
| **EMCC_UNASSIGN_NODE_INTERNAL_ERROR** | |
| **EMCC_UNASSIGN_PEER_CLUSTER_UNCONFIGURED** | |
| **EMCC_UNASSIGN_PEER_CLUSTER_WARNING** | |

# metrocluster-vserver-get-iter

[top]

Iterate over a list of metrocluster objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-vserver-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-vserver-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster object. All metrocluster objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-vserver-info[] optional | The list of attributes of metrocluster objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# metrocluster-vserver-resync

[top]

Resynchronize Vserver with its partner Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-name** | | cluster-name | Name of the Cluster which contains the Vserver |
| **source-vserver** | | string | Vserver in the MetroCluster relationship |

| Errno | Description |
|---|---|
| **ERESYNCFAILEDRETRY** | |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

# Element definition: **config-cluster-diff-info**

[top]

Check for configuration differences between replicated cluster-domain tables When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **attribute-diff-list** | | config-cluster-attribute-info[] optional | The list of attributes that differ |
| **destination-cluster-name** | | string optional | Name of destination cluster Attributes: non-creatable, non-modifiable |
| **destination-cluster-uuid** | | uuid optional | External UUID of destination cluster Attributes: key, non-creatable, non-modifiable |
| **instance** | **[0..2^32-1]** | integer optional | The count of object instance Attributes: key, non-creatable, non-modifiable |
| **keys** | | key-value-pair[] optional | List of key:value pairs of the specific configuration instance compared - for example, volume:vol1 Attributes: key, non-creatable, non-modifiable |
| **object** | | string optional | The Cluster-Domain configuration object being compared - for example, aggrView Attributes: key, non-creatable, non-modifiable |
| **skip-excluded-fields** | | boolean optional | Specifies whether to compare configuration attributes which are not explicitly replicated. Default is true. Attributes: non-creatable, non-modifiable |
| **source-cluster-name** | | string optional | Name of source cluster Attributes: non-creatable, non-modifiable |
| **source-cluster-uuid** | | uuid optional | External UUID of source cluster Attributes: key, non-creatable, non-modifiable |

# Element definition: **key-value-pair**

[top]

Key value pair in the format key:value

[none]

# Element definition: **metrocluster-check-aggregate-eligibility-info** [top]

MetroCluster Config-Replication Aggregate Eligibility Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | aggr-name optional | The aggregate being evaluated for config-replication volume hosting eligibility. Attributes: key, non-creatable, non-modifiable |
| **comment** | | string optional | If the aggregate is not eligible to host additional config-replication volumes, this comment indicates the reason. Attributes: non-creatable, non-modifiable |
| **hosted-configuration-replication-volumes** | | volume-name[] optional | The volumes used for config-replication that are currently hosted by this aggregate. Attributes: non-creatable, non-modifiable |
| **is-eligible-to-host-additional-volumes** | | boolean optional | Whether or not this aggregate is eligible to host more config-replication volumes. Attributes: non-creatable, non-modifiable |

# Element definition: **metrocluster-check-aggregate-info** [top]

MetroCluster check aggregate info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-info** | | string[] optional | Additional information/Recovery steps in case the check find a configuration error. Attributes: non-creatable, non-modifiable |
| **aggregate** | | string optional | Name of the aggregate that was checked. Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **check** | | string optional | Name of the check that was checked.<br><br>Possible values:<br><br>• 'mirrored'<br>• 'disk_pool_allocation'<br><br>Attributes: key, non-creatable, non-modifiable Possible values:<br><br>• "mirroring_status" - Mirroring status,<br>• "disk_pool_allocation" - Disk pool allocation,<br>• "ownership_state" - Check for left-behind aggregates,<br>• "fabricpool_mirror_status" - FabricPool Mirror status |
| **cluster-name** | | string optional | Name of the cluster the aggregate belongs to. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Name of the node that the aggregate belonged to. Attributes: key, non-creatable, non-modifiable |
| **result** | | string optional | Result of the check.<br><br>Possible values:<br><br>• 'ok',<br>• 'warning'<br><br>Attributes: non-creatable, non-modifiable Possible values:<br><br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| **timestamp** | **[0..2^31-1]** | integer optional | Time at which these results were generated. Attributes: key, non-creatable, non-modifiable |

# Element definition: **metrocluster-check-capture-status-info**

[top]

MetroCluster Config-Replication Capture in Progress Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-capture-in-progress** | | boolean optional | Whether or not a configuration change is actively being captured. Attributes: non-creatable, non-modifiable |

# Element definition: **metrocluster-check-cluster-info**

[top]

MetroCluster check cluster info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-info** | | string optional | Additional information/Recovery steps in case the check find a configuration error. Attributes: non-creatable, non-modifiable |
| **check** | | string optional | Name of the check that was checked.<br><br>Possible values:<br><br>• 'negotiated_switchover_ready'<br>• 'switchback_ready'<br>• 'job_schedules'<br>• 'licenses'<br>• 'onboard_key_management'<br>• 'external_key_management'<br><br>Attributes: key, non-creatable, non-modifiable Possible values:<br><br>• "none" - No DR OP-ready check is performed,<br>• "negotiated_switchover_ready" - Check if the cluster is ready for a negotiated switchover operation,<br>• "switchback_ready" - Check if the cluster is ready for a switchback operation,<br>• "job_schedules" - Check if the job schedules between the local and the remote cluster are consistent,<br>• "licenses" - Check if the licenses between the local and the remote cluster are consistent,<br>• "periodic_check_enabled" - Check if the periodic MetroCluster Check job is enabled,<br>• "onboard_key_management" - Check if onboard key management hierarchies are consistent,<br>• "external_key_management" - Check if external key management configurations are consistent |
| **cluster-name** | | string optional | Name of the cluster the aggregate belongs to. Attributes: non-creatable, non-modifiable |
| **result** | | string optional | Result of the check.<br><br>Possible values:<br><br>• 'ok',<br>• 'warning'<br>• 'not-applicable'<br><br>Attributes: non-creatable, non-modifiable Possible values:<br><br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| | | | |

| | | | |
|---|---|---|---|
| **timestamp** | **[0..2^31-1]** | integer optional | Time at which these results were generated. Attributes: key, non-creatable, non-modifiable |

# Element definition: **metrocluster-check-config-replication-info**

[top]

Results of the MetroCluster config replication checks When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster-recovery-steps** | | string optional | Recovery steps in case the check finds a problem with configuration replication Cluster streams. Attributes: non-creatable, non-modifiable |
| **cluster-streams** | | string optional | Verifies that MetroCluster configuration replication Cluster streams are healthy. Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| **heartbeat-recovery-steps** | | string optional | Recovery steps in case the check finds a problem with the remote heartbeat. Attributes: non-creatable, non-modifiable |
| **is-enabled** | | boolean optional | Verifies that MetroCluster configuration replication is enabled on the cluster. Attributes: non-creatable, non-modifiable |
| **is-running** | | boolean optional | Verifies that MetroCluster configuration replication is running on the cluster. Attributes: non-creatable, non-modifiable |
| **last-heartbeat-received** | | datetime optional | The timestamp of the last MetroCluster configuration replication hearbeat received from the remote cluster. Attributes: non-creatable, non-modifiable |
| **last-heartbeat-sent** | | datetime optional | The timestamp of the last MetroCluster configuration replication heartbeat sent to the remote cluster. Attributes: non-creatable, non-modifiable |
| **recovery-steps** | | string optional | Recovery steps in case the check finds config replication is not enabled or is enabled but not running. Attributes: non-creatable, non-modifiable |
| **remote-heartbeat** | | string optional | Verifies that the MetroCluster configuration replication heartbeat with the remote cluster is healthy. Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| | | | The location of MetroCluster configuration replication storage. |

| | | | |
|---|---|---|---|
| **storage-in-use** | | string optional | Examples:<br>• Node Local on node-123<br>• Cluster-wide Volume: MDV_CRS_1bc7134a5ddf11e3b63f123478563412_A<br>• Unavailable<br><br>Attributes: non-creatable, non-modifiable |
| **storage-non-healthy-reason** | | string optional | The underlying root cause for non-healthy MetroCluster configuration replication storage. Attributes: non-creatable, non-modifiable |
| **storage-recovery-steps** | | string optional | Recovery steps in case the check finds a problem with configuration replication storage. Attributes: non-creatable, non-modifiable |
| **storage-status** | | string optional | Verifies that MetroCluster configuration replication storage is healthy. Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| **vserver-recovery-steps** | | string optional | Recovery steps in case the check finds a problem with configuration replication Vserver streams. Attributes: non-creatable, non-modifiable |
| **vserver-streams** | | string optional | Verifies that MetroCluster configuration replication Vserver streams are healthy. Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |

# Element definition: **metrocluster-check-info**

[top]

MetroCluster check info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-info** | | string optional | Additional information/Recovery steps Attributes: non-creatable, non-modifiable |
| | | | Name of the component that was checked.<br><br>Possible values:<br>• 'nodes',<br>• 'aggregates', |

| | | | |
|---|---|---|---|
| **component** | | string optional | • 'clusters'<br><br>Attributes: key, non-creatable, non-modifiable Possible values:<br><br>• "nodes" - Checks For Nodes In MetroCluster,<br>• "lifs" - Checks For LIFs in MetroCluster,<br>• "config_replication" - Checks For Config Replication In MetroCluster,<br>• "aggregates" - Checks For Aggregates In MetroCluster,<br>• "clusters" - Checks For Clusters DR-ready Status,<br>• "connections" - Checks For Connections In MetroCluster Over IP,<br>• "volumes" - Checks For Volumes In MetroCluster |
| **result** | | string optional | Result of the check.<br><br>Possible values:<br><br>• 'ok',<br>• 'warning'<br><br>Attributes: non-creatable, non-modifiable Possible values:<br><br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| **timestamp** | **[0..2^31-1]** | integer optional | Time at which these results were generated. Attributes: key, non-creatable, non-modifiable |

# Element definition: **metrocluster-check-node-info**

[top]

MetroCluster check node info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-info** | | string optional | Additional information/Recovery steps in case the check finds a configuration error. Attributes: non-creatable, non-modifiable |
| | | | Name of the check that was checked.<br><br>Possible values:<br><br>• 'reachable'<br>• 'metrocluster_ready',<br>• 'ha_partner_in_same_cluster',<br>• 'ha_mirroring',<br>• 'symmetric_ha_relationship',<br>• 'dr_partner_in_peer_cluster'<br>• 'dr_mirroring' |

| | | | |
|---|---|---|---|
| **check** | | string optional | 'symmetric_dr_relationship'<br>• 'dr_auxiliary_in_peer_cluster'<br>• 'symmetric_dr_auxiliary_relationship'<br><br>Attributes: key, non-creatable, non-modifiable Possible values:<br><br>• "node_reachable" - Is the node reachable,<br>• "metrocluster_ready" - Ready for MetroCluster configuration,<br>• "local_ha_partner" - HA partner in same cluster,<br>• "ha_mirroring_on" - HA mirroring,<br>• "ha_mirroring_op_state" - HA mirroring operational state,<br>• "symmetric_ha_relationship" - Symmetric HA relationship,<br>• "remote_dr_partner" - DR partner in peer cluster,<br>• "dr_mirroring_on" - DR Mirroring,<br>• "dr_mirroring_op_state" - DR Mirroring operational state,<br>• "symmetric_dr_relationship" - Symmetric DR relationship,<br>• "remote_dr_auxiliary_partner" - DR Auxiliary in peer cluster,<br>• "symmetric_dr_auxiliary_relationship" - Symmetric DR Auxiliary relationship,<br>• "storage_failover_enabled" - Is storage failover enabled,<br>• "has_intercluster_lif" - Check if the node has an intercluster LIF,<br>• "node_object_limit" - Is node object limit option turned on,<br>• "automatic_uso" - Is automatic USO enabled |
| **cluster-name** | | string optional | Name of the cluster the node belongs to. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Name of the node that was checked. Attributes: key, non-creatable, non-modifiable |
| **result** | | string optional | Result of the check.<br><br>Possible values:<br><br>• 'ok',<br>• 'warning'<br><br>Attributes: non-creatable, non-modifiable Possible values:<br><br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| **timestamp** | **[0..2^31-1]** | integer optional | Time at which these results were generated. Attributes: key, non-creatable, non-modifiable |

# Element definition: **metrocluster-check-volume-info**

[top]

MetroCluster check volume info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-info** | | string[] optional | Additional information/Recovery steps when the check finds a configuration error. Attributes: non-creatable, non-modifiable |
| **check** | | string optional | Name of the check that was checked.<br><br>Possible values:<br><br>• 'unmirrored_flexgroups'<br>• 'mixed_flexgroups'<br><br>Attributes: key, non-creatable, non-modifiable Possible values:<br><br>• "unmirrored_flexgroups" - Check to see if any FlexGroups reside on unmirrored aggregates,<br>• "mixed_flexgroups" - Check to see if any FlexGroups reside on a mix of mirrored and unmirrored aggregates |
| **result** | | string optional | Result of the check.<br><br>Possible values:<br><br>• 'ok',<br>• 'warning'<br>• 'not-applicable'<br><br>Attributes: non-creatable, non-modifiable Possible values:<br><br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| **timestamp** | **[0..2^31-1]** | integer optional | Time at which these results were generated. Attributes: key, non-creatable, non-modifiable |
| **volume** | | string optional | Volume which these results were generated. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver which these results were generated. Attributes: key, non-creatable, non-modifiable |

# Element definition: **metrocluster-config-replication-resync-status-info** [top]

MetroCluster configuration replication synchronization status info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **inbound-completion-percentage** | **[0..2^64-1]** | integer optional | Inbound Completion Percentage Attributes: non-creatable, non-modifiable |
| | | | Inbound Synchronization State |

| | | | |
|---|---|---|---|
| **inbound-sync-state** | | string optional | Possible values:<br>• 'messaging',<br>• 'complete',<br>• 'failed'<br><br>Attributes: non-creatable, non-modifiable |
| **local-cluster-name** | | string optional | Local Cluster Name Attributes: non-creatable, non-modifiable |
| **outbound-completion-percentage** | **[0..2^64-1]** | integer optional | Outbound Completion Percentage Attributes: non-creatable, non-modifiable |
| **outbound-sync-state** | | string optional | Outbound Synchronization State<br><br>Possible values:<br>• 'messaging',<br>• 'complete',<br>• 'failed'<br><br>Attributes: non-creatable, non-modifiable |
| **remote-cluster-name** | | string optional | Remote Cluster Name Attributes: non-creatable, non-modifiable |

# Element definition: **metrocluster-cr-storage-info**

[top]

MetroCluster Config-Replication Cluster Storage Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **disallowed-aggregates** | | aggr-name[] optional | Specifies the list of aggregates that are disallowed for use by the metrocluster configuration replication. An admin may modify this value to exclude aggregates. Attributes: non-creatable, modifiable |
| **use-mirrored-aggregate** | | boolean optional | Specifies whether mirrored aggregates are currently in use by metrocluster configuration replication. Attributes: non-creatable, non-modifiable |

# Element definition: **metrocluster-info**

[top]

MetroCluster configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **configuration-type** | | string optional | MetroCluster configuration type Attributes: non-creatable, non-modifiable Possible values:<br>• "invalid" - Invalid topology,<br>• "stretch" - Stretch topology,<br>• "fabric" - Fabric topology,<br>• "two_node_fabric" - Two-node fabric topology,<br>• "ip_fabric" - IP fabric topology,<br>• "ip_two_node_fabric" - Two-node IP fabric topology,<br>• "mixed_fabric" - FC-IP fabric topology |
| **local-allow-forced-auso** | | boolean optional | Allow Forced AUSO on Local Cluster Attributes: non-creatable, non-modifiable |
| **local-auso-failure-domain** | | string optional | AUSO Failure Domain on Local Cluster Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Automatic USO trigger criteria could not be determined,<br>• "not_reachable" - Cluster is not reachable,<br>• "auso_on_cluster_disaster" - Automatic USO will be triggered only if all remote are down,<br>• "auso_on_dr_group_disaster" - Automatic USO will be triggered if any HA pair in the remote cluster is down,<br>• "auso_disabled" - Automatic USO will not be triggered |
| **local-cluster-name** | | string optional | Name of the Local Cluster Attributes: non-creatable, non-modifiable |
| **local-configuration-state** | | string optional | State of the Local Cluster Configuration Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Mode could not be determined,<br>• "not_reachable" - Cluster is not reachable,<br>• "not_configured" - Configuration has not been done,<br>• "configuration_error" - MetroCluster is not ready for use. Error in configuration.,<br>• "partially_configured" - MetroCluster is partially configured, some nodes are not configured.,<br>• "configured" - MetroCluster is completely configured |
| **local-mode** | | string optional | Mode of Operation of Local Cluster Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - State could not be determined,<br>• "not_reachable" - Cluster is not reachable,<br>• "not_configured" - Configuration has not been done,<br>• "normal" - Cluster is in normal mode,<br>• "switchover" - Cluster is in switchover mode,<br>• "waiting_for_switchback" - Cluster is waiting for switchback,<br>• "partial_switchover" - Cluster is in partial switchover mode,<br>• "partial_switchback" - Cluster is in partial switchback mode |
| **local-periodic-** | | boolean | Is Periodic Check Enabled on Local Cluster Attributes: non- |

| | | | |
|---|---|---|---|
| **check-enabled** | | optional | creatable, non-modifiable |
| **remote-allow-forced-auso** | | boolean optional | Allow Forced AUSO on Remote Cluster Attributes: non-creatable, non-modifiable |
| **remote-auso-failure-domain** | | string optional | AUSO Failure Domain on Remote Cluster Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Automatic USO trigger criteria could not be determined,<br>• "not_reachable" - Cluster is not reachable,<br>• "auso_on_cluster_disaster" - Automatic USO will be triggered only if all remote are down,<br>• "auso_on_dr_group_disaster" - Automatic USO will be triggered if any HA pair in the remote cluster is down,<br>• "auso_disabled" - Automatic USO will not be triggered |
| **remote-cluster-name** | | string optional | Name of the Remote Cluster Attributes: non-creatable, non-modifiable |
| **remote-configuration-state** | | string optional | State of the Remote Cluster Configuration Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Mode could not be determined,<br>• "not_reachable" - Cluster is not reachable,<br>• "not_configured" - Configuration has not been done,<br>• "configuration_error" - MetroCluster is not ready for use. Error in configuration.,<br>• "partially_configured" - MetroCluster is partially configured, some nodes are not configured.,<br>• "configured" - MetroCluster is completely configured |
| **remote-mode** | | string optional | Mode of Operation of Remote Cluster Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - State could not be determined,<br>• "not_reachable" - Cluster is not reachable,<br>• "not_configured" - Configuration has not been done,<br>• "normal" - Cluster is in normal mode,<br>• "switchover" - Cluster is in switchover mode,<br>• "waiting_for_switchback" - Cluster is waiting for switchback,<br>• "partial_switchover" - Cluster is in partial switchover mode,<br>• "partial_switchback" - Cluster is in partial switchback mode |
| **remote-periodic-check-enabled** | | boolean optional | Is Periodic Check Enabled on Remote Cluster Attributes: non-creatable, non-modifiable |

# Element definition: **metrocluster-interconnect-adapter**

[top]

Metrocluster interconnect adapter. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string optional | Name of the interconnect adapter. For example: cxgb3_0, fcvi_device_0. Attributes: key, non-creatable, non-modifiable |
| **adapter-type** | | string optional | Type of adapter.<br><br>Possible Values:<br><br>• 'IB',<br>• 'iWARP',<br>• 'FC-VI',<br>• 'M-VIA'<br><br>Attributes: non-creatable, non-modifiable |
| **firmware-version** | | string optional | Firmware version of the adapter. For example: 7.7.209, 113.01.00. Attributes: non-creatable, non-modifiable |
| **ip-address** | | string optional | IP address of the adapter. For example: 1.0.12.2. Attributes: non-creatable, non-modifiable |
| **is-ood-enabled** | | boolean optional | Is Out-of-Order delivery enabled for the adapter port? Attributes: non-creatable, non-modifiable |
| **link-speed** | | string optional | Link speed (in Gbps) configured for the adapter port.<br><br>Possible Values:<br><br>• '1G',<br>• '2G',<br>• '4G',<br>• '8G',<br>• '16G'<br><br>Attributes: non-creatable, non-modifiable |
| **link-speed-neg-type** | | string optional | Type of negotiation done for adapter port speed.<br><br>Possible Values:<br><br>• 'Manual',<br>• 'Auto'<br><br>Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Name of the node. Attributes: key, non-creatable, non-modifiable |
| **physical-link-status** | | string optional | Physical link status of the adapter port.<br><br>Possible Values:<br><br>• 'Up',<br>• 'Down'<br><br>Attributes: non-creatable, non-modifiable |
| **port-name** | | string optional | Name of the adapter port. For example: c0a, 1a. Attributes: key, non-creatable, non-modifiable |
| **port-wwn** | | string optional | World Wide Name of the adapter. For example: 21:00:00:24:ff:48:ea:d0. Attributes: non-creatable, non-modifiable |
| **remote-adapter-list** | | metrocluster-interconnect-remote-adapter[] optional | Information about remote metrocluster interconnect adapter. |

| | | | |
|---|---|---|---|
| **switch-model** | | string optional | Model of the switch connected to this adapter port. Attributes: non-creatable, non-modifiable |
| **switch-name** | | string optional | Name of the switch connected to this adapter port. Attributes: non-creatable, non-modifiable |
| **switch-port-name** | | string optional | Name of the switch port connected to this adapter port. Attributes: non-creatable, non-modifiable |
| **switch-port-wwn** | | string optional | World Wide Name of the switch port connected to this adapter port. For example: 20:0d:00:27:f8:47:9e:25. Attributes: non-creatable, non-modifiable |
| **switch-status** | | string optional | Status of the switch connected to this adapter port.<br>• 'Up',<br>• 'Down'<br><br>Attributes: non-creatable, non-modifiable |
| **switch-vendor** | | string optional | Vendor of the switch connected to this adapter port. Attributes: non-creatable, non-modifiable |
| **switch-wwn** | | string optional | World wide name of the switch connected to this adapter port. For example: 10:00:00:27:f8:47:9e:25. Attributes: non-creatable, non-modifiable |

# Element definition: **metrocluster-interconnect-ipfo**

[top]

Metrocluster interconnect ipfo. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | IPFO status of a node. Attributes: non-creatable, modifiable |
| **is-timeout-trigger-enabled** | | boolean optional | Timeout trigger status of a node. Attributes: non-creatable, modifiable |
| **node-name** | | node-name optional | Name of the node. Attributes: key, non-creatable, non-modifiable |
| **timeout-trigger-value** | **[0..2^32-1]** | integer optional | Timeout based trigger in msecs. Attributes: non-creatable, modifiable |

# Element definition: **metrocluster-interconnect-mirror**

[top]

Object for cross-cluster NVRAM mirroring between two nodes in DR partnership. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s

description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string optional | Name of the adapter. For example: cxgb3_0, fcvi_device_0. Attributes: non-creatable, non-modifiable |
| **adapter-type** | | string optional | Type of adapter.<br><br>Possible Values:<br><br>• 'IB',<br>• 'iWARP',<br>• 'FC-VI',<br>• 'M-VIA'<br><br>Attributes: non-creatable, non-modifiable |
| **mirroring-admin-status** | | string optional | Administrative status of NVRAM mirror. Attributes: non-creatable, non-modifiable Possible values:<br><br>• "enabled" ,<br>• "disabled" |
| **mirroring-oper-status** | | string optional | Operational status of NVRAM mirror. Attributes: non-creatable, non-modifiable Possible values:<br><br>• "unknown" ,<br>• "online" ,<br>• "offline" |
| **node-name** | | string optional | Name of the node. Attributes: key, non-creatable, non-modifiable |
| **partner-name** | | string optional | Name of the partner node. Attributes: non-creatable, non-modifiable |
| **partner-type** | | string optional | Type of partner. Attributes: key, non-creatable, non-modifiable Possible values:<br><br>• "ha" - High Availability Partner,<br>• "dr" - Disaster Recovery Partner,<br>• "aux" - Disaster Recovery Auxiliary Partner |
| **physical-link-status** | | string optional | Physical link status of adapter port.<br><br>Possible values:<br><br>• 'Up',<br>• 'Down'<br><br>Attributes: non-creatable, non-modifiable |

## Element definition: **metrocluster-interconnect-mirror-multipath**

[top]

Metrocluster interconnect mirror multipath. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **multipath-policy** | | metroclusterinterconnectmppolicy optional | Multipath policy of the mirror. Attributes: non-creatable, modifiable Possible values:<br>• "no_mp" - No Multipath,<br>• "static_map" - Static Map,<br>• "dynamic_map" - Dynamic Map,<br>• "round_robin" - Round Robin |
| **node-name** | | node-name optional | Name of the node. Attributes: key, non-creatable, non-modifiable |

# Element definition: **metrocluster-interconnect-remotecluster-reachable** [top]

MetroCluster Interconnect Remote Cluster Reachable When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-remote-cluster-reachable** | | boolean optional | Is the remote cluster visible through an interconnect Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Node Attributes: key, non-creatable, non-modifiable |
| **node-uuid** | | string optional | Node's UUID Attributes: non-creatable, non-modifiable |

# Element definition: **metrocluster-node-info** [top]

MetroCluster node configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-configuration-info** | | string optional | Specifies additional configuration information Attributes: non-creatable, non-modifiable |
| **allow-auto-forced-switchover** | | boolean optional | Specifies if automatic forced switchover is allowed Attributes: non-creatable, non-modifiable |
| **automatic-uso** | | boolean optional | Specifies if automatic unsigned switchover is enabled Attributes: non-creatable, non-modifiable |
| **cluster-name** | | string optional | Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **configuration-state** | | string optional | Specifies the state of the node's configuration.<br><br>Possible values:<br><br>• 'node-unreachable',<br>• 'configured',<br>• 'not-configured'<br><br>Attributes: non-creatable, non-modifiable |
| **dr-auxiliary-cluster-uuid** | | string optional | UUID of the cluster the DR auxiliary partner belongs to Attributes: non-creatable, non-modifiable |
| **dr-auxiliary-partner-node-name** | | string optional | Name of the DR auxiliary partner Attributes: non-creatable, non-modifiable |
| **dr-auxiliary-partner-uuid** | | string optional | UUID of the DR auxiliary partner Attributes: non-creatable, non-modifiable |
| **dr-auxiliary-systemid** | **[0..2^32-1]** | integer optional | System Id of the DR auxiliary partner Attributes: non-creatable, non-modifiable |
| **dr-cluster-name** | | string optional | Name of the DR cluster Attributes: non-creatable, non-modifiable |
| **dr-group-id** | **[0..2^32-1]** | integer optional | Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable |
| **dr-mirroring-state** | | string optional | Specifies the state of the node<br><br>Possible values:<br><br>• '-',<br>• 'enabled',<br>• 'disabled',<br><br>Attributes: non-creatable, non-modifiable |
| **dr-operation-duration** | **[0..2^64-1]** | integer optional | Specifies the time taken to complete the last DR operation in seconds Attributes: non-creatable, non-modifiable |
| **dr-operation-state** | | string optional | State of the DR operation.<br><br>Possible values:<br><br>• 'normal',<br>• 'switchover_in progress',<br>• 'switchover_failed',<br>• 'switchover_completed',<br>• 'heal_aggrs_in progress',<br>• 'heal_aggrs_failed',<br>• 'heal_aggrs_completed', |

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|---|---|---|---|
| | | | • 'heal_roots_in progress',<br>• 'heal_roots_failed',<br>• 'heal_roots_completed',<br>• 'switchback_in_progress',<br>• 'switchback_failed'<br><br>Attributes: non-creatable, non-modifiable |
| **dr-partner-cluster-uuid** | | string optional | UUID of the cluster the DR partner belongs to Attributes: non-creatable, non-modifiable |
| **dr-partner-node-name** | | string optional | Name of the DR partner Attributes: non-creatable, non-modifiable |
| **dr-partner-systemid** | **[0..2^32-1]** | integer optional | System Id of the DR partner Attributes: non-creatable, non-modifiable |
| **dr-partner-uuid** | | string optional | UUID of the DR partner Attributes: non-creatable, non-modifiable |
| **force-node-object-limit** | | boolean optional | Specifies if the node object limits are enforced Attributes: non-creatable, non-modifiable |
| **ha-partner-cluster-uuid** | | string optional | UUID of the cluster the HA partner belongs to Attributes: non-creatable, non-modifiable |
| **ha-partner-node-name** | | string optional | Name of the HA partner Attributes: non-creatable, non-modifiable |
| **ha-partner-systemid** | **[0..2^32-1]** | integer optional | System Id of the HA partner Attributes: non-creatable, non-modifiable |
| **ha-partner-uuid** | | string optional | UUID of the HA partner Attributes: non-creatable, non-modifiable |
| **mccip-node** | | boolean optional | Specifies if the node HAOSC setting is mccip Attributes: non-creatable, non-modifiable |
| **node-cluster-uuid** | | string optional | UUID of the cluster the node belongs to Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Name of the node Attributes: key, non-creatable, non-modifiable |
| **node-systemid** | **[0..2^32-1]** | integer optional | System Id of the node Attributes: non-creatable, non-modifiable |
| **node-uuid** | | string optional | UUID of the node Attributes: non-creatable, non-modifiable |

# Element definition: **metrocluster-operation-info**

[top]

MetroCluster operation history info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-info** | | string optional | Additional information for the job Attributes: non-creatable, non-modifiable |
| **cluster-** | | string | Name of the cluster the node belongs to Attributes: non-creatable, |

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|---|---|---|---|
| **name** | | optional | non-modifiable |
| **command-line** | | string optional | Command Line With Options Specified Attributes: non-creatable, non-modifiable |
| **end-time** | **[0..2^31-1]** | integer optional | Time when the operation ended. The value is the number of seconds elapsed since Jan 1, 1970. Attributes: non-creatable, non-modifiable |
| **error-list** | | string[] optional | List of errors encountered during the operation Attributes: non-creatable, non-modifiable |
| **job-id** | **[0..2^64-1]** | integer optional | Identifier for the job Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Name of the node Attributes: non-creatable, non-modifiable |
| **operation** | | string optional | Name of the operation.<br><br>Possible values:<br><br>• 'configure',<br>• 'modify',<br>• 'switchover',<br>• 'switchback',<br>• 'heal_aggregates',<br>• 'heal_root_aggregates',<br>• 'switchback_continuation_agent',<br>• 'unconfigure',<br>• 'unconfigure_continuation_agent',<br>• 'switchover-simulate',<br>• 'switchback-simulate',<br>• 'check',<br>• 'dr-group-create',<br>• 'dr-group-delete',<br>• 'connect',<br>• 'disconnect',<br>• 'interface-create',<br>• 'interface-delete',<br>• 'interface-modify'<br><br>Attributes: non-creatable, non-modifiable Possible values:<br><br>• "unknown" - Unknown operation,<br>• "configure" - MetroCluster configure operation,<br>• "modify" - MetroCluster modify operation,<br>• "switchover" - MetroCluster switchover operation,<br>• "heal_aggregates" - MetroCluster heal aggregates operation,<br>• "heal_root_aggregates" - MetroCluster heal root aggregates operation,<br>• "switchback" - MetroCluster switchback operation,<br>• "switchback_continuation_agent" - MetroCluster switchback continuation agent,<br>• "unconfigure" - MetroCluster unconfigure operation,<br>• "unconfigure_continuation_agent" - MetroCluster unconfigure continuation agent,<br>• "switchover_simulate" - MetroCluster switchover simulation operation,<br>• "switchback_simulate" - MetroCluster switchback simulation operation,<br>• "check" - MetroCluster check operation,<br>• "ip_setup" - MetroCluster IP setup operation,<br>• "ip_teardown" - MetroCluster IP teardown operation,<br>• "dr_group_create" - MetroCluster configuration-setting DR Group create operation,<br>• "dr_group_delete" - MetroCluster configuration-setting DR Group |

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|---|---|---|---|
| | | | delete operation,<br>• "connect" - MetroCluster configuration-setting connect operation,<br>• "disconnect" - MetroCluster configuration-setting disconnect operation,<br>• "interface_create" - MetroCluster configuration-setting interface create operation,<br>• "interface_delete" - MetroCluster configuration-setting interface delete operation,<br>• "interface_modify" - MetroCluster configuration-setting interface modify operation,<br>• "heal_aggr_auto" - MetroCluster automatic heal aggregates operation,<br>• "heal_root_aggr_auto" - MetroCluster automatic heal root aggregates operation,<br>• "remove_dr_group" - MetroCluster remove DR group operation |
| **operation-uuid** | | string optional | Unique identifier for the operation Attributes: key, non-creatable, non-modifiable |
| **start-time** | **[0..2^31-1]** | integer optional | Time when the operation started. The value is the number of seconds elapsed since Jan 1, 1970. Attributes: non-creatable, non-modifiable |
| **state** | | string optional | State of the operation.<br><br>Possible values:<br><br>• 'unknown',<br>• 'in_progress',<br>• 'partially_successful',<br>• 'completed_with_manual_recovery_needed',<br>• 'completed_with_warnings',<br>• 'successful',<br>• 'failed'<br><br>Attributes: non-creatable, non-modifiable Possible values:<br><br>• "unknown" - Could not determine the state of the operation,<br>• "in_progress" - The operation is in progress,<br>• "partially_successful" - The operation has ended and it was partially successful,<br>• "successful" - The operation has ended and it was successful,<br>• "failed" - The operation has ended and it failed,<br>• "completed_with_manual_recovery_needed" - The operation has ended but some steps need to be manually run,<br>• "completed_with_warnings" - The operation has ended and it was successful but there were some warnings during the operation |

# Element definition: **metrocluster-operation-statistics-info**

[top]

Metrocluster opertaion statistics info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **failed** | **[0..2^64-1]** | integer optional | Number of failed instances of each operation Attributes: non-creatable, non-modifiable |
| **operation** | | string optional | Name of the operation.<br><br>Possible values:<br><br>• 'configure',<br>• 'modify',<br>• 'switchover',<br>• 'switchback',<br>• 'heal_aggregates',<br>• 'heal_root_aggregates',<br>• 'switchback_continuation_agent',<br>• 'unconfigure',<br>• 'unconfigure_continuation_agent',<br>• 'switchover-simulate',<br>• 'switchback-simulate',<br>• 'check',<br>• 'dr-group-create',<br>• 'dr-group-delete',<br>• 'connect',<br>• 'disconnect',<br>• 'interface-create',<br>• 'interface-delete',<br>• 'interface-modify'<br><br>Attributes: key, non-creatable, non-modifiable Possible values:<br><br>• "unknown" - Unknown operation,<br>• "configure" - MetroCluster configure operation,<br>• "modify" - MetroCluster modify operation,<br>• "switchover" - MetroCluster switchover operation,<br>• "heal_aggregates" - MetroCluster heal aggregates operation,<br>• "heal_root_aggregates" - MetroCluster heal root aggregates operation,<br>• "switchback" - MetroCluster switchback operation,<br>• "switchback_continuation_agent" - MetroCluster switchback continuation agent,<br>• "unconfigure" - MetroCluster unconfigure operation,<br>• "unconfigure_continuation_agent" - MetroCluster unconfigure continuation agent,<br>• "switchover_simulate" - MetroCluster switchover simulation operation,<br>• "switchback_simulate" - MetroCluster switchback simulation operation,<br>• "check" - MetroCluster check operation,<br>• "ip_setup" - MetroCluster IP setup operation,<br>• "ip_teardown" - MetroCluster IP teardown operation,<br>• "dr_group_create" - MetroCluster configuration-setting DR Group create operation,<br>• "dr_group_delete" - MetroCluster configuration-setting DR Group delete operation,<br>• "connect" - MetroCluster configuration-setting connect operation,<br>• "disconnect" - MetroCluster configuration-setting disconnect operation, |

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|---|---|---|---|
| | | | "interface_create" - MetroCluster configuration-setting interface create operation,<br>• "interface_delete" - MetroCluster configuration-setting interface delete operation,<br>• "interface_modify" - MetroCluster configuration-setting interface modify operation,<br>• "heal_aggr_auto" - MetroCluster automatic heal aggregates operation,<br>• "heal_root_aggr_auto" - MetroCluster automatic heal root aggregates operation,<br>• "remove_dr_group" - MetroCluster remove DR group operation |
| **succeeded** | **[0..2^64-1]** | integer optional | Number of successful instances of each operation Attributes: non-creatable, non-modifiable |
| **total-instances** | **[0..2^64-1]** | integer optional | Total number of instances of each operation Attributes: non-creatable, non-modifiable |

# Element definition: **metrocluster-progress-table-info**

[top]

MetroCluster progress table info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **duration** | **[0..2^64-1]** | integer optional | Time spent by this subsystem processing this operation in seconds Attributes: non-creatable, non-modifiable |
| **entry-name** | | string optional | Name of the subsystem Attributes: non-creatable, non-modifiable |
| **index** | **[0..2^32-1]** | integer optional | Resource Table Index Attributes: key, non-creatable, non-modifiable |
| **node-name** | | string optional | Node Attributes: key, non-creatable, non-modifiable |
| **state** | | string optional | State of the subsystem.<br><br>Possible values:<br><br>• 'switchover_in_progress',<br>• 'switchover_failed_or_incomplete_for_some_nodes',<br>• 'switchover_completed_successfully',<br>• 'healing_phase_roots_in_progress',<br>• 'healing_phase_roots_failed_or_incomplete_for_some_nodes',<br>• 'healing_phase_roots_completed_successfully',<br>• 'healing_phase_aggregates_in_progress',<br>• 'healing_phase_aggregates_failed_or_incomplete_for_some_nodes',<br>• 'healing_phase_aggregates_completed_successfully',<br>• 'switchback_in_progress',<br>• 'switchback_failed_or_incomplete_for_some_nodes' |

# Element definition: **metrocluster-show-lif-placement-failures**

[top]

Display LIF placement failures in MetroCluster setup When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **data-protocol** | | string[] optional | Data Protocol of the sync source Vserver LIF Attributes: non-creatable, non-modifiable Possible values:<br>• "nfs" - Used for NFS connections,<br>• "cifs" - Used for CIFS connections,<br>• "iscsi" - Used for iSCSI connections,<br>• "fcp" - Used for Fibre Channel connections,<br>• "fcache" - Used for 7-mode FlexCache connections,<br>• "none" - Used for management. Does not serve any file protocols.,<br>• "http" - Used for HTTP connections,<br>• "fc_nvme" - Used for NVMe/FC connections,<br>• "s3" - Used for S3 connections,<br>• "nvme_roce" - Used for NVMe/RoCE connections,<br>• "nvme_tcp" - Used for NVMe/TCP connections |
| **lif-placement-failure** | | string optional | LIF Placement Failures in MetroCluster setup<br><br>LIF Placement failures:<br>• 'Port hosting the sync source vserver FC LIF in the source cluster is not connected to any fabric',<br>• 'MetroCluster DR Node is offline',<br>• 'No ports found on MetroCluster DR node connected to fabric with fabric name ',<br>• 'No ports found on MetroCluster DR node of CNA adapter-type',<br>• 'No ports found on MetroCluster DR node of FC adapter-type',<br>• 'No ports found on MetroCluster DR node connected to the required subnet '<br><br>Attributes: non-creatable, non-modifiable |
| **sync-source-vserver** | | string optional | sync-source Vserver Name Attributes: key, non-creatable, non-modifiable |
| **sync-source-vserver-lif** | | string optional | sync-source Vserver LIF Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **metrocluster-vserver-info**

[top]

Metroclsuter Vserver Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | cluster-name optional | Cluster name Attributes: key, non-creatable, non-modifiable |
| **configuration-state** | | vs-mcc-config-state optional | This describes the configuration state of the MetroCluster setup. It can have three possible values: healthy, unhealthy, degraded. The configuration-state is described as healthy when both the local and remote streams are up and there are no failed operations in the stream. If either the local stream's or the remote stream's operation state is not up, the configuration-state is unhealthy. If there is a failed operation in the stream, the configuration-state is degraded. Attributes: non-creatable, non-modifiable Possible values:<br>• "healthy" ,<br>• "unhealthy" ,<br>• "degraded" ,<br>• "pending_setup" ,<br>• "syncing" ,<br>• "replication_paused" ,<br>• "pending_switchback" |
| **failed-reason** | | string optional | Failed Replication Reason Attributes: non-creatable, non-modifiable |
| **failed-row** | | string optional | This field appears in the output only if the failed operation is configuration_apply. This specifies the row for which the apply has failed. Attributes: non-creatable, non-modifiable |
| **partner-vserver** | | string optional | Partner Vserver in the MetroCluster relationship Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver in the MetroCluster relationship Attributes: key, non-creatable, non-modifiable |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

# Element definition: **config-cluster-attribute-info**

[top]

The name of attribute and its values at source and destination

| Name | Range | Type | Description |
|---|---|---|---|
| **attribute** | | string optional | Attribute of the configuration compared - for example, volume-style in case of volumes. Attributes: non-creatable, non-modifiable |
| **destination-cluster-value** | | string optional | Value of the configuration attribute at destination cluster Attributes: non-creatable, non-modifiable |
| **source-cluster-value** | | string optional | Value of the configuration attribute at source cluster Attributes: non-creatable, non-modifiable |

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **metrocluster-interconnect-remote-adapter**

[top]

Information about remote metrocluster interconnect adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **remote-adapter-name** | | string optional | Name of the remote adapter connected to this adapter port. For example: cxgb3_0, fcvi_device_0. Attributes: non-creatable, non-modifiable |
| **remote-adapter-port-id** | **[0..2^32-1]** | integer optional | ID of the remote adapter port connected to this adapter port. Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **remote-adapter-port-name** | | node-name optional | Remote Adapter Port Name Attributes: non-creatable, non-modifiable |
| **remote-adapter-port-wwn** | | string optional | World Wide Name of the remote adapter connected to this adapter port. For example: 21:00:00:24:ff:48:ff:47. Attributes: non-creatable, non-modifiable |
| **remote-partner-node-name** | | node-name optional | Name of the remote partner node hosting the remote adapter. Attributes: non-creatable, non-modifiable |

# Element definition: **metroclusterinterconnectmppolicy**

[top]

no-mp|static-map|dynamic-map|round-robin Possible values:

- "no_mp" - No Multipath,
- "static_map" - Static Map,
- "dynamic_map" - Dynamic Map,
- "round_robin" - Round Robin

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **vs-mcc-config-state**

[top]

healthy|unhealthy|degraded|pending-setup|syncing|replication-paused|pending-switchback Possible values:

- "healthy" ,
- "unhealthy" ,
- "degraded" ,
- "pending_setup" ,
- "syncing" ,
- "replication_paused" ,
- "pending_switchback"

[none]

# APIs in Category: **metrocluster-check-connection**

| | |
|---|---|
| metrocluster-check-connection-get-iter | These APIs check the connections for nodes in a MetroCluster over IP configuration |

## metrocluster-check-connection-get-iter

[top]

Iterate over a list of metrocluster-check-connection-info objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-check-connection-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-check-connection-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-check-connection object. All metrocluster-check-connection objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-check-connection-info[] optional | The list of attributes of metrocluster-check-connection objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster-check-connection objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **metrocluster-check-connection-info**

[top]

MetroCluster check connection info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **check-mtu-size-error-info** | | string optional | Check connection MTU size error information Attributes: non-creatable, non-modifiable |
| **check-ping-error-info** | | string optional | Check connection ping error information Attributes: non-creatable, non-modifiable |
| **check-result** | | string optional | Check connection result Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| **check-storage-error-info** | | string optional | Check connection storage error information Attributes: non-creatable, non-modifiable |
| **cluster** | | string optional | Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **cluster-uuid** | | string optional | UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **config-error-info** | | string optional | Connection configuration error information Attributes: non-creatable, non-modifiable |
| **config-state** | | string optional | Connection configuration state<br><br>Possible values:<br>• 'disconnected',<br>• 'completed',<br>• 'connect-check',<br>• 'connect-nvlog',<br>• 'connect-storage',<br>• 'disconnect-storage',<br>• 'disconnect-nvlog',<br>• 'connect-prepare',<br>• 'connect-update'<br><br>Attributes: non-creatable, non-modifiable |
| **destination-address** | | string optional | IP address for the port on the partner node Attributes: non-creatable, non-modifiable |
| **dr-group-id** | **[0..2^32-1]** | integer optional | Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable |
| **home-port** | | string optional | Name of the port on the node Attributes: key, non-creatable, non-modifiable |
| **node** | | string optional | Name of the node Attributes: key, non-creatable, non-modifiable |
| **node-uuid** | | string optional | UUID of the node Attributes: key, non-creatable, non-modifiable |
| **partner-cluster-uuid** | | string optional | UUID of the cluster the partner node belongs to Attributes: non-creatable, non-modifiable |
| **partner-node** | | string optional | Name of the partner node Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **partner-node-uuid** | | string optional | UUID of the partner node Attributes: non-creatable, non-modifiable |
| **partner-type** | | string optional | Relationship type of the node with the partner node Attributes: non-creatable, non-modifiable |
| **relationship-type** | | string optional | Relationship type of the node with the partner node Attributes: key, non-creatable, non-modifiable Possible values:<br>• "self" ,<br>• "ha" ,<br>• "dr_primary" ,<br>• "dr_auxiliary" ,<br>• "unknown" |
| **source-address** | | string optional | IP address for the port on the node Attributes: non-creatable, non-modifiable |

# APIs in Category: **metrocluster-configuration-settings**

| | |
|---|---|
| metrocluster-configuration-settings-get-iter | These APIs manage the configuration settings for a MetroCluster over IP setup |

## metrocluster-configuration-settings-get-iter

[top]

Iterate over a list of metrocluster-configuration-settings-info objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-configuration-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-configuration-settings-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-configuration-settings object. All metrocluster-configuration-settings objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-configuration-settings-info[] optional | The list of attributes of metrocluster-configuration-settings objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster-configuration-settings objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## Element definition: **metrocluster-configuration-settings-info**

[top]

MetroCluster configuration settings info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | string optional | Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **cluster-uuid** | | string optional | UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **config-error-info** | | string optional | Configuration error information Attributes: non-creatable, non-modifiable |
| **configuration-status** | | string optional | Configuration status Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Name of the node Attributes: key, non-creatable, non-modifiable |

# APIs in Category: **metrocluster-connection**


metrocluster-connection-connect-async
metrocluster-connection-disconnect-async
metrocluster-connection-get-iter


These APIs manage the connections between source and destination network interfaces for MetroCluster over IP setup

## metrocluster-connection-connect-async

[top]

Configure the connections that mirror the NV logs and access remote storage between partner nodes in MetroCluster sertup A job will be spawned to operate on the metrocluster-connection and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## metrocluster-connection-disconnect-async

[top]

Tear down the connections that mirror the NV logs and access remote storage between partner nodes in MetroCluster setup A job will be spawned to operate on the metrocluster-connection and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **dr-group-id** | **[0..2^32-1]** | integer | DR Group ID |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |

| | | | |
|---|---|---|---|
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# metrocluster-connection-get-iter

[top]

Iterate over a list of metrocluster-connection-info objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-connection-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-connection-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-connection object. All metrocluster-connection objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-connection-info[] optional | The list of attributes of metrocluster-connection objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster-connection objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **metrocluster-connection-info**

[top]

MetroCluster Connection configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | string optional | Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **cluster-uuid** | | string optional | UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **config-error-info** | | string optional | Connection configuration error information Attributes: non-creatable, non-modifiable |
| **config-state** | | string optional | Connection configuration state<br><br>Possible values:<br><br>• 'disconnected',<br>• 'completed',<br>• 'connect-check',<br>• 'connect-nvlog',<br>• 'connect-storage',<br>• 'disconnect-storage',<br>• 'disconnect-nvlog',<br>• 'connect-prepare',<br>• 'connect-update'<br><br>Attributes: non-creatable, non-modifiable |
| **destination-address** | | string optional | IP address for the port on the partner node Attributes: non-creatable, non-modifiable |
| **dr-group-id** | **[0..2^32-1]** | integer optional | Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable |
| **home-port** | | string optional | Name of the port on the node Attributes: key, non-creatable, non-modifiable |
| **node** | | string optional | Name of the node Attributes: key, non-creatable, non-modifiable |
| **node-uuid** | | string optional | UUID of the node Attributes: key, non-creatable, non-modifiable |
| **partner-cluster-uuid** | | string optional | UUID of the cluster the partner node belongs to Attributes: non-creatable, non-modifiable |
| **partner-node** | | string optional | Name of the partner node Attributes: non-creatable, non-modifiable |
| **partner-node-uuid** | | string optional | UUID of the partner node Attributes: non-creatable, non-modifiable |
| **partner-type** | | string optional | Relationship type of the node with the partner node Attributes: non-creatable, non-modifiable |
| **relationship-type** | | string optional | Relationship type of the node with the partner node Attributes: key, non-creatable, non-modifiable Possible values:<br><br>• "self" ,<br>• "ha" ,<br>• "dr_primary" ,<br>• "dr_auxiliary" ,<br>• "unknown" |
| **source-address** | | string optional | IP address for the port on the node Attributes: non-creatable, non-modifiable |

# APIs in Category: **metrocluster-dr-group**


metrocluster-dr-group-create
metrocluster-dr-group-delete
metrocluster-dr-group-get-iter


These APIs manage the DR groups for a MetroCluster over IP setup

## metrocluster-dr-group-create

[top]

Create MetroCluster DR group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **local-node** | | string | Local Node Name |
| **partner-cluster** | | string | Partner Cluster Name |
| **remote-node** | | string | Remote Node Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## metrocluster-dr-group-delete

[top]

Delete MetroCluster DR group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **dr-group-id** | **[0..2^32-1]** | integer | Dr group Id |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## metrocluster-dr-group-get-iter

[top]

Iterate over a list of metrocluster-dr-group-info objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-dr-group-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is |

| | | | |
|---|---|---|---|
| | | optional | available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-dr-group-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-dr-group object. All metrocluster-dr-group objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-dr-group-info[] optional | The list of attributes of metrocluster-dr-group objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster-dr-group objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **metrocluster-dr-group-info**

[top]

MetroCluster DR group configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | string optional | Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **cluster-uuid** | | string optional | UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **dr-group-id** | **[0..2^32-1]** | integer optional | Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable |
| **dr-partner-node** | | string optional | Name of the DR partner node Attributes: non-creatable, non-modifiable |
| **dr-partner-node-uuid** | | string optional | UUID of the DR partner node Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Name of the node Attributes: key, non-creatable, non-modifiable |
| **node-uuid** | | string | UUID of the node Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| | | optional | |

# APIs in Category: **metrocluster-interface**


metrocluster-interface-create
metrocluster-interface-delete
metrocluster-interface-get-iter


These APIs manage the logical interface for a MetroCluster over IP setup

## metrocluster-interface-create

[top]

Create a MetroCluster Interface

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | string | Network Address |
| **cluster-name** | | string | Cluster Name |
| **home-node** | | string | Home Node |
| **home-port** | | string | Home Port |
| **netmask** | | string | Netmask |
| **vlan-id** | **[0..2^32-1]** | integer optional | Virtual LAN ID |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## metrocluster-interface-delete

[top]

Delete a MetroCluster Interface

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster-name** | | string | Cluster Name |
| **home-node** | | string | Home Node |
| **home-port** | | string | Home Port |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## metrocluster-interface-get-iter

[top]

Iterate over a list of metrocluster-interface-info objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | metrocluster-interface-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | metrocluster-interface-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the metrocluster-interface object. All metrocluster-interface objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | metrocluster-interface-info[] optional | The list of attributes of metrocluster-interface objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more metrocluster-interface objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **metrocluster-interface-info**

[top]

MetroCluster Interface configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | string optional | IP address Attributes: non-creatable, non-modifiable |
| **cluster** | | string optional | Name of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **cluster-uuid** | | string optional | UUID of the cluster the node belongs to Attributes: key, non-creatable, non-modifiable |
| **config-** | | string | Interface configuration error information Attributes: non-creatable, |

| | | | |
|---|---|---|---|
| **error-info** | | optional | non-modifiable |
| **config-state** | | string optional | Interface configuration state<br><br>Possible values:<br><br>• 'create-interface',<br>• 'delete-interface',<br>• 'setup-storage',<br>• 'teardown-storage'<br>• 'completed',<br>• 'prepare-connection',<br>• 'disconnect-connection'<br><br>Attributes: non-creatable, non-modifiable |
| **dr-group-id** | **[0..2^32-1]** | integer optional | Identifier for the DR group that the node belongs to Attributes: key, non-creatable, non-modifiable |
| **gateway** | | string optional | Gateway Attributes: non-creatable, non-modifiable |
| **home-port** | | string optional | Name of the port on the node Attributes: key, non-creatable, non-modifiable |
| **netmask** | | string optional | Netmask Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Name of the node Attributes: key, non-creatable, non-modifiable |
| **node-uuid** | | string optional | UUID of the node Attributes: key, non-creatable, non-modifiable |
| **vlan-id** | **[0..2^32-1]** | integer optional | Interface virtual LAN identifier Attributes: non-creatable, non-modifiable |

# APIs in Category: **name-mapping**


name-mapping-create
name-mapping-delete
name-mapping-get-iter
name-mapping-insert
name-mapping-modify
name-mapping-refresh-hostname
name-mapping-swap
name-mapping-unix-group-add-user
name-mapping-unix-group-create
name-mapping-unix-group-delete-user
name-mapping-unix-group-destroy
name-mapping-unix-group-get
name-mapping-unix-group-get-iter
name-mapping-unix-group-modify
name-mapping-unix-user-create
name-mapping-unix-user-destroy
name-mapping-unix-user-get
name-mapping-unix-user-get-iter
name-mapping-unix-user-modify


This set of APIs are used to manage name mappings between Kerberos users, Windows users and UNIX users. name-mapping-unix-user APIs are used to manage local UNIX users. name-mapping-unix-group APIs are used to manage local UNIX groups. When a NFS client wishes to access a file having NTFS style permission, name-mapping rule is applied to determine the Windows User that maps to the NFS Client user under consideration. When a CIFS client wishes to access a file having UNIX style permission name-mapping rule is applied to determine the UNIX user that maps to the CIFS user under consideration. When neither NIS nor LDAP is configured, credentials for the mapped UNIX user is obtained from the local database created using name-mapping-unix-user and name-mapping-unix-group APIs.

## name-mapping-create

[top]

Create a new name mapping for a Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-and-mask optional | IP address is an optional parameter which is used to match the client IP address while searching for a pattern that can be used as a replacement. |
| | | name- | Direction in which the name mapping is applied. Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name |

| | | | |
|---|---|---|---|
| **direction** | | mapping-direction | mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **hostname** | | string optional | Hostname is an optional parameter which is used to match the client IP address with the list of IP addresses from mentioned hostname. |
| **pattern** | | string | Pattern to use to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. |
| **position** | **[1..2147483647]** | integer | Position of an existing name mapping in the list of name mappings for this Vserver. |
| **replacement** | | string | The name that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. |
| **return-record** | | boolean optional | If set to true, returns the name-mapping on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | name-mapping-info optional | The name-mapping created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# name-mapping-delete

[top]

Delete an existing name mapping entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | name-mapping-direction | Direction in which the name mapping is applied. Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |

| | | | |
|---|---|---|---|
| **position** | **[1..2147483647]** | integer | Position of an existing name mapping in the list of name mappings for this Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# name-mapping-get-iter

[top]

Retrieve the list of name mappings in the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-mapping-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | name-mapping-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the name-mapping object. All name-mapping objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | name-mapping-info[] optional | The list of attributes of name-mapping objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more name-mapping objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# name-mapping-insert

[top]

Insert a name mapping into the table at a specified position.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-and-mask optional | This optional parameter specifies the IP address which can be used to match the client IP address with the pattern. |

| | | | |
|---|---|---|---|
| **direction** | | name-mapping-direction | Direction in which the name mapping is applied. Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **hostname** | | string optional | This optional parameter specifies the Hostname which can be used to match the client IP address with the list of IP addresses corresspoding to the provided hostname. |
| **pattern** | | string | Pattern to use to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. |
| **position** | **[1..2147483647]** | integer | Position within the set of name mappings that this new mapping will take. If a mapping already exists at this position, it will be moved to the next position in the list. |
| **replacement** | | string | The name that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# name-mapping-modify

[top]

Modify an existing name mapping entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-and-mask optional | IP address is an optional parameter which is used to match the client IP address while searching for a pattern that can be used as a replacement. |
| **direction** | | name-mapping-direction | Direction in which the name mapping is applied. Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name |

| | | | |
|---|---|---|---|
| | | | mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **hostname** | | string optional | Hostname is an optional parameter which is used to match the client IP address with the list of IP addresses from mentioned hostname. |
| **pattern** | | string optional | Pattern to use to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. |
| **position** | **[1..2147483647]** | integer | Position of an existing name mapping in the list of name mappings for this Vserver. |
| **replacement** | | string optional | The name that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# name-mapping-refresh-hostname

[top]

Resolve The IP addresses for the configured Hostname.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | name-mapping-direction optional | Name Mapping Direction Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **hostname** | | string optional | Hostname |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

[top]

# name-mapping-swap

Swap the position of one name mapping with another. The position is the place in the sequence of name mappings in which the mappings are applied.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | string | Direction in which the name mapping is applied. |
| **position** | **[1..2147483647]** | integer | Position of an existing name mapping in the list of name mappings for this Vserver. |
| **with-position** | **[0..2^32-1]** | integer | Position of an existing name mapping entry in the list of name mappings for this Vserver. This entry will be swapped with the entry at 'position'. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# name-mapping-unix-group-add-user

[top]

Add a user to a UNIX group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | string | Specifies UNIX group name. |
| **user-name** | | string | Specifies user's UNIX account name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_ENABLED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-mapping-unix-group-create

[top]

Create a new UNIX group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-id** | **[0..2^32-1]** | integer | Specifies an identification number for the UNIX group. |
| **group-name** | | string | Specifies UNIX group name. |
| **return-record** | | boolean optional | If set to true, returns the UNIX group information on successful creation. Default: false |
| **skip-name-validation** | | boolean optional | Specifies if group name validation is skipped. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | unix-group-info optional | The UNIX group information created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_ENABLED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-mapping-unix-group-delete-user

[top]

Delete a user from a UNIX group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | string | Specifies UNIX group name. |
| **user-name** | | string | Specifies user's UNIX account name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_ENABLED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-mapping-unix-group-destroy

[top]

Destroy an existing UNIX group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | string | Specifies UNIX group name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_ENABLED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-mapping-unix-group-get

[top]

Get the attributes of a UNIX group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | unix-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **group-name** | | string | Specifies UNIX group name. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | unix-group-info | The attributes of the UNIX group information. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_GROUP_ALT_CMD** | |

# name-mapping-unix-group-get-iter

[top]

Iterate over a list of UNIX groups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | unix-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | unix-group-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the UNIX group information object. All UNIX group information objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | unix-group-info[] optional | The list of attributes of UNIX group information objects. |
| | | string | Tag for the next call. Not present when there are no more UNIX |

| | | | |
|---|---|---|---|
| **next-tag** | | optional | group information objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |
| **E_NS_CONFIG_FILEONLY_GROUP_ALT_CMD** | |

## name-mapping-unix-group-modify

[top]

Modify the attributes of a UNIX group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-id** | **[0..2^32-1]** | integer optional | Specifies an identification number for the UNIX group. |
| **group-name** | | string | Specifies UNIX group name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_ENABLED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

## name-mapping-unix-user-create

[top]

Create a new UNIX user.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **full-name** | | string optional | Specifies the full name of the UNIX user. |
| **group-id** | **[0..2^32-1]** | integer | Specifies the primary group identification number for the UNIX user. |
| **return-record** | | boolean optional | If set to true, returns the UNIX user information on successful creation. Default: false |
| **skip-name-validation** | | boolean optional | Specifies if user name validation is skipped. |
| **user-id** | **[0..2^32-1]** | integer | Specifies an identification number for the UNIX user. |
| **user-name** | | string | Specifies user's UNIX account name. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | unix-user-info optional | The UNIX user information created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_ENABLED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-mapping-unix-user-destroy

[top]

Destroy an existing UNIX user.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **user-name** | | string | Specifies user's UNIX account name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_ENABLED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-mapping-unix-user-get

[top]

Get the attributes of a UNIX user.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | unix-user-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **user-name** | | string | Specifies user's UNIX account name. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | unix-user-info | The attributes of the UNIX user information. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_USER_ALT_CMD** | |

# name-mapping-unix-user-get-iter

[top]

Iterate over a list of UNIX users.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | unix-user-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | unix-user-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the UNIX user information object. All UNIX user information objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | unix-user-info[] optional | The list of attributes of UNIX user information objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more UNIX user information objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |
| **E_NS_CONFIG_FILEONLY_USER_ALT_CMD** | |

# name-mapping-unix-user-modify

[top]

Modify the attributes of a UNIX user.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **full-name** | | string optional | Specifies the full name of the UNIX user. |
| | | | |

| | | | |
|---|---|---|---|
| **group-id** | **[0..2^32-1]** | integer optional | Specifies the primary group identification number for the UNIX user. |
| **user-id** | **[0..2^32-1]** | integer optional | Specifies an identification number for the UNIX user. |
| **user-name** | | string | Specifies user's UNIX account name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **E_NS_CONFIG_FILEONLY_ENABLED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

# Element definition: **name-mapping-direction**

[top]

Direction of the name mapping. Possible values:

- "krb_unix" - Kerberos principal name to UNIX user name mapping,
- "win_unix" - Windows user name to UNIX user name mapping,
- "unix_win" - UNIX user name to Windows user name mapping,
- "s3_unix" - S3 user name to UNIX user name mapping,
- "s3_win" - S3 user name to Windows user name mapping

[none]

# Element definition: **name-mapping-info**

[top]

Name mapping configuration for Vservers. The possible sources of name mapping information and the order in which they are searched is determined by the Vserver's 'name-mapping-switch' option. If the 'name-mapping-switch' is set to 'file', the rules in this table are used to determine the mapping. Windows user names, UNIX user names and Kerberos principal names can be three disjoint sets of names. A mechanism is needed to map users from one set to another when performing authorization checks. Each name mapping entry represents one such map in a given direction. Name mappings are done using standard UNIX style regular expressions for pattern replacement. For example if a configuration is required to convert any Windows user in the Windows domain name 'EXAMPLE' into a UNIX user with the same name in NIS, the direction entry should be set to 'win-unix', the pattern string should be set to 'EXAMPLE\\(.+)' and the replacement string should be set to '\1'. The double ba) in the pattern matches a single backslash in the source name. The parentheses denote a subexpression but do

not match any characters themselves. The 'period' matches any single character. The 'plus' matches one or more characters of the previous expression. The pattern 'EXAMPLE\\(.+)' matches 'EXAMPLE\' followed by one or more of any character. In the replacement, '\1' refers to the string that the first subexpression matched. Assuming the Windows user 'EXAMPLE\user1', the replacement evaluates to 'user1'. If a mapping is required from Windows to UNIX and none of the name mapping entries match, the domain name is stripped from the the username and it is directly mapped to the UNIX user of the same name. Similarly if a mapping is required from a UNIX user to a Windows user and none of the name mapping entries match, the domain name is prefixed to the username and it is directly mapped to a Windows user of the same name. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-and-mask optional | IP address is an optional parameter which is used to match the client IP address while searching for a pattern that can be used as a replacement. Attributes: optional-for-create, modifiable |
| **direction** | | name-mapping-direction optional | Direction in which the name mapping is applied. Attributes: key, required-for-create, non-modifiable Possible values:<br>• "krb_unix" - Kerberos principal name to UNIX user name mapping,<br>• "win_unix" - Windows user name to UNIX user name mapping,<br>• "unix_win" - UNIX user name to Windows user name mapping,<br>• "s3_unix" - S3 user name to UNIX user name mapping,<br>• "s3_win" - S3 user name to Windows user name mapping |
| **hostname** | | string optional | Hostname is an optional parameter which is used to match the client IP address with the list of IP addresses from mentioned hostname. Attributes: optional-for-create, modifiable |
| **pattern** | | string optional | Pattern to use to match the name while searching for a name that can be used as a replacement. The pattern is a UNIX-style regular expression. Regular expressions are case-insensitive when mapping from Windows to UNIX, and they are case-sensitive for mappings from Kerberos to UNIX and UNIX to Windows. Attributes: required-for-create, modifiable |
| **position** | **[1..2147483647]** | integer optional | Position of an existing name mapping in the list of name mappings for this Vserver. Attributes: key, required-for-create, non-modifiable |
| **replacement** | | string optional | The name that is to be used as a replacement if the pattern associated with this entry matches. The replacement is a string containing escape sequences representing subexpressions from the pattern, as in the UNIX 'sed' program. Attributes: required-for-create, modifiable |
| **vserver** | | string optional | Specifies the Vserver for the name mapping. Attributes: key, non-creatable, non-modifiable |

# Element definition: **unix-group-info**

[top]

UNIX group information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **group-id** | **[0..2^32-1]** | integer optional | Specifies an identification number for the UNIX group. Attributes: required-for-create, modifiable |
| **group-name** | | string optional | Specifies UNIX group name. Attributes: key, required-for-create, non-modifiable |
| **skip-name-validation** | | boolean optional | Specifies if group name validation is skipped. Attributes: optional-for-create, non-modifiable |
| **users** | | unix-user-name[] optional | Specifies the list of UNIX users that belong to the UNIX group. |
| **vserver** | | string optional | Specifies the Vserver for the group. Attributes: key, non-creatable, non-modifiable |

# Element definition: **unix-user-info**

[top]

UNIX user information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **full-name** | | string optional | Specifies the full name of the UNIX user. Attributes: optional-for-create, modifiable |
| **group-id** | **[0..2^32-1]** | integer optional | Specifies the primary group identification number for the UNIX user. Attributes: required-for-create, modifiable |
| **skip-name-validation** | | boolean optional | Specifies if user name validation is skipped. Attributes: optional-for-create, non-modifiable |
| **user-id** | **[0..2^32-1]** | integer optional | Specifies an identification number for the UNIX user. Attributes: required-for-create, modifiable |
| **user-name** | | string | Specifies user's UNIX account name. Attributes: key, required-for- |

| | | | |
|---|---|---|---|
| | | optional | create, non-modifiable |
| **vserver** | | string optional | Specifies the Vserver for the UNIX user. Attributes: key, non-creatable, non-modifiable |

# Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

# Element definition: **name-mapping-direction**

[top]

Direction of the name mapping. Possible values:

- "krb_unix" - Kerberos principal name to UNIX user name mapping,
- "win_unix" - Windows user name to UNIX user name mapping,
- "unix_win" - UNIX user name to Windows user name mapping,
- "s3_unix" - S3 user name to UNIX user name mapping,
- "s3_win" - S3 user name to Windows user name mapping

[none]

# Element definition: **unix-user-name**

[top]

Specifies user name information.

| Name | Range | Type | Description |
|---|---|---|---|
| **user-name** | | string optional | Specifies user's UNIX account name. Attributes: non-creatable, non-modifiable |

# APIs in Category: **nameservice**


name-service-cache-group-membership-settings-get
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name-service-cache-unix-user-settings-get
name-service-cache-unix-user-settings-get-iter
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name-service-nis-binding-detail-get
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nameservice-nsswitch-modify


## name-service-cache-group-membership-settings-get

[top]

Get the name services group membership cache configuration of the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-cache-group-membership-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | name-service-cache-group-membership- | The attributes of the name-service-cache-group-membership-settings. |

| | | | |
|---|---|---|---|
| | | settings-info | |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# name-service-cache-group-membership-settings-get-iter

[top]

Get the name services group membership cache configuration of the Cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | name-service-cache-group-membership-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | name-service-cache-group-membership-settings-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-group-membership-settings object. All name-service-cache-group-membership-settings objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | name-service-cache-group-membership-settings-info[] optional | The list of attributes of name-service-cache-group-membership-settings objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more name-service-cache-group-membership-settings objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# name-service-cache-group-membership-settings-modify

[top]

Modify the name services group membership cache configuration of the specified Vserver. Omitted

(optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **grplist-ttl** | | time-interval optional | Time to Live for Grplist |
| **is-enabled** | | boolean optional | Is Cache Enabled? |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-service-cache-hosts-settings-get

[top]

Get the name services hosts cache configuration of the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-cache-hosts-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | name-service-cache-hosts-settings-info | The attributes of the name-service-cache-hosts-settings. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# name-service-cache-hosts-settings-get-iter

[top]

Get the name services hosts cache configuration of the Cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-cache-hosts-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | name-service-cache-hosts-settings-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-hosts-settings object. All name-service-cache-hosts-settings objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | name-service-cache-hosts-settings-info[] optional | The list of attributes of name-service-cache-hosts-settings objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more name-service-cache-hosts-settings objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# name-service-cache-hosts-settings-modify

[top]

Modify the name services hosts cache configuration of the specified Vserver. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-dns-ttl-enabled** | | boolean optional | Is TTL Taken from DNS |
| **is-enabled** | | boolean optional | Is Cache Enabled? |
| **is-negative-cache-enabled** | | boolean optional | Is Negative Cache Enabled? |
| **negative-ttl** | | time-interval optional | Negative Time to Live |
| **ttl** | | time-interval optional | Time to Live |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-service-cache-netgroup-settings-get

[top]

Get the name services netgroup cache configuration of the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-cache-netgroup-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | name-service-cache-netgroup-settings-info | The attributes of the name-service-cache-netgroup-settings. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# name-service-cache-netgroup-settings-get-iter

[top]

Get the name services netgroup cache configuration of the Cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-cache-netgroup-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | name-service-cache-netgroup-settings-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-netgroup-settings object. All name-service-cache-netgroup-settings objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **attributes-list** | | name-service-cache-netgroup-settings-info[] optional | The list of attributes of name-service-cache-netgroup-settings objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more name-service-cache-netgroup-settings objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# name-service-cache-netgroup-settings-modify

[top]

Modify the name services netgroup cache configuration of the specified Vserver. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Is Cache Enabled? |
| **is-negative-cache-enabled** | | boolean optional | Is Negative Cache Enabled? |
| **negative-ttl** | | time-interval optional | Negative Time to Live |
| **ttl** | | time-interval optional | Time to Live |
| **ttl-members** | | time-interval optional | TTL for netgroup members |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-service-cache-unix-group-settings-get

[top]

Get the name services UNIX group cache configuration of the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-cache-unix-group-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | name-service-cache-unix-group-settings-info | The attributes of the name-service-cache-unix-group-settings. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# name-service-cache-unix-group-settings-get-iter

[top]

Get the name services unix-group cache configuration of the Cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-cache-unix-group-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | name-service-cache-unix-group-settings-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-unix-group-settings object. All name-service-cache-unix-group-settings objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | name-service-cache-unix-group-settings-info[] optional | The list of attributes of name-service-cache-unix-group-settings objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more name-service-cache-unix-group-settings objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

## name-service-cache-unix-group-settings-modify

[top]

Modify the name services UNIX group cache configuration of the specified Vserver. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| is-enabled | | boolean optional | Is Cache Enabled? |
| is-negative-cache-enabled | | boolean optional | Is Negative Cache Enabled? |
| is-propagation-enabled | | boolean optional | Is Propagation Enabled? |
| negative-ttl | | time-interval optional | Negative Time to Live |
| ttl | | time-interval optional | Time to Live |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

## name-service-cache-unix-user-settings-get

[top]

Get the name services UNIX users cache configuration of the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | name-service-cache-unix-user-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | name-service-cache-unix-user-settings-info | The attributes of the name-service-cache-unix-user-settings. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# name-service-cache-unix-user-settings-get-iter

[top]

Get the name services unix-user cache configuration of the Cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-cache-unix-user-settings-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | name-service-cache-unix-user-settings-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the name-service-cache-unix-user-settings object. All name-service-cache-unix-user-settings objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | name-service-cache-unix-user-settings-info[] optional | The list of attributes of name-service-cache-unix-user-settings objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more name-service-cache-unix-user-settings objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# name-service-cache-unix-user-settings-modify

[top]

Modify the name services UNIX users cache configuration of the specified Vserver. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean | Is Cache Enabled? |

| | | | |
|---|---|---|---|
| | | optional | |
| **is-negative-cache-enabled** | | boolean optional | Is Negative Cache Enabled? |
| **is-propagation-enabled** | | boolean optional | Is Propagation Enabled? |
| **negative-ttl** | | time-interval optional | Negative Time to Live |
| **ttl** | | time-interval optional | Time to Live |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# name-service-nis-binding-detail-get

[top]

Show bound NIS servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **bound-server** | | string | Specifies the hostname/IP address of the NIS server in the domain. |
| **desired-attributes** | | nis-binding-detail optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **nis-domain** | | string | Specifies the NIS domain. For example: 'example.com' |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | nis-binding-detail | The attributes of the nis-binding-detail. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# name-service-nis-binding-detail-get-iter

[top]

Iterate over a list of bound NIS servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nis-binding-detail optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nis-binding-detail optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the nis-binding-detail object. All nis-binding-detail objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nis-binding-detail[] optional | The list of attributes of nis-binding-detail objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more nis-binding-detail objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |

# name-service-nis-show-bound

[top]

Show bound nis servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nis-domain-show-bound optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **nis-domain** | | string | Specifies the NIS domain. For example: 'example.com' |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | nis-domain-show-bound | The attributes of the nis-show-bound. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# name-service-nis-show-bound-iter

[top]

Iterate over a list of bound nis servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nis-domain-show-bound optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nis-domain-show-bound optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the nis-show-bound object. All nis-show-bound objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nis-domain-show-bound[] optional | The list of attributes of nis-show-bound objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more nis-show-bound objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |

# name-service-unix-group-fileonly-get

[top]

Display Configuration for UNIX-Group file download

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-unix-group-fileonly-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | name- | |

| | | | |
|---|---|---|---|
| **attributes** | | service-unix-group-fileonly-info | The attributes of the name-service-unix-group-fileonly. |

| Errno | Description |
|---|---|
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# name-service-unix-user-fileonly-get

[top]

Display Configuration for UNIX-User file download

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | name-service-unix-user-fileonly-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | name-service-unix-user-fileonly-info | The attributes of the name-service-unix-user-fileonly. |

| Errno | Description |
|---|---|
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# nameservice-get-hostname-from-ipv4

[top]

Get the host information from the IP address.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ip-address** | | string | IPv4 address of the host to be resolved, in dotted decimal notation (for example, 10.56.10.125). |
| **node** | | string | Name of the node over which the command is to be run. |
| **show-source** | | boolean optional | Source used for Lookup |
| **vserver** | | string | Vserver Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **canonical-name** | | string | Canonical Host-Name of the IpAddress to be resolved |
| **source** | | string | Source used for Lookup |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EOBJECTNOTFOUND | |
| EINVALIDINPUTERROR | |
| EVSERVER_OP_NOT_ALLOWED | |
| EHOSTNOTFOUND | |
| EHOST_TRYAGAIN | |
| E_NODATA | |

# nameservice-get-ip-from-hostname

[top]

Get the IP address information by using the host name.

| Input Name | Range | Type | Description |
|---|---|---|---|
| address-family | | address-family optional | Return Addresses for Family |
| hostname | | string | Name of the host to be resolved |
| node | | string | Name of the node over which the command is to be run. |
| show-source | | boolean optional | Show Source used for lookup |
| vserver | | string | Vserver Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| ipaddress | | ip-address[] | One ip address, can be an IPv4 address in dotted-decimal format(for example, 192.168.11.12) or the textual representation of an IPv6 address (for example, 2001:DB8:0:0:8:800:200C:417A or 2001:DB8::8:800:200C:417A). No hostname resolution |
| source | | string | Source used for Lookup |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EOBJECTNOTFOUND | |
| EINVALIDINPUTERROR | |
| EVSERVER_OP_NOT_ALLOWED | |
| EVSERVERNOTFOUND | |
| E_AGAIN | |
| E_NONAME | |
| E_MEMORY | |
| E_FAMILY | |

# nameservice-get-ipv4-from-hostname

[top]

Get the IP address information from host name.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hostname** | | string | Name of the host to be resolved |
| **node** | | string | Name of the node over which the command is to be run. |
| **show-source** | | boolean optional | Source used for Lookup |
| **vserver** | | string | Vserver Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **ipaddress** | | ip-address[] | One ip address, can be an IPv4 address in dotted-decimal format(for example, 192.168.11.125). |
| **source** | | string | Source used for Lookup |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVSERVERNOTFOUND** | |
| **EHOSTNOTFOUND** | |
| **EHOST_TRYAGAIN** | |
| **E_NODATA** | |

# nameservice-nsswitch-create

[top]

Create an Name Service Switch Configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **nameservice-database** | | nss-db-type | Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Possible values:<br>• "hosts" - Hosts Database,<br>• "group" - Group Database,<br>• "passwd" - Password Database,<br>• "netgroup" - Netgroup Database,<br>• "namemap" - Name mapping database |
| **nameservice-sources** | | nss-source-type[] | Order of looking up Name Service Switch Sources.Possible values are files, dns, ldap or nis Possible values:<br>• "files" - Local File Name System service setup,<br>• "dns" - Domain Name System service setup,<br>• "ldap" - Lightweight Directory Access Protocol service setup,<br>• "nis" - Network Information Service service setup |
| **return-record** | | boolean optional | If set to true, returns the nsswitch on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | namservice- | |

| | | | |
|---|---|---|---|
| **result** | | nsswitch-config-info optional | The nsswitch created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nameservice-nsswitch-destroy

[top]

Destroy an existing Name Service Switch Configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **nameservice-database** | | nss-db-type | Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Possible values:<br>• "hosts" - Hosts Database,<br>• "group" - Group Database,<br>• "passwd" - Password Database,<br>• "netgroup" - Netgroup Database,<br>• "namemap" - Name mapping database |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nameservice-nsswitch-get

[top]

Get Name Service Switch Configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | namservice-nsswitch-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **nameservice-database** | | nss-db-type | Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Possible values:<br>• "hosts" - Hosts Database,<br>• "group" - Group Database, |

| | | | |
|---|---|---|---|
| | | | "passwd" - Password Database,<br>• "netgroup" - Netgroup Database,<br>• "namemap" - Name mapping database |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | namservice-nsswitch-config-info | The attributes of the nsswitch. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# nameservice-nsswitch-get-iter

[top]

Iterate over a list of Name Service Switch Configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | namservice-nsswitch-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | namservice-nsswitch-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the nsswitch object. All nsswitch objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | namservice-nsswitch-config-info[] optional | The list of attributes of nsswitch objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more nsswitch objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |

# nameservice-nsswitch-modify

[top]

Modify the attributes of Name Service Switch Configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **nameservice-database** | | nss-db-type | Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Possible values:<br>• "hosts" - Hosts Database,<br>• "group" - Group Database,<br>• "passwd" - Password Database,<br>• "netgroup" - Netgroup Database,<br>• "namemap" - Name mapping database |
| **nameservice-sources** | | nss-source-type[] optional | Order of looking up Name Service Switch Sources.Possible values are files, dns, ldap or nis Possible values:<br>• "files" - Local File Name System service setup,<br>• "dns" - Domain Name System service setup,<br>• "ldap" - Lightweight Directory Access Protocol service setup,<br>• "nis" - Network Information Service service setup |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# Element definition: **address-family**

[top]

ipv4|ipv6|all Possible values:

- "ipv4" - Lookup for ipv4 addresses,
- "ipv6" - Lookup for ipv6 addresses,
- "all" - Lookup for both ipv4 and ipv6 addresses

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **name-service-cache-group-membership-settings-info**

[top]

Contains name services group membership cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **grplist-ttl** | | time-interval optional | Time to Live for Grplist Attributes: optional-for-create, modifiable |
| **is-enabled** | | boolean optional | Is Cache Enabled? Attributes: optional-for-create, modifiable |
| **vserver-name** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **name-service-cache-hosts-settings-info**

[top]

Contains name services hosts cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-dns-ttl-enabled** | | boolean optional | Is TTL Taken from DNS Attributes: optional-for-create, modifiable |
| **is-enabled** | | boolean optional | Is Cache Enabled? Attributes: optional-for-create, modifiable |
| **is-negative-cache-enabled** | | boolean optional | Is Negative Cache Enabled? Attributes: optional-for-create, modifiable |
| **negative-ttl** | | time-interval optional | Negative Time to Live Attributes: optional-for-create, modifiable |
| **ttl** | | time-interval optional | Time to Live Attributes: optional-for-create, modifiable |
| **vserver-name** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **name-service-cache-netgroup-settings-info**

[top]

Contains name services netgroup cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Is Cache Enabled? Attributes: optional-for-create, modifiable |
| **is-negative-cache-enabled** | | boolean optional | Is Negative Cache Enabled? Attributes: optional-for-create, modifiable |
| **negative-ttl** | | time-interval optional | Negative Time to Live Attributes: optional-for-create, modifiable |
| **ttl** | | time-interval optional | Time to Live Attributes: optional-for-create, modifiable |
| **ttl-members** | | time-interval optional | TTL for netgroup members Attributes: optional-for-create, modifiable |
| **vserver-name** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **name-service-cache-unix-group-settings-info**

[top]

Contains name services UNIX group cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Is Cache Enabled? Attributes: optional-for-create, modifiable |
| **is-negative-cache-enabled** | | boolean optional | Is Negative Cache Enabled? Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **is-propagation-enabled** | | boolean optional | Is Propagation Enabled? Attributes: optional-for-create, modifiable |
| **negative-ttl** | | time-interval optional | Negative Time to Live Attributes: optional-for-create, modifiable |
| **ttl** | | time-interval optional | Time to Live Attributes: optional-for-create, modifiable |
| **vserver-name** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **name-service-cache-unix-user-settings-info**

[top]

Contains name services UNIX users cache configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Is Cache Enabled? Attributes: optional-for-create, modifiable |
| **is-negative-cache-enabled** | | boolean optional | Is Negative Cache Enabled? Attributes: optional-for-create, modifiable |
| **is-propagation-enabled** | | boolean optional | Is Propagation Enabled? Attributes: optional-for-create, modifiable |
| **negative-ttl** | | time-interval optional | Negative Time to Live Attributes: optional-for-create, modifiable |
| **ttl** | | time-interval optional | Time to Live Attributes: optional-for-create, modifiable |
| **vserver-name** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **name-service-unix-group-fileonly-info**

[top]

name-service-unix-group-fileonly typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | If 'true', the unix-groups configuration would be controlled only through load-from-uri. Default value is 'false' Attributes: required-for-create, modifiable |

# Element definition: **name-service-unix-user-fileonly-info**

[top]

name-service-unix-user-fileonly typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | If 'true', the unix-users configuration would be controlled only through load-from-uri. Default value is 'false' Attributes: required-for-create, modifiable |

# Element definition: **namservice-nsswitch-config-info**

[top]

Name Service Switch Configuration Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **nameservice-database** | | nss-db-type optional | Name Service Switch Database. Possible values are hosts, group, passwd, netgroup or name-map Attributes: key, required-for-create, non-modifiable Possible values:<br>• "hosts" - Hosts Database,<br>• "group" - Group Database,<br>• "passwd" - Password Database,<br>• "netgroup" - Netgroup Database,<br>• "namemap" - Name mapping database |
| | | | Order of looking up Name Service Switch Sources.Possible values are |

| | | | |
|---|---|---|---|
| **nameservice-sources** | | nss-source-type[] optional | files, dns, ldap or nis Attributes: required-for-create, modifiable Possible values:<br>• "files" - Local File Name System service setup,<br>• "dns" - Domain Name System service setup,<br>• "ldap" - Lightweight Directory Access Protocol service setup,<br>• "nis" - Network Information Service service setup |
| **vserver-name** | | string optional | Vserver name Attributes: key, non-creatable, non-modifiable |

# Element definition: **nis-binding-detail**

[top]

NIS domain show-bound-debug When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **bound-server** | | string optional | Specifies the hostname/IP address of the NIS server in the domain. Attributes: key, non-creatable, non-modifiable |
| **bound-status** | | string optional | Specifies the binding status of the NIS server. Attributes: non-creatable, non-modifiable |
| **nis-domain** | | string optional | Specifies the NIS domain. For example: 'example.com' Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Specifies the Vserver for the NIS domain configuration. Attributes: key, non-creatable, non-modifiable |

# Element definition: **nis-domain-show-bound**

[top]

NIS domain show-bound When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **bound-servers** | | ip-address[] optional | Specifies the IP address of one or more bound NIS servers in the domain. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **nis-domain** | | string optional | Specifies the NIS domain. For example: 'example.com' Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Specifies the Vserver for the NIS domain configuration. Attributes: key, non-creatable, non-modifiable |

# Element definition: **nss-db-type**

[top]

The type of Name Service database Possible values:

- "hosts" - Hosts Database,
- "group" - Group Database,
- "passwd" - Password Database,
- "netgroup" - Netgroup Database,
- "namemap" - Name mapping database

[none]

# Element definition: **nss-source-type**

[top]

The type of Name Service source Possible values:

- "files" - Local File Name System service setup,
- "dns" - Domain Name System service setup,
- "ldap" - Lightweight Directory Access Protocol service setup,
- "nis" - Network Information Service service setup

[none]

# Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

[top]

# Element definition: **vserver-name**

The name of the Vserver.

[none]

# APIs in Category: **ndmp**


ndmp-node-session-info-get-iter
ndmp-node-session-kill
ndmp-node-session-kill-all
ndmp-password-generate
ndmp-vserver-attributes-get-iter
ndmp-vserver-attributes-modify
ndmp-vserver-service-disable
ndmp-vserver-service-enable
ndmp-vserver-session-info-get-iter
ndmp-vserver-session-kill
ndmp-vserver-session-kill-all


This set of APIs allow managing NDMP services

## ndmp-node-session-info-get-iter

[top]

Iterate over a list of ndmp objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ndmp-node-session-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ndmp-node-session-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ndmp object. All ndmp objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ndmp-node-session-info[] optional | The list of attributes of ndmp objects. |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ndmp objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# ndmp-node-session-kill

[top]

Kill a NDMP session on a node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string | Name of the Node |
| **session-id** | **[0..2^32-1]** | integer | Session Identifier |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EAPIMISSINGARGUMENT** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# ndmp-node-session-kill-all

[top]

Kill all NDMP sessions on a node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string | Name of the Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EAPIMISSINGARGUMENT** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# ndmp-password-generate

[top]

Generate NDMP password for the given user in a specific Vserver context. The generated NDMP password is based on the actual login password for the user; hence it should be regenerated whenever the actual user password is changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **desired-attributes** | | ndmp-password-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **user-name** | | string | The user for which the password is to be generated. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ndmp-password-info | The attributes of the ndmp-password. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EAPIMISSINGARGUMENT** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNOTFOUND** | |
| **EINVALIDQUERY** | |
| **EINVALIDPASSWORD** | |
| **EOPNOTSUPPORTED** | |

# ndmp-vserver-attributes-get-iter

[top]

Get NDMP attributes for vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ndmp-vserver-attributes-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ndmp-vserver-attributes-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ndmp object. All ndmp objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ndmp-vserver-attributes-info[] optional | The list of attributes of ndmp objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ndmp objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EOBJECTNOTFOUND | |

# ndmp-vserver-attributes-modify

[top]

Modify NDMP attributes for vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| abort-on-disk-error | | boolean optional | Enable Abort on Disk Error |
| authtype | | ndmpd-authtypes[] optional | Authentication Type Possible values:<br>• "plaintext" - plaintext authtype,<br>• "challenge" - challenge authtype,<br>• "plaintext_sso" - plaintext_sso authtype |
| backup-log-enable | | boolean optional | Enable Backup Log |
| data-port-range | | string optional | Data Port Range |
| debug-enable | | boolean optional | Enable Debug |
| debug-filter | | string optional | Debug Filter |
| dump-detailed-stats | | boolean optional | Enable Logging of VM Stats for Dump |
| dump-logical-find | | string optional | Enable Logical Find for Dump |
| enable | | boolean optional | Enable NDMP on Vserver |
| fh-dir-retry-interval | [0..2^32-1] | integer optional | FH Throttle Value for Dir |
| fh-node-retry-interval | [0..2^32-1] | integer optional | FH Throttle Value for Node |
| ignore-ctime-enabled | | boolean optional | Ignore Ctime |
| is-secure-control-connection-enabled | | boolean optional | Is Secure Control Connection Enabled |
| offset-map-enable | | boolean optional | Enable Offset Map |
| per-qtree-exclude-enable | | boolean optional | Enable per Qtree Exclusion |
| | | netport- | Preferred Interface Role Possible values:<br>• "undef" - No defined role,<br>• "cluster" - Used for communication using the private cluster network,<br>• "data" - Used for communicating with file service clients, |

| | | | |
|---|---|---|---|
| **preferred-interface-role** | | role[] optional | • "node_mgmt" - Used by administrators to configure the node,<br>• "intercluster" - Used for communication with a different cluster,<br>• "cluster_mgmt" - Used by administrators to configure the cluster |
| **restore-vm-cache-size** | **[0..2^32-1]** | integer optional | Restore VM File Cache Size |
| **secondary-debug-filter** | | string optional | Secondary Debug Filter |
| **tcpnodelay** | | boolean optional | Enable TCP Nodelay |
| **tcpwinsize** | **[0..2^32-1]** | integer optional | TCP Window Size |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# ndmp-vserver-service-disable

[top]

Disable NDMP service on the vserver. Disabling ndmp service on the vserver will not cause any disruption to NDMP operations that are running. Executing this zapi when the ndmp service is already disabled will not result in any errors.

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EAPIMISSINGARGUMENT** | |
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |

# ndmp-vserver-service-enable

[top]

Enable NDMP service on the vserver. Enabling ndmp service on the vserver will not cause any disruption to NDMP operations that are running. Executing this zapi when the ndmp service is already enabled will not result in any errors.

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| | |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |

# ndmp-vserver-session-info-get-iter

[top]

Iterate over a list of ndmp objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ndmp-vserver-session-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ndmp-vserver-session-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ndmp object. All ndmp objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ndmp-vserver-session-info[] optional | The list of attributes of ndmp objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ndmp objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EOPNOTSUPPORTED** | |

# ndmp-vserver-session-kill

[top]

Kill a NDMP session on a vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **session-id** | | string | Session Identifier |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EAPIMISSINGARGUMENT | |
| EOBJECTNOTFOUND | |
| EINVALIDINPUTERROR | |
| EOPNOTSUPPORTED | |

## ndmp-vserver-session-kill-all

[top]

Kill all NDMP sessions on a vserver

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EAPIMISSINGARGUMENT | |
| EOBJECTNOTFOUND | |
| EINVALIDINPUTERROR | |
| EOPNOTSUPPORTED | |

# Element definition: **ndmp-node-session-info**

[top]

NDMP session typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-addr** | | string optional | NDMP Client Address Attributes: non-creatable, non-modifiable |
| **client-port** | **[0..2^32-1]** | integer optional | NDMP Client Port Attributes: non-creatable, non-modifiable |
| **data-backup-mode** | | string optional | Data Backup Mode Attributes: non-creatable, non-modifiable |
| **data-bytes-processed** | **[0..2^64-1]** | integer optional | Data Bytes Processed Attributes: non-creatable, non-modifiable |
| **data-con-addr** | | string optional | Data Server Connect Address Attributes: non-creatable, non-modifiable |
| **data-con-addr-** | | ndmpd-addr- | Data Server Connect Type Attributes: non-creatable, non-modifiable Possible values: • "local" , |

| | | | |
|---|---|---|---|
| **type** | | type optional | • "tcp" ,<br>• "fc" ,<br>• "ipc" ,<br>• "tcp_ipv6" |
| **data-con-port** | **[0..2^32-1]** | integer optional | Data Server Connect Port Attributes: non-creatable, non-modifiable |
| **data-halt-reason** | | ndmpd-halt-reason optional | Data Server Halt Reason Attributes: non-creatable, non-modifiable Possible values:<br>• "na" - Not Available,<br>• "connection_closed" - Connection Closed,<br>• "aborted" - Aborted,<br>• "internal_error" - Internal Error,<br>• "connect_error" - Connect Error,<br>• "media_error" - Media Error,<br>• "successful" - Successful |
| **data-operation** | | ndmpd-data-oper optional | Data Operation Attributes: non-creatable, non-modifiable Possible values:<br>• "noaction" - None,<br>• "backup" - Backup,<br>• "restore" - Restore |
| **data-path** | | string optional | Data Path Attributes: non-creatable, non-modifiable |
| **data-state** | | ndmpd-state optional | Data State Attributes: non-creatable, non-modifiable Possible values:<br>• "idle" - Idle,<br>• "listen" - Listen,<br>• "active" - Active,<br>• "paused" - Paused,<br>• "connected" - Connected,<br>• "halted" - Halted |
| **eff-host** | | ndmpd-host optional | Effective Host Attributes: non-creatable, non-modifiable Possible values:<br>• "primary" - Primary,<br>• "partner" - Partner |
| **is-secure-control-connection** | | boolean optional | Is Secure Control Connection Attributes: non-creatable, non-modifiable |
| **mover-bytes-left-to-read** | **[0..2^64-1]** | integer optional | Mover Bytes Left to Read Attributes: non-creatable, non-modifiable |
| **mover-bytes-moved** | **[0..2^64-1]** | integer optional | Mover Bytes Moved Attributes: non-creatable, non-modifiable |
| **mover-con-addr** | | string optional | Mover Connect Address Attributes: non-creatable, non-modifiable |
| **mover-con-addr-type** | | ndmpd-addr-type optional | Mover Connect Type Attributes: non-creatable, non-modifiable Possible values:<br>• "local" ,<br>• "tcp" ,<br>• "fc" ,<br>• "ipc" ,<br>• "tcp_ipv6" |

| | | | |
|---|---|---|---|
| **mover-con-port** | **[0..2^32-1]** | integer optional | Mover Connect Port Attributes: non-creatable, non-modifiable |
| **mover-halt-reason** | | ndmpd-halt-reason optional | Mover Halt Reason Attributes: non-creatable, non-modifiable Possible values:<br>• "na" - Not Available,<br>• "connection_closed" - Connection Closed,<br>• "aborted" - Aborted,<br>• "internal_error" - Internal Error,<br>• "connect_error" - Connect Error,<br>• "media_error" - Media Error,<br>• "successful" - Successful |
| **mover-mode** | | ndmpd-mover-mode optional | Mover Mode Attributes: non-creatable, non-modifiable Possible values:<br>• "read" - Read,<br>• "write" - Write,<br>• "noaction" - Data,<br>• "raw" - Raw |
| **mover-pause-reason** | | ndmpd-pause-reason optional | Mover Pause Reason Attributes: non-creatable, non-modifiable Possible values:<br>• "na" - Not Available,<br>• "eom" - End of media,<br>• "eof" - End of file,<br>• "seek" - Seek,<br>• "media_error" - Media Error,<br>• "eow" - End of window |
| **mover-position** | **[0..2^64-1]** | integer optional | Mover Position Attributes: non-creatable, non-modifiable |
| **mover-record-num** | **[0..2^64-1]** | integer optional | Mover Record Number Attributes: non-creatable, non-modifiable |
| **mover-record-size** | **[0..2^64-1]** | integer optional | Mover Record Size Attributes: non-creatable, non-modifiable |
| **mover-seek-position** | **[0..2^64-1]** | integer optional | Mover Seek Position Attributes: non-creatable, non-modifiable |
| **mover-setrecordsize-flag** | | boolean optional | Mover SetRecordSize Flag Attributes: non-creatable, non-modifiable |
| **mover-setwindow-flag** | | boolean optional | Mover SetWindow Flag Attributes: non-creatable, non-modifiable |
| **mover-state** | | ndmpd-state optional | Mover State Attributes: non-creatable, non-modifiable Possible values:<br>• "idle" - Idle,<br>• "listen" - Listen,<br>• "active" - Active,<br>• "paused" - Paused,<br>• "connected" - Connected,<br>• "halted" - Halted |
| **mover-window-length** | **[0..2^64-1]** | integer optional | Mover Window Length Attributes: non-creatable, non-modifiable |
| **mover-window-offset** | **[0..2^64-1]** | integer optional | Mover Window Offset Attributes: non-creatable, non-modifiable |
| **ndmp-version** | **[0..2^32-1]** | integer | NDMP Version Attributes: non-creatable, non- |

| | | | |
|---|---|---|---|
| | | optional | modifiable |
| **node-name** | | node-name optional | Name of the Node Attributes: key, non-creatable, non-modifiable |
| **session-authorized** | | boolean optional | Session Authorized Attributes: non-creatable, non-modifiable |
| **session-id** | **[0..2^32-1]** | integer optional | Session Identifier Attributes: key, non-creatable, non-modifiable |
| **source-addr** | | string optional | NDMP Source Address Attributes: non-creatable, non-modifiable |
| **spt-device-id** | | string optional | SCSI Device ID Attributes: non-creatable, non-modifiable |
| **spt-ha** | **[-2^31..2^31-1]** | integer optional | SCSI Host Adapter Attributes: non-creatable, non-modifiable |
| **spt-scsi-id** | **[-2^31..2^31-1]** | integer optional | SCSI Target ID Attributes: non-creatable, non-modifiable |
| **spt-scsi-lun** | **[-2^31..2^31-1]** | integer optional | SCSI LUN ID Attributes: non-creatable, non-modifiable |
| **tape-device** | | string optional | Tape Device Attributes: non-creatable, non-modifiable |
| **tape-mode** | | ndmpd-mover-mode optional | Tape Mode Attributes: non-creatable, non-modifiable Possible values:<br>• "read" - Read,<br>• "write" - Write,<br>• "noaction" - Data,<br>• "raw" - Raw |

# Element definition: **ndmp-password-info**

[top]

Information about generate password When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **password** | | string optional | The generated NDMP password for the given user. The command fails if such a user does not exist in the Vserver context. Attributes: non-creatable, non-modifiable |
| **user-name** | | string optional | The user for which the password is to be generated. Attributes: key, non-creatable, non-modifiable |
| **vserver-name** | | string optional | The Vserver on which the user password is to be generated for the given user. Attributes: key, non-creatable, non-modifiable |

# Element definition: **ndmp-vserver-attributes-info**

[top]

NDMP vserver attributes When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **abort-on-disk-error** | | boolean optional | Enable Abort on Disk Error Attributes: non-creatable, modifiable |
| **authtype** | | ndmpd-authtypes[] optional | Authentication Type Attributes: non-creatable, modifiable Possible values:<br>• "plaintext" - plaintext authtype,<br>• "challenge" - challenge authtype,<br>• "plaintext_sso" - plaintext_sso authtype |
| **backup-log-enable** | | boolean optional | Enable Backup Log Attributes: non-creatable, modifiable |
| **data-port-range** | | string optional | Data Port Range Attributes: non-creatable, modifiable |
| **debug-enable** | | boolean optional | Enable Debug Attributes: non-creatable, modifiable |
| **debug-filter** | | string optional | Debug Filter Attributes: non-creatable, modifiable |
| **dump-detailed-stats** | | boolean optional | Enable Logging of VM Stats for Dump Attributes: non-creatable, modifiable |
| **dump-logical-find** | | string optional | Enable Logical Find for Dump Attributes: non-creatable, modifiable |
| **enable** | | boolean optional | Enable NDMP on Vserver Attributes: non-creatable, modifiable |
| **fh-dir-retry-interval** | **[0..2^32-1]** | integer optional | FH Throttle Value for Dir Attributes: non-creatable, modifiable |
| **fh-node-retry-interval** | **[0..2^32-1]** | integer optional | FH Throttle Value for Node Attributes: non-creatable, modifiable |
| **ignore-ctime-enabled** | | boolean optional | Ignore Ctime Attributes: non-creatable, modifiable |
| **is-secure-control-connection-enabled** | | boolean optional | Is Secure Control Connection Enabled Attributes: non-creatable, modifiable |
| **maxversion** | **[0..2^32-1]** | integer optional | NDMP Version Attributes: non-creatable, non-modifiable |
| **offset-map-enable** | | boolean optional | Enable Offset Map Attributes: non-creatable, modifiable |
| **per-qtree-exclude-enable** | | boolean optional | Enable per Qtree Exclusion Attributes: non-creatable, modifiable |
| | | | Preferred Interface Role Attributes: non-creatable, modifiable Possible values:<br>• "undef" - No defined role, |

| | | | |
|---|---|---|---|
| **preferred-interface-role** | | netport-role[] optional | "cluster" - Used for communication using the private cluster network,<br>• "data" - Used for communicating with file service clients,<br>• "node_mgmt" - Used by administrators to configure the node,<br>• "intercluster" - Used for communication with a different cluster,<br>• "cluster_mgmt" - Used by administrators to configure the cluster |
| **restore-vm-cache-size** | **[0..2^32-1]** | integer optional | Restore VM File Cache Size Attributes: non-creatable, modifiable |
| **secondary-debug-filter** | | string optional | Secondary Debug Filter Attributes: non-creatable, modifiable |
| **tcpnodelay** | | boolean optional | Enable TCP Nodelay Attributes: non-creatable, modifiable |
| **tcpwinsize** | **[0..2^32-1]** | integer optional | TCP Window Size Attributes: non-creatable, modifiable |
| **vserver-name** | | vserver-name-data-admin optional | Name of the Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **ndmp-vserver-session-info**

[top]

NDMP session typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-addr** | | string optional | NDMP Client Address Attributes: non-creatable, non-modifiable |
| **client-port** | **[0..2^32-1]** | integer optional | NDMP Client Port Attributes: non-creatable, non-modifiable |
| **data-backup-mode** | | string optional | Data Backup Mode Attributes: non-creatable, non-modifiable |
| **data-bytes-processed** | **[0..2^64-1]** | integer optional | Data Bytes Processed Attributes: non-creatable, non-modifiable |
| **data-con-addr** | | string optional | Data Server Connect Address Attributes: non-creatable, non-modifiable |
| **data-con-addr-type** | | ndmpd-addr-type optional | Data Server Connect Type Attributes: non-creatable, non-modifiable Possible values:<br>• "local" ,<br>• "tcp" ,<br>• "fc" ,<br>• "ipc" , |

| | | | |
|---|---|---|---|
| | | | • "tcp_ipv6" |
| **data-con-port** | **[0..2^32-1]** | integer optional | Data Server Connect Port Attributes: non-creatable, non-modifiable |
| **data-halt-reason** | | ndmpd-halt-reason optional | Data Server Halt Reason Attributes: non-creatable, non-modifiable Possible values:<br>• "na" - Not Available,<br>• "connection_closed" - Connection Closed,<br>• "aborted" - Aborted,<br>• "internal_error" - Internal Error,<br>• "connect_error" - Connect Error,<br>• "media_error" - Media Error,<br>• "successful" - Successful |
| **data-operation** | | ndmpd-data-oper optional | Data Operation Attributes: non-creatable, non-modifiable Possible values:<br>• "noaction" - None,<br>• "backup" - Backup,<br>• "restore" - Restore |
| **data-path** | | string optional | Data Path Attributes: non-creatable, non-modifiable |
| **data-state** | | ndmpd-state optional | Data State Attributes: non-creatable, non-modifiable Possible values:<br>• "idle" - Idle,<br>• "listen" - Listen,<br>• "active" - Active,<br>• "paused" - Paused,<br>• "connected" - Connected,<br>• "halted" - Halted |
| **eff-host** | | ndmpd-host optional | Effective Host Attributes: non-creatable, non-modifiable Possible values:<br>• "primary" - Primary,<br>• "partner" - Partner |
| **is-secure-control-connection** | | boolean optional | Is Secure Control Connection Attributes: non-creatable, non-modifiable |
| **mover-bytes-left-to-read** | **[0..2^64-1]** | integer optional | Mover Bytes Left to Read Attributes: non-creatable, non-modifiable |
| **mover-bytes-moved** | **[0..2^64-1]** | integer optional | Mover Bytes Moved Attributes: non-creatable, non-modifiable |
| **mover-con-addr** | | string optional | Mover Connect Address Attributes: non-creatable, non-modifiable |
| **mover-con-addr-type** | | ndmpd-addr-type optional | Mover Connect Type Attributes: non-creatable, non-modifiable Possible values:<br>• "local" ,<br>• "tcp" ,<br>• "fc" ,<br>• "ipc" ,<br>• "tcp_ipv6" |
| **mover-con-port** | **[0..2^32-1]** | integer optional | Mover Connect Port Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **mover-halt-reason** | | ndmpd-halt-reason optional | Mover Halt Reason Attributes: non-creatable, non-modifiable Possible values:<br>• "na" - Not Available,<br>• "connection_closed" - Connection Closed,<br>• "aborted" - Aborted,<br>• "internal_error" - Internal Error,<br>• "connect_error" - Connect Error,<br>• "media_error" - Media Error,<br>• "successful" - Successful |
| **mover-mode** | | ndmpd-mover-mode optional | Mover Mode Attributes: non-creatable, non-modifiable Possible values:<br>• "read" - Read,<br>• "write" - Write,<br>• "noaction" - Data,<br>• "raw" - Raw |
| **mover-pause-reason** | | ndmpd-pause-reason optional | Mover Pause Reason Attributes: non-creatable, non-modifiable Possible values:<br>• "na" - Not Available,<br>• "eom" - End of media,<br>• "eof" - End of file,<br>• "seek" - Seek,<br>• "media_error" - Media Error,<br>• "eow" - End of window |
| **mover-position** | **[0..2^64-1]** | integer optional | Mover Position Attributes: non-creatable, non-modifiable |
| **mover-record-num** | **[0..2^64-1]** | integer optional | Mover Record Number Attributes: non-creatable, non-modifiable |
| **mover-record-size** | **[0..2^64-1]** | integer optional | Mover Record Size Attributes: non-creatable, non-modifiable |
| **mover-seek-position** | **[0..2^64-1]** | integer optional | Mover Seek Position Attributes: non-creatable, non-modifiable |
| **mover-setrecordsize-flag** | | boolean optional | Mover SetRecordSize Flag Attributes: non-creatable, non-modifiable |
| **mover-setwindow-flag** | | boolean optional | Mover SetWindow Flag Attributes: non-creatable, non-modifiable |
| **mover-state** | | ndmpd-state optional | Mover State Attributes: non-creatable, non-modifiable Possible values:<br>• "idle" - Idle,<br>• "listen" - Listen,<br>• "active" - Active,<br>• "paused" - Paused,<br>• "connected" - Connected,<br>• "halted" - Halted |
| **mover-window-length** | **[0..2^64-1]** | integer optional | Mover Window Length Attributes: non-creatable, non-modifiable |
| **mover-window-offset** | **[0..2^64-1]** | integer optional | Mover Window Offset Attributes: non-creatable, non-modifiable |
| **ndmp-version** | **[0..2^32-1]** | integer optional | NDMP Version Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | Name of the Node Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **session-authorized** | | boolean optional | Session Authorized Attributes: non-creatable, non-modifiable |
| **session-id** | | string optional | Session Identifier Attributes: key, non-creatable, non-modifiable |
| **source-addr** | | string optional | NDMP Source Address Attributes: non-creatable, non-modifiable |
| **spt-device-id** | | string optional | SCSI Device ID Attributes: non-creatable, non-modifiable |
| **spt-ha** | **[-2^31..2^31-1]** | integer optional | SCSI Host Adapter Attributes: non-creatable, non-modifiable |
| **spt-scsi-id** | **[-2^31..2^31-1]** | integer optional | SCSI Target ID Attributes: non-creatable, non-modifiable |
| **spt-scsi-lun** | **[-2^31..2^31-1]** | integer optional | SCSI LUN ID Attributes: non-creatable, non-modifiable |
| **tape-device** | | string optional | Tape Device Attributes: non-creatable, non-modifiable |
| **tape-mode** | | ndmpd-mover-mode optional | Tape Mode Attributes: non-creatable, non-modifiable Possible values:<br>• "read" - Read,<br>• "write" - Write,<br>• "noaction" - Data,<br>• "raw" - Raw |
| **vserver-name** | | vserver-name optional | Name of the Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **ndmpd-authtypes**

[top]

NDMP Authentication types Possible values:

- "plaintext" - plaintext authtype,
- "challenge" - challenge authtype,
- "plaintext_sso" - plaintext_sso authtype

[none]

# Element definition: **netport-role**

[top]

undef|cluster|data|node-mgmt|intercluster|cluster-mgmt Possible values:

- "undef" - No defined role,
- "cluster" - Used for communication using the private cluster network,
- "data" - Used for communicating with file service clients,
- "node_mgmt" - Used by administrators to configure the node,
- "intercluster" - Used for communication with a different cluster,
- "cluster_mgmt" - Used by administrators to configure the cluster

[none]

## Element definition: **ndmpd-addr-type**

[top]

address type Possible values:

- "local" ,
- "tcp" ,
- "fc" ,
- "ipc" ,
- "tcp_ipv6"

[none]

## Element definition: **ndmpd-data-oper**

[top]

data operation Possible values:

- "noaction" - None,
- "backup" - Backup,
- "restore" - Restore

[none]

## Element definition: **ndmpd-halt-reason**

[top]

halt reason Possible values:

- "na" - Not Available,
- "connection_closed" - Connection Closed,
- "aborted" - Aborted,
- "internal_error" - Internal Error,
- "connect_error" - Connect Error,
- "media_error" - Media Error,
- "successful" - Successful

[none]

## Element definition: **ndmpd-host**

[top]

host type Possible values:

- "primary" - Primary,
- "partner" - Partner

[none]

## Element definition: **ndmpd-mover-mode**

[top]

mover mode Possible values:

- "read" - Read,
- "write" - Write,
- "noaction" - Data,
- "raw" - Raw

[none]

## Element definition: **ndmpd-pause-reason**

[top]

pause reason Possible values:

- "na" - Not Available,
- "eom" - End of media,
- "eof" - End of file,
- "seek" - Seek,
- "media_error" - Media Error,
- "eow" - End of window

[none]

## Element definition: **ndmpd-state**

[top]

component state Possible values:

- "idle" - Idle,
- "listen" - Listen,
- "active" - Active,
- "paused" - Paused,
- "connected" - Connected,
- "halted" - Halted

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

## Element definition: **vserver-name-data-admin**

[top]

The name of the Vserver.

[none]

# APIs in Category: **net**


data-lif-capacity
data-lif-capacity-details
net-active-routes-get
net-active-routes-get-iter
net-arp-active-entry-destroy
net-arp-active-entry-get
net-arp-active-entry-get-iter
net-arp-create
net-arp-destroy
net-arp-get
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net-bgp-config-create
net-bgp-config-destroy
net-bgp-config-get
net-bgp-config-get-iter
net-bgp-config-modify
net-bgp-defaults-get
net-bgp-defaults-modify
net-bgp-peer-group-create
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net-bgp-peer-group-get
net-bgp-peer-group-get-iter
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net-bgp-peer-group-rename
net-bgp-vserver-status-get
net-bgp-vserver-status-get-iter
net-check-failover
net-cluster-ping
net-cluster-ping6
net-connections-receive-window-size-get
net-connections-receive-window-size-get-iter
net-connections-receive-window-size-modify
net-ddns-get
net-ddns-get-iter
net-ddns-modify
net-device-discovery-get-iter
net-dns-check-get-iter
net-dns-create


The net APIs provide network management from ONTAP.

net-dns-get
net-dns-get-iter
net-dns-modify
net-external-route-table-create
net-external-route-table-delete
net-failover-group-add-targets
net-failover-group-create
net-failover-group-destroy
net-failover-group-get
net-failover-group-get-iter
net-failover-group-modify
net-failover-group-remove-targets
net-failover-group-rename
net-firewall-config-get
net-firewall-config-get-iter
net-firewall-config-modify
net-firewall-config-modify-iter
net-firewall-policy-create
net-firewall-policy-destroy
net-firewall-policy-get
net-firewall-policy-get-iter
net-firewall-policy-modify
net-hosts-create
net-hosts-destroy
net-hosts-get
net-hosts-get-iter
net-hosts-modify
net-interface-create
net-interface-delete
net-interface-get
net-interface-get-iter
net-interface-migrate
net-interface-modify
net-interface-modify-iter
net-interface-rename
net-interface-revert
net-interface-service-get
net-interface-service-get-iter
net-interface-service-policy-add-service
net-interface-service-policy-clone
net-interface-service-policy-create

net-interface-service-policy-destroy
net-interface-service-policy-entry-get
net-interface-service-policy-entry-get-iter
net-interface-service-policy-get
net-interface-service-policy-get-iter
net-interface-service-policy-modify-service
net-interface-service-policy-remove-service
net-interface-service-policy-rename
net-interface-service-policy-restore-defaults
net-ipspaces-create
net-ipspaces-destroy
net-ipspaces-get
net-ipspaces-get-iter
net-ipspaces-rename
net-ndp-active-neighbor-destroy
net-ndp-active-neighbor-get
net-ndp-active-neighbor-get-iter
net-ndp-default-router-delete-all
net-ndp-default-router-get
net-ndp-default-router-get-iter
net-ndp-neighbor-create
net-ndp-neighbor-destroy
net-ndp-neighbor-get
net-ndp-neighbor-get-iter
net-ndp-prefix-delete-all
net-ndp-prefix-get
net-ndp-prefix-get-iter
net-options-get
net-options-hypervisor-uplink-monitoring-get
net-options-hypervisor-uplink-monitoring-modify
net-options-modify
net-placement-cache-delete
net-placement-cache-get-iter
net-placement-discover
net-port-broadcast-domain-add-ports
net-port-broadcast-

domain-create
net-port-broadcast-domain-destroy
net-port-broadcast-domain-get
net-port-broadcast-domain-get-iter
net-port-broadcast-domain-merge
net-port-broadcast-domain-modify
net-port-broadcast-domain-remove-ports
net-port-broadcast-domain-rename
net-port-broadcast-domain-split
net-port-delete
net-port-get
net-port-get-iter
net-port-health-monitor-disable
net-port-health-monitor-enable
net-port-health-monitor-get
net-port-health-monitor-get-iter
net-port-ifgrp-add-port
net-port-ifgrp-create
net-port-ifgrp-destroy
net-port-ifgrp-get
net-port-ifgrp-remove-port
net-port-modify
net-port-modify-iter
net-qos-marking-get-iter
net-qos-marking-modify
net-routes-create
net-routes-destroy
net-routes-get
net-routes-get-iter
net-routes-lifs-get
net-routes-lifs-get-iter
net-san-lif-placement-get
net-subnet-add-ranges
net-subnet-create
net-subnet-destroy
net-subnet-get
net-subnet-get-iter
net-subnet-modify
net-subnet-remove-ranges
net-subnet-rename
net-subnets-for-

broadcast-domain-get
net-subnets-for-broadcast-domain-get-iter
net-test-path
net-traceroute6
net-tuning-icmp-get
net-tuning-icmp-modify
net-tuning-icmp6-get
net-tuning-icmp6-modify
net-tuning-tcp-get
net-tuning-tcp-modify
net-vip-port-create
net-vip-port-destroy
net-vip-port-get
net-vip-port-get-iter
net-vlan-create
net-vlan-delete
net-vlan-get
net-vlan-get-iter

# data-lif-capacity

[top]

Get the IP data LIF capacity of the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | data-lif-capacity-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | data-lif-capacity-info | The attributes of the net. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# data-lif-capacity-details

[top]

Get the IP data LIF capacity details for each node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | data-lif-capacity- | Specify the attributes that should be returned. If not present, all |

| | | | |
|---|---|---|---|
| **desired-attributes** | | details-info optional | attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | data-lif-capacity-details-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net object. All net objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | data-lif-capacity-details-info[] optional | The list of attributes of net objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-active-routes-get

[top]

Get the attributes of the network route active-entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address-type** | | ipaddresstype | Specify the address type. Possible values are ipv4 and ipv6. Possible values:<br>• "unknown" ,<br>• "ipv4" ,<br>• "ipv6" ,<br>• "ipv4z" ,<br>• "ipv6z" ,<br>• "dns" |
| **desired-attributes** | | net-active-routes-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination** | | string | Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 |
| **gateway** | | string | Specify the gateway. Example: 10.7.125.1, fd20:13::1 |
| **interface** | | string | Specify the route's interface. |
| **node-name** | | node-name | Specify the name of the node. |

| | | | |
|---|---|---|---|
| **route-interface-address** | | string | Specify the Route Interface Address. |
| **subnet-group** | | ip-and-mask | Specify the name of the subnet group. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-active-routes-info | The attributes of the network route active-entry. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-active-routes-get-iter

[top]

Iterate over a list of network route active-entry objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-active-routes-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-active-routes-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the network route active-entry object. All network route active-entry objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-active-routes-info[] optional | The list of attributes of network route active-entry objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more network route active-entry objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-arp-active-entry-destroy

[top]

Delete dynamically learned ARP entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | node-name | Node from which to remove the ARP active entry. |
| **port** | | string | Port from which to remove the ARP active entry. |
| **remotehost** | | string | Remote IP address which will be removed from the ARP active entry table. |
| **subnet-group-name** | | ip-and-mask | Subnet group from which to remove the ARP active entry. |
| **vserver-name** | | vif-owner-name | System or Admin Vserver from which to remove the ARP active entry. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-arp-active-entry-get

[top]

Get the attributes of the network ARP active entry which is present in network stack of the node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-arp-operational-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | Node from which to get the ARP active entry. |
| **port** | | string | Port name for which to get the ARP active entry. |
| **remote-host** | | string | Remote IP address for which to get the ARP active entry. |
| **subnet-group** | | ip-and-mask | Subnet group from which to get the ARP active entry. |
| **vserver** | | vif-owner-name | System or Admin Vserver from which to get the ARP active entry. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-arp-operational-info | The attributes of the network ARP active-entry |
| **ipspace** | | string | IPspace from which to get the ARP active entry. |
| **mac-address** | | string | MAC address of remote host. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-arp-active-entry-get-iter

[top]

Iterate over a list of network ARP active entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-arp-operational-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-arp-operational-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the network ARP active-entry object. All network ARP active-entry objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-arp-operational-info[] optional | The list of attributes of network ARP active-entry objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more network ARP active-entry objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-arp-create

[top]

Create a new network ARP entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **mac** | | mac-address | MAC address of remote host. |
| **remotehost** | | ip-address | Remote IP address which is to be added as the ARP entry. |
| **vserver** | | vserver-name | Vserver in which to create the ARP entry. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-arp-destroy

[top]

Delete an existing network ARP entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **remotehost** | | ip-address | Remote IP address which is to be deleted from the ARP entries. |
| **vserver** | | vserver-name | Vserver in which to delete the ARP entry. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-arp-get

[top]

Get the attributes of the network ARP entry which is present in Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-arp-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **remotehost** | | ip-address | Remote IP address for which to get the ARP entry. |
| **vserver** | | vserver-name | Vserver from which to get the ARP entry. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-arp-info | The attributes of the network ARP |
| **ipspace** | | string optional | IPspace from which to get the ARP entry. |
| **mac** | | mac-address | MAC address of remote host. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-arp-get-iter

[top]

Iterate over a list of network ARP entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-arp-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | | A query that specifies which objects to return. A query could be |

| | | | |
|---|---|---|---|
| **query** | | net-arp-info optional | specified on any number of attributes in the network ARP object. All network ARP objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-arp-info[] optional | The list of attributes of network ARP objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more network ARP objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-bgp-config-create

[top]

Create the BGP configuration for a given node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **asn** | **[0..2^32-1]** | integer | The autonomous system number to which this node belongs. |
| **hold-time** | **[0..2^32-1]** | integer | The hold time (seconds) value to use for this node when negotiating a connection with the peer. |
| **node** | | node-name | The node name that the BGP configuration belongs to. |
| **return-record** | | boolean optional | If set to true, returns the net-bgp-config on successful creation. Default: false |
| **router-id** | | ip-address | The router id (IPv4) to use for this node when negotiating a connection with the peer. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-bgp-config-info optional | The net-bgp-config created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **E_NO_VALID_ROUTERID** | |
| **E_BGP_DEFAULTS_NOT_POPULATED** | |
| **E_VIP_NOT_SUPPORTED** | |

# net-bgp-config-destroy

[top]

Delete the BGP configuration on a given node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | The node name that the BGP configuration belongs to. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## net-bgp-config-get

[top]

Get the BGP configuration for a node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-bgp-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | The node name that the BGP configuration belongs to. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-bgp-config-info | The attributes of the net-bgp-config. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## net-bgp-config-get-iter

[top]

Iterate over the BGP configuration for each node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-bgp-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | net-bgp- | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-bgp-config object. |

| | | | |
|---|---|---|---|
| **query** | | config-info optional | All net-bgp-config objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-bgp-config-info[] optional | The list of attributes of net-bgp-config objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-bgp-config objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-bgp-config-modify

[top]

Modify BGP configuration for a given node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **asn** | **[0..2^32-1]** | integer optional | The autonomous system number to which this node belongs. |
| **hold-time** | **[0..2^32-1]** | integer optional | The hold time (seconds) value to use for this node when negotiating a connection with the peer. |
| **node** | | node-name | The node name that the BGP configuration belongs to. |
| **router-id** | | ip-address optional | The router id (IPv4) to use for this node when negotiating a connection with the peer. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# net-bgp-defaults-get

[top]

Get the cluster wide default BGP configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-bgp-defaults-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be |

| | | | |
|---|---|---|---|
| | | optional | returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-bgp-defaults-info | The attributes of the net-bgp-defaults. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# net-bgp-defaults-modify

[top]

Modify the cluster wide default BGP configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **asn** | **[0..2^32-1]** | integer optional | The cluster wide default value for autonomous system number. |
| **hold-time** | **[0..2^32-1]** | integer optional | The cluster wide default value for routing information hold time (seconds). |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# net-bgp-peer-group-create

[top]

Create a new BGP peer group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **bgp-lif** | | lif-name | The LIF associated with this peer group. |
| **ipspace** | | string | Name of the IPspace that the peer group belongs to. |
| **peer-address** | | ip-address | The remote peer router address. |
| **peer-asn** | **[0..2^32-1]** | integer | The remote peer router Autonomous number. The default value for this paramenter is '0'. |
| **peer-group** | | string | The name of the peer group. |
| **route-preference** | **[0..2^32-1]** | integer | The route preference value associated with this peer group. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINTERNALERROR** | |
| **E_VIFMGR_BGP_NOT_CONFIGURED** | |
| **E_VIFMGR_VSERVER_NOT_FOUND** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |

# net-bgp-peer-group-destroy

[top]

Destroy an existing BGP peer group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | Name of the IPspace that the peer group belongs to. |
| **peer-group** | | string | The name of the peer group. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINTERNALERROR** | |

# net-bgp-peer-group-get

[top]

Get the attributes of the peer group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-bgp-peer-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **ipspace** | | string | Name of the IPspace that the peer group belongs to. |
| **peer-group** | | string | The name of the peer group. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-bgp-peer-group-info | The attributes of the net-bgp-peer-group. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-bgp-peer-group-get-iter

[top]

Iterate over a list of BGP peer groups

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **desired-attributes** | | net-bgp-peer-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-bgp-peer-group-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-bgp-peer-group object. All net-bgp-peer-group objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-bgp-peer-group-info[] optional | The list of attributes of net-bgp-peer-group objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-bgp-peer-group objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINTERNALERROR** | |

# net-bgp-peer-group-modify

[top]

Modify the attributes of the BGP peer group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | Name of the IPspace that the peer group belongs to. |
| **peer-address** | | ip-address | The remote peer router address. |
| **peer-group** | | string | The name of the peer group. |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINTERNALERROR** | |
| **E_VIFMGR_VSERVER_NOT_FOUND** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |

# net-bgp-peer-group-rename

[top]

Rename a BGP peer group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | Name of the IPspace that the peer group belongs to. |
| **new-name** | | string | New name for the BPG peer group |
| **peer-group** | | string | The name of the peer group. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_PEER_GROUP_NOT_FOUND** | |
| **E_VIFMGR_PEER_GROUP_RENAME_ENTRY_EXISTS** | |

# net-bgp-vserver-status-get

[top]

Get BGP status of a Vserver on a given node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | bgp-vserver-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |
| **vserver** | | vserver-name | Vserver |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | bgp-vserver-info | The attributes of the net-bgp-vserver-status. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

# net-bgp-vserver-status-get-iter

[top]

Iterate over BGP Vservers status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | bgp- | Specify the attributes that should be returned. If not present, all |

| | | | |
|---|---|---|---|
| **desired-attributes** | | vserver-info optional | attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | bgp-vserver-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-bgp-vserver-status object. All net-bgp-vserver-status objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | bgp-vserver-info[] optional | The list of attributes of net-bgp-vserver-status objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-bgp-vserver-status objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

# net-check-failover

[top]

Get the list of LIFs at risk.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | lif-capacity-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | lif-capacity-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net object. All net objects matching this query up to 'max-records' will be returned. |
| **source-nodes** | | filer-id[] | This is a list of nodes whose LIFs should be checked. LIFs considered at risk will be currently hosted on one of these nodes. This list should contain at most half the nodes in the cluster. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-** | | lif-capacity- | The list of attributes of net objects. |

| | | | |
|---|---|---|---|
| **list** | | info[] optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |

# net-cluster-ping

[top]

Ping an IP address to verify whether the interface is alive

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-address** | | string | Specifies IPv4 address of the destination. |
| **interface** | | string optional | Specifies the LIF from which the ping request is to be sent. This element must be specified with interface-owner, and it is mutually exclusive with element node. |
| **interface-owner** | | string optional | Specifies the name of the owning vserver of the logical interface (LIF). |
| **node** | | string optional | Specifies the node from which ping request is to be sent. Element node is mutually exclusive with element lif. |
| **retry-count** | | integer optional | Specifies the number of ECHO_REQUEST retries for the given destination address. Ping stops upon first successful reply from the destination. Default: 20 |
| **use-source-port** | | boolean optional | Specifies whether to send out ping via the port which is hosting the lif. Only applicable when lif parameter when specified. Default: false |
| **wait** | | integer optional | Specifies inter packet time interval (secs) for sending ECHO_REQUEST. Default: 1 |
| **wait-response** | | integer optional | Specifies the maximum number of milliseconds to wait for each ping response. Default: 10000 (10 secs) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EONTAPI_EHOSTDOWN** | |
| **EHOSTNOTFOUND** | |

# net-cluster-ping6

[top]

Ping an IPv6 address to verify whether the interface is alive

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **buffer-size** | | integer optional | Specifies the socket buffer size in bytes. |
| **destination-address** | | string | Specifies IPv6 address of the destination. |
| **disable-fragmentation** | | boolean optional | Disallow fragmentation of the outgoing packets. |
| **disable-fragmentation-all** | | boolean optional | Fragment packets to fit into the minimum IPv6 maximum transmission unit size for both unicast and multicast addresses. |
| **disable-fragmentation-unicast** | | boolean optional | Fragment packets to fit into the minimum IPv6 maximum transmission unit size for unicast addresses. |
| **interface** | | string optional | Specifies the LIF from which the ping request is to be sent. This element must be specified with interface-owner, and it is optional with element node. |
| **interface-owner** | | string optional | Specifies the name of logical interface (LIF) owner or vserver. It may be a node or Vserver name. |
| **interval** | | integer optional | Specifies inter packet time interval (secs) for sending ECHO_REQUEST. Default: 1 |
| **node** | | string optional | Specifies the node from which ping request is to be sent. Element node is mutually exclusive with element lif. |
| **packet-size** | | integer optional | Specifies the packet size in bytes. |
| **retry-count** | | integer optional | Specifies the number of ECHO_REQUEST retries for the given destination address. Ping stops upon first successful reply from the destination. Default: 20 |
| **use-source-port** | | boolean optional | Specifies whether to send out ping6 via the port which is hosting the lif. Only applicable when lif parameter is specified. Default: false |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EONTAPI_EHOSTDOWN** | |
| **ENETUNREACH** | |
| **EHOSTNOTFOUND** | |
| **EINVALIDHOST** | |
| **EHOST_BADCONFIGURE** | |

# net-connections-receive-window-size-get

[top]

Get the receive buffer size properties of a service

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | receive-buffer optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **network** | | network-type | The network topology classification Possible values:<br>• "wan" ,<br>• "lan" , |

| | | | |
|---|---|---|---|
| | | | • "undefined" |
| **protocol** | | protocol-layer4 | The network layer 4 protocol type Possible values:<br>• "udp" - UDP,<br>• "tcp" - TCP,<br>• "na" - not_available |
| **service** | | stream-protocol-service | The stream protocol connection classification Possible values:<br>• "mount" - Mount stream protocol,<br>• "nfs" - NFS stream protocol,<br>• "nfs_v3" - NFS version 3 stream protocol,<br>• "nlm_v4" - Network lock manager stream protocol,<br>• "sm" - Session Manager stream protocol,<br>• "ftp_ctrl" - FTP control stream protocol,<br>• "ftp_data" - FTP data stream protocol,<br>• "http_1_0" - HTTP version 1 stream protocol,<br>• "http_1_1" - HTTP version 1.1 stream protocol,<br>• "iscsi" - ISCSI stream protocol,<br>• "cifs_srv" - CIFS server stream protocol,<br>• "cifs_nam" - CIFS name server stream protocol,<br>• "loopback" - loopback stream protocol,<br>• "rf" - RC stream protocol,<br>• "rawscp" - Raw secure copy stream protocol,<br>• "discard" - Discard stream protocol,<br>• "port_map" - Port map stream protocol,<br>• "pass_thru" - Passthru stream protocol,<br>• "rclopcp" - Rc connection stream protocol,<br>• "nfs_v4" - NFS version 4 stream protocol,<br>• "fcache" - 7 Mode FlexCache stream protocol,<br>• "ctlopcp" - Ct connection stream protocol,<br>• "rquota" - Rquota stream protocol,<br>• "cifs_msrpc" - CIFS MsRpc stream protocol,<br>• "http" - HTTP stream protocol,<br>• "unknown" - unknown protocol,<br>• "s3" - S3 stream protocol,<br>• "sdapi" - SDAPI stream protocol |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | receive-buffer | The attributes of the net-connections-receive-window-size. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-connections-receive-window-size-get-iter

[top]

Iterate over connections returning receive buffer size properties

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-** | | receive- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | buffer optional | present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | receive-buffer optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-connections-receive-window-size object. All net-connections-receive-window-size objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | receive-buffer[] optional | The list of attributes of net-connections-receive-window-size objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-connections-receive-window-size objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-connections-receive-window-size-modify

[top]

Modify receive buffer size properties

| Input Name | Range | Type | Description |
|---|---|---|---|
| **network** | | network-type | The network topology classification Possible values:<br>• "wan" ,<br>• "lan" ,<br>• "undefined" |
| **protocol** | | protocol-layer4 | The network layer 4 protocol type Possible values:<br>• "udp" - UDP,<br>• "tcp" - TCP,<br>• "na" - not_available |
| **receive-auto-tune** | | boolean optional | If true, allow the system to automatically adjust the receive buffer size. The default value is false for the ctlopcp service using the LAN network type, and true in all other cases. |
| **receive-buffer** | **[256..7168]** | integer optional | If receive-auto-tune is false, receive buffer size in kilobytes (1024). If receive-auto-tune flag is true, this value has no effect. The default value is 2048 for the ctlopcp service using the WAN network type, and 256 in other cases. |
| | | | The stream protocol connection classification Possible values:<br>• "mount" - Mount stream protocol,<br>• "nfs" - NFS stream protocol,<br>• "nfs_v3" - NFS version 3 stream protocol, |

| | | | |
|---|---|---|---|
| **service** | | stream-protocol-service | • "nlm_v4" - Network lock manager stream protocol,<br>• "sm" - Session Manager stream protocol,<br>• "ftp_ctrl" - FTP control stream protocol,<br>• "ftp_data" - FTP data stream protocol,<br>• "http_1_0" - HTTP version 1 stream protocol,<br>• "http_1_1" - HTTP version 1.1 stream protocol,<br>• "iscsi" - ISCSI stream protocol,<br>• "cifs_srv" - CIFS server stream protocol,<br>• "cifs_nam" - CIFS name server stream protocol,<br>• "loopback" - loopback stream protocol,<br>• "rf" - RC stream protocol,<br>• "rawscp" - Raw secure copy stream protocol,<br>• "discard" - Discard stream protocol,<br>• "port_map" - Port map stream protocol,<br>• "pass_thru" - Passthru stream protocol,<br>• "rclopcp" - Rc connection stream protocol,<br>• "nfs_v4" - NFS version 4 stream protocol,<br>• "fcache" - 7 Mode FlexCache stream protocol,<br>• "ctlopcp" - Ct connection stream protocol,<br>• "rquota" - Rquota stream protocol,<br>• "cifs_msrpc" - CIFS MsRpc stream protocol,<br>• "http" - HTTP stream protocol,<br>• "unknown" - unknown protocol,<br>• "s3" - S3 stream protocol,<br>• "sdapi" - SDAPI stream protocol |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-ddns-get

[top]

Get the Dynamic DNS Update configuration of the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-ddns-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-ddns-info | The attributes of the ddns. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

[top]

# net-ddns-get-iter

Iterate through Dynamic DNS Update configurations of the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-ddns-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-ddns-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ddns object. All ddns objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-ddns-info[] optional | The list of attributes of ddns objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ddns objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-ddns-modify

[top]

Modify the Dynamic DNS Update configuration of the specified Vserver. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **domain-name** | | string optional | Vserver FQDN to Be Used for DNS Updates |
| **is-enabled** | | boolean optional | Is Dynamic DNS Update Enabled? |
| **skip-fqdn-validation** | | boolean optional | Specifies if the Vserver FQDN name validation is skipped. |
| **ttl** | | time-interval optional | TTL For the Dynamically Updated DNS Records. Maximum Supported Value Is 720h. Default: 24h. |
| **use-secure** | | boolean optional | Use Secure Dynamic DNS Updates? |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# net-device-discovery-get-iter

[top]

Iterate over a list of network device discovery objects found by a discovery protocol such as CDP or LLDP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | net-device-discovery-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | net-device-discovery-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-device-discovery object. All net-device-discovery objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | net-device-discovery-info[] optional | The list of attributes of net-device-discovery objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more net-device-discovery objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# net-dns-check-get-iter

[top]

Display the status of a list of name servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired- | | dns-status | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | optional | present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | dns-status optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the dns-check object. All dns-check objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | dns-status[] optional | The list of attributes of dns-check objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more dns-check objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **E_DNS_VSERVER_OPSTATE_STOPPED** | |

# net-dns-create

[top]

Creates DNS configuration for a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attempts** | **[1..4]** | integer optional | Max number of trials before giving up and returning error. Default is one. |
| **dns-state** | | enable optional | Enable/Disable DNS. Possible values are 'enabled' or 'disabled'. |
| **domains** | | string[] | List of DNS domains such as 'sales.bar.com'. The first domain is the one that the Vserver belongs to. |
| **is-tld-query-enabled** | | boolean optional | Use this parameter to enable or disable top-level domain (TLD) queries. TLD is a name that contains no dots. Default is true. |
| **name-servers** | | ip-address[] | IPv4 addresses of name servers such as '123.123.123.123'. |
| **require-packet-query-match** | | boolean optional | Require query sections of query and response packets to match. |
| **require-source-address-match** | | boolean optional | Require source IP address of reply to match the name-server address. |
| **return-record** | | boolean optional | If set to true, returns the dns on successful creation. Default: false |
| **skip-config-** | | boolean | Skip Configuration Validation |

| | | | |
|---|---|---|---|
| **validation** | | optional | |
| **timeout** | **[1..5]** | integer optional | Number of seconds to wait for a response from a name server before trying a different name server. Default is two seconds. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-dns-info optional | The dns created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EDUPLICATEENTRY** | |
| **E_DNS_CONFIG_CHECK_FAILURE** | |
| **E_DNS_STATE_DISABLED_NOT_SUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-dns-get

[top]

Get the DNS configuration of the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-dns-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-dns-info | The attributes of the dns. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-dns-get-iter

[top]

Iterate through DNS configurations of the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-dns-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | net- | |

| | | | |
|---|---|---|---|
| **query** | | dns-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the dns object. All dns objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-dns-info[] optional | The list of attributes of dns objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more dns objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-dns-modify

[top]

Modify the DNS configuration of the specified Vserver. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attempts** | **[1..4]** | integer optional | Max number of trials before giving up and returning error. Default is one. |
| **dns-state** | | enable optional | Enable/Disable DNS. Possible values are 'enabled' or 'disabled'. |
| **domains** | | string[] optional | List of DNS domains such as 'sales.bar.com'. The first domain is the one that the Vserver belongs to. |
| **is-tld-query-enabled** | | boolean optional | Use this parameter to enable or disable top-level domain (TLD) queries. TLD is a name that contains no dots. Default is true. |
| **name-servers** | | ip-address[] optional | IPv4 addresses of name servers such as '123.123.123.123'. |
| **require-packet-query-match** | | boolean optional | Require query sections of query and response packets to match. |
| **require-source-address-match** | | boolean optional | Require source IP address of reply to match the name-server address. |
| **skip-config-validation** | | boolean optional | Skip Configuration Validation |
| **timeout** | **[1..5]** | integer optional | Number of seconds to wait for a response from a name server before trying a different name server. Default is two seconds. |

| Errno | Description |
|---|---|
| **E_DNS_CONFIG_CHECK_FAILURE** | |
| **E_DNS_STATE_DISABLED_NOT_SUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-external-route-table-create

[top]

Create a new external routing table

| Input Name | Range | Type | Description |
|---|---|---|---|
| **return-record** | | boolean optional | If set to true, returns the network cloud routing-table on successful creation. Default: false |
| **route-table-id** | | string | Route Table ID |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | external-route-table-info optional | The network cloud routing-table created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-external-route-table-delete

[top]

Delete an existing external routing table

| Input Name | Range | Type | Description |
|---|---|---|---|
| **route-table-id** | | string | Route Table ID |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-failover-group-add-targets

[top]

Add failover targets to a failover group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **failover-group** | | string | The failover group. |
| **targets** | | net-qualified-port-name[] | The failover targets to add to the failover group. Format: node-name:port-name |
| **vserver** | | vif-owner-name | The vserver for which the failover group is defined. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |

| | |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

# net-failover-group-create

[top]

Create a failover group. Failover groups are used to define a set of possible failover targets for LIFs on one or more nodes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **failover-group** | | string | The failover group. |
| **return-record** | | boolean optional | If set to true, returns the Failover Group on successful creation. Default: false |
| **targets** | | net-qualified-port-name[] | The list of potential failover targets to be used. Lifs within the specified vserver and assigned to the specified failover-group will use this list of failover targets as needed. Format: node-name:port-name |
| **vserver** | | vif-owner-name | The vserver for which the failover group is defined. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-failover-group-info optional | The Failover Group created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_EEXIST** | |

# net-failover-group-destroy

[top]

Delete a failover group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **failover-group** | | string | The failover group. |
| **vserver** | | vif-owner-name | The vserver for which the failover group is defined. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| | |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## net-failover-group-get

[top]

Get the attributes of a failover goup.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-failover-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **failover-group** | | string | The failover group. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-failover-group-info | The attributes of the Failover Group. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

## net-failover-group-get-iter

[top]

Iterate over a list of failover group objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-failover-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-failover-group-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Failover Group object. All Failover Group objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **attributes-list** | | net-failover-group-info[] optional | The list of attributes of Failover Group objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Failover Group objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |

# net-failover-group-modify

[top]

Modify a failover group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **failover-group** | | string | The failover group. |
| **targets** | | net-qualified-port-name[] optional | The list of potential failover targets to be used. Lifs within the specified vserver and assigned to the specified failover-group will use this list of failover targets as needed. Format: node-name:port-name |
| **vserver** | | vif-owner-name | The vserver for which the failover group is defined. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

# net-failover-group-remove-targets

[top]

Remove failover targets from a failover group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **failover-group** | | string | The failover group. |
| **targets** | | net-qualified-port-name[] | The failover targets to remove from the failover group. Format: node-name:port-name |
| **vserver** | | vif-owner-name | The vserver for which the failover group is defined. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EVSERVERNTFOUND | |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |

# net-failover-group-rename

[top]

Rename a failover group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| failover-group | | node-name | The failover group. |
| new-failover-group-name | | string | The new name of the failover group. |
| vserver | | vif-owner-name | The vserver for which the failover group is defined. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EVSERVERNTFOUND | |
| EOBJECTNOTFOUND | |
| EONTAPI_EEXIST | |

# net-firewall-config-get

[top]

Get the attributes of a firewall configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | net-firewall-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| node-name | | node-name | Specifies the node on which the firewall configiration is set. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | net-firewall-config-info | The attributes of the firewall configuration. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |

| Errno | Description |
|---|---|
| ENODENOTFOUND | |

# net-firewall-config-get-iter

[top]

Iterate over a list of firewall configuration objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | net-firewall-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | net-firewall-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the firewall configuration object. All firewall configuration objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | net-firewall-config-info[] optional | The list of attributes of firewall configuration objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more firewall configuration objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| ENODENOTFOUND | |

# net-firewall-config-modify

[top]

Create a new firewall configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| is-enabled | | boolean optional | Specifies whether firewall protection is enabled (true) or disabled (false) for the node's network ports. The default setting is true. |
| | | | This parameter has been deprecated in Data ONTAP 9.0, but is still |

| | | | |
|---|---|---|---|
| **is-logging** | | boolean optional | returned for compatibility and may be removed in a future release. Specifies whether logging is enabled (true) or disabled (false) for the firewall service. The default setting is false. |
| **node-name** | | node-name | Specifies the node on which the firewall configiration is set. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# net-firewall-config-modify-iter

[top]

Modify the attributes of a firewall configuration or a group of firewall configuration objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-firewall-config-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple firewall configuration objects match a given query. If set to true, the API will continue modifying the next matching firewall configuration even when modification of a previous firewall configuration fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching firewall configuration even when the modification of a previous matching firewall configuration fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | net-firewall-config-info | If modifying a specific firewall configuration, this input element must specify all keys. If modifying firewall configuration objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of firewall configuration objects (just keys) that were not modified due to some error. If set to false, the list of firewall configuration objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of firewall configuration objects (just keys) that were successfully updated. If set to false, the list of firewall configuration objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | net-firewall-config-modify-iter-info[] optional | Information about firewall configuration objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching firewall configuration objects to be modified. |
| **num-failed** | [0..2^32-1] | integer optional | Number of firewall configuration objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | [0..2^32-1] | integer optional | The number of firewall configuration objects that matched the query and were successfully updated. |
| **success-list** | | net-firewall-config-modify-iter-info[] optional | The firewall configuration objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# net-firewall-policy-create

[top]

Create a new firewall policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allow-list** | | ip-and-mask[] | Specifies the list of client IPs that are permitted to access the specified service running on LIFs with the specified policy. Format: |
| **policy** | | string | Specifies the name of the firewall policy |
| **return-record** | | boolean optional | If set to true, returns the firewall policy on successful creation. Default: false |
| **service** | | fw-service | Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include:<br>• 'dns: - THe DNS protocol server',<br>• 'http: - The HTTP protocol',<br>• 'ndmp: - The NDMP tape backup protocol',<br>• 'ndmps: - The NDMPS tape backup protocol',<br>• 'none: - No protocol (for creating an empty policy)',<br>• 'ntp: - The NTP protocol',<br>• 'rsh: - The RSH protocol',<br>• 'snmp: - The SNMP protocol',<br>• 'telnet: - The Telnet protocol', |

| | | | |
|---|---|---|---|
| **vserver** | | vserver-name | Specifies the name of the vserver on which the firewall policy is defined. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-firewall-policy-info optional | The firewall policy created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_EEXIST** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-firewall-policy-destroy

[top]

Destroy an existing firewall policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | string | Specifies the name of the firewall policy |
| **service** | | fw-service | Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include:<br>• 'dns: - THe DNS protocol server',<br>• 'http: - The HTTP protocol',<br>• 'ndmp: - The NDMP tape backup protocol',<br>• 'ndmps: - The NDMPS tape backup protocol',<br>• 'none: - No protocol (for creating an empty policy)',<br>• 'ntp: - The NTP protocol',<br>• 'rsh: - The RSH protocol',<br>• 'snmp: - The SNMP protocol',<br>• 'telnet: - The Telnet protocol', |
| **vserver** | | vserver-name | Specifies the name of the vserver on which the firewall policy is defined. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-firewall-policy-get

[top]

Get the attributes of a firewall policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-firewall-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy** | | string | Specifies the name of the firewall policy |
| **service** | | fw-service | Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include:<br>• 'dns: - THe DNS protocol server',<br>• 'http: - The HTTP protocol',<br>• 'ndmp: - The NDMP tape backup protocol',<br>• 'ndmps: - The NDMPS tape backup protocol',<br>• 'none: - No protocol (for creating an empty policy)',<br>• 'ntp: - The NTP protocol',<br>• 'rsh: - The RSH protocol',<br>• 'snmp: - The SNMP protocol',<br>• 'telnet: - The Telnet protocol', |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-firewall-policy-info | The attributes of the firewall policy. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# net-firewall-policy-get-iter

[top]

Iterate over a list of firewall policy objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-firewall-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-firewall-policy- | A query that specifies which objects to return. A query could be specified on any number of attributes in the firewall policy object. All |

| | | | |
|---|---|---|---|
| | | info optional | firewall policy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-firewall-policy-info[] optional | The list of attributes of firewall policy objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more firewall policy objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |

# net-firewall-policy-modify

[top]

Modify an existing firewall policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allow-list** | | ip-and-mask[] optional | Specifies the list of client IPs that are permitted to access the specified service running on LIFs with the specified policy. Format: |
| **policy** | | string | Specifies the name of the firewall policy |
| **service** | | fw-service | Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include:<br>• 'dns: - THe DNS protocol server',<br>• 'http: - The HTTP protocol',<br>• 'ndmp: - The NDMP tape backup protocol',<br>• 'ndmps: - The NDMPS tape backup protocol',<br>• 'none: - No protocol (for creating an empty policy)',<br>• 'ntp: - The NTP protocol',<br>• 'rsh: - The RSH protocol',<br>• 'snmp: - The SNMP protocol',<br>• 'telnet: - The Telnet protocol', |
| **vserver** | | vserver-name | Specifies the name of the vserver on which the firewall policy is defined. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |

| | |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-hosts-create

[top]

Create a new IP to host names mapping

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aliases** | | string[] optional | The list of aliases such as 'host1.sales.foo.com'. |
| **host-ip-address** | | ip-address | IPv4 address in dotted form as '123.123.123.123'. |
| **hostname** | | string | Canonical hostname in a simple string or in FQDN |
| **return-record** | | boolean optional | If set to true, returns the hosts on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | hosts-info optional | The hosts created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-hosts-destroy

[top]

Delete an existing hosts object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **host-ip-address** | | ip-address | IPv4 address in dotted form as '123.123.123.123'. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-hosts-get

[top]

Given an IP address, return the corresponding IP to host names mapping of the running Vserver context

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | hosts-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **host-ip-address** | | ip-address | IPv4 address in dotted form as '123.123.123.123'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | hosts-info | The attributes of the hosts. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-hosts-get-iter

[top]

Iterate all IP to host name mappings (over all Vserver) of the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | hosts-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | hosts-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the hosts object. All hosts objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | hosts-info[] optional | The list of attributes of hosts objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more hosts objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-hosts-modify

[top]

Given an IP address, modify the corresponding IP to host name mapping. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aliases** | | string[] optional | The list of aliases such as 'host1.sales.foo.com'. |
| **host-ip-address** | | ip-address | IPv4 address in dotted form as '123.123.123.123'. |
| **hostname** | | string optional | Canonical hostname in a simple string or in FQDN |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-create

[top]

Create a new logical interface.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | Specifies the LIF's IP address. This element is valid for all data protocols except FCP. |
| **administrative-status** | | string optional | Specifies the administrative status of the LIF. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the interface from functioning, the operational status remains as down. Possible values:<br>• 'up',<br>• 'down', |
| **comment** | | string optional | Comment |
| **data-protocols** | | data-protocol[] optional | Specifies the list of data protocols configured on the LIF. By default, the values in this element are nfs, cifs and fcache. Other supported protocols are iscsi and fcp. A LIF can be configured to not support any data protocols by specifying 'none'. Protocol values of none, iscsi or fcp can't be combined with any other data protocol(s). Possible values:<br>• "nfs" - Used for NFS connections,<br>• "cifs" - Used for CIFS connections,<br>• "iscsi" - Used for iSCSI connections,<br>• "fcp" - Used for Fibre Channel connections,<br>• "fcache" - Used for 7-mode FlexCache connections,<br>• "none" - Used for management. Does not serve any file protocols.,<br>• "http" - Used for HTTP connections,<br>• "fc_nvme" - Used for NVMe/FC connections,<br>• "s3" - Used for S3 connections, |

| | | | |
|---|---|---|---|
| | | | • "nvme_roce" - Used for NVMe/RoCE connections,<br>• "nvme_tcp" - Used for NVMe/TCP connections |
| **dns-domain-name** | | dns-zone optional | Specifies the unique, fully qualified domain name of the DNS zone of this LIF. |
| **failover-group** | | failover-group optional | Specifies the failover group name. |
| **failover-policy** | | string optional | Specifies the failover policy for the LIF. For FCP and iSCSI LIFs, the only failover policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'nextavail'. |
| **firewall-policy** | | string optional | Specifies the firewall policy for the LIF. Default firewall-policy is set as per the following table:<br>• 'LIF Role Protocols Default policy',<br>• '------- --------- --------------',<br>• 'data none mgmt',<br>• 'data any (except fcp) data',<br>• 'node_mgmt any mgmt',<br>• 'cluster_mgmt any mgmt',<br>• 'cluster any cluster',<br>• 'intercluster any intercluster' |
| **force-subnet-association** | | boolean optional | Force the LIF's Subnet Association |
| **home-node** | | string optional | Specifies the LIF's home node. |
| **home-port** | | string optional | Specifies the LIF's home port. |
| **interface-name** | | string | Specifies the logical interface (LIF) name. |
| **is-auto-revert** | | boolean optional | If true, data LIF will revert to its home node under certain circumstances such as startup, and load balancing migration capability is disabled automatically. Default: false |
| **is-dns-update-enabled** | | boolean optional | Specifies if DNS update is enabled for this LIF. Dynamic updates will be sent for this LIF if updates are enabled at Vserver level |
| **is-ipv4-link-local** | | boolean optional | If true, automatically configure an interface with an IPv4 address. User can configure an interface by explicitly specifying <address> and <netmask> (or <netmask-length>); or by enabling is-ipv4-link-local to true. |
| **is-vip** | | boolean optional | Specifies if this is a LIF will be hosted on VIP port with /32 or /128 netmask |
| **listen-for-dns-query** | | boolean optional | If True, this IP address will listen for DNS queries for the dns-zone specified. |
| **netmask** | | ip-address optional | Specifies the LIF's netmask. This element is valid for all data protocols except FCP. |
| **netmask-length** | **[0..2^32-1]** | integer optional | Specifies number of bits in the netmask. |
| **probe-port** | **[0..2^32-1]** | integer optional | Probe-port for Cloud Load Balancer |
| **return-record** | | boolean optional | If set to true, returns the given network interface on successful creation. Default: false |
| | | | Specifies the role of the LIF. Default: data Possible values:<br>• "undef" - No defined role,<br>• "cluster" - Used for communication using the private cluster network, |

| | | | |
|---|---|---|---|
| **role** | | string optional | • "data" - Used for communicating with file service clients,<br>• "node_mgmt" - Used by administrators to configure the node,<br>• "intercluster" - Used for communication with a different cluster,<br>• "cluster_mgmt" - Used by administrators to configure the cluster |
| **routing-group-name** | | string optional | Specifies the routing group, which enables multiple logical interfaces to share a set of routing table entries. For example: d192.168.1.0/24 ('d' stands for data LIF and 192.168.1.0/24 is subnet) c192.168.1.0/24 ('c' stands for cluster LIF and 192.168.1.0/24 is subnet) n192.168.1.0/24 ('n' stands for node management LIF and 192.168.1.0/24 is subnet) dfd20:13::0/50 ('d' stands for data LIF and fd20:13::0/50 is IPv6 subnet) |
| **service-policy** | | string optional | Specifies the service policy of the LIF. The service policy attribute is currently only supported on a limited number of LIF roles, and each supported LIF role corresponds to a specific default service policy. Supported Roles:<br>• 'LIF Role Default Policy'<br>• '------------ -----------------'<br>• 'intercluster net-intercluster' |
| **subnet-name** | | subnet-name optional | Subnet where the interface address is allocated from. If the option is not used, the IP address will need to be provided by the administrator during configuration. |
| **use-failover-group** | | string optional | Specifies whether failover rules are automatically created, manually created by the administrator, or disabled. For FCP and iSCSI LIFs, the default policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'system_defined'. Possible values:<br>• "system_defined" - Failover targets generated automatically by the system,<br>• "disabled" - Failover targets generated manually by the admin,<br>• "enabled" - Failover targets defined by failover-group,<br>• "unused" - Failover targets are not generated based on this field |
| **vserver** | | string | Specifies the Vserver name. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-interface-info optional | The given network interface created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_EADDRINUSE** | |
| **EONTAPI_EEXIST** | |
| **E_INVALID_PORT_NAME** | |

| | |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **E_DEGRADED_PORT_CANT_HOST_LIF** | |
| **E_SAN_NOT_READY** | |
| **E_NVMF_EXCLUSIVE_VSERVER** | |
| **E_NVMF_SERVICE_REQUIRED** | |
| **E_NVMF_UNSUPPORTED_LIF_CONFIG** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-delete

[top]

Destroy an existing network interface object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string | Specifies the logical interface (LIF) name. |
| **vserver** | | string | Specifies the Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **E_SAN_NOT_READY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-get

[top]

Get the attributes of a network interface.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-interface-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **interface-name** | | string | Specifies the logical interface (LIF) name. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-interface-info | The attributes of the given network interface. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# net-interface-get-iter

[top]

Iterate over a list of network interface objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | net-interface-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | net-interface-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the given network interface object. All given network interface objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | net-interface-info[] optional | The list of attributes of given network interface objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more given network interface objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EVSERVERNTFOUND | |

# net-interface-migrate

[top]

Migrate a Logical Interface between nodes and ports

| Input Name | Range | Type | Description |
|---|---|---|---|
| destination-node | | node-name | Specifies the node to which the logical interface is to be migrated. |
| destination-port | | string optional | Specifies the port or interface group to which the logical interface is to be migrated. If not specified, this field will be set to the port name of the port on which the LIF currently resides. example: node2 |
| | | boolean | Force the migration operation. If not specified, this field will be set to false. If set to true, migrating a LIF whos 'sticky' field is set to true, or |

| | | | |
|---|---|---|---|
| **force** | | optional | whose current node is sick will be allowed. Otherwise they will not be permitted. |
| **lif** | | string | Specifies the logical interface that is to be migrated. example: lif1 |
| **vserver** | | string | Specifies the Vserver that owns the logical interface that is to be migrated. example: vs0 |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |
| **E_DEGRADED_PORT_CANT_MOVE_LIF** | |

# net-interface-modify

[top]

Modify the attributes of network interface object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | Specifies the LIF's IP address. This element is valid for all data protocols except FCP. |
| **administrative-status** | | string optional | Specifies the administrative status of the LIF. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the interface from functioning, the operational status remains as down. Possible values:<br>• 'up',<br>• 'down', |
| **comment** | | string optional | Comment |
| **dns-domain-name** | | dns-zone optional | Specifies the unique, fully qualified domain name of the DNS zone of this LIF. |
| **failover-group** | | failover-group optional | Specifies the failover group name. |
| **failover-policy** | | string optional | Specifies the failover policy for the LIF. For FCP and iSCSI LIFs, the only failover policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'nextavail'. |
| **firewall-policy** | | string optional | Specifies the firewall policy for the LIF. Default firewall-policy is set as per the following table:<br>• 'LIF Role Protocols Default policy',<br>• '------- --------- --------------',<br>• 'data none mgmt',<br>• 'data any (except fcp) data',<br>• 'node_mgmt any mgmt',<br>• 'cluster_mgmt any mgmt',<br>• 'cluster any cluster',<br>• 'intercluster any intercluster' |

| | | | |
|---|---|---|---|
| **force-subnet-association** | | boolean optional | Force the LIF's Subnet Association |
| **home-node** | | string optional | Specifies the LIF's home node. |
| **home-port** | | string optional | Specifies the LIF's home port. |
| **interface-name** | | string | Specifies the logical interface (LIF) name. |
| **is-auto-revert** | | boolean optional | If true, data LIF will revert to its home node under certain circumstances such as startup, and load balancing migration capability is disabled automatically. Default: false |
| **is-dns-update-enabled** | | boolean optional | Specifies if DNS update is enabled for this LIF. Dynamic updates will be sent for this LIF if updates are enabled at Vserver level |
| **listen-for-dns-query** | | boolean optional | If True, this IP address will listen for DNS queries for the dns-zone specified. |
| **netmask** | | ip-address optional | Specifies the LIF's netmask. This element is valid for all data protocols except FCP. |
| **netmask-length** | **[0..2^32-1]** | integer optional | Specifies number of bits in the netmask. |
| **routing-group-name** | | string optional | Specifies the routing group, which enables multiple logical interfaces to share a set of routing table entries. For example: d192.168.1.0/24 ('d' stands for data LIF and 192.168.1.0/24 is subnet) c192.168.1.0/24 ('c' stands for cluster LIF and 192.168.1.0/24 is subnet) n192.168.1.0/24 ('n' stands for node management LIF and 192.168.1.0/24 is subnet) dfd20:13::0/50 ('d' stands for data LIF and fd20:13::0/50 is IPv6 subnet) |
| **service-policy** | | string optional | Specifies the service policy of the LIF. The service policy attribute is currently only supported on a limited number of LIF roles, and each supported LIF role corresponds to a specific default service policy. Supported Roles:<br>• 'LIF Role Default Policy'<br>• '------------ -----------------'<br>• 'intercluster net-intercluster' |
| **subnet-name** | | subnet-name optional | Subnet where the interface address is allocated from. If the option is not used, the IP address will need to be provided by the administrator during configuration. |
| **use-failover-group** | | string optional | Specifies whether failover rules are automatically created, manually created by the administrator, or disabled. For FCP and iSCSI LIFs, the default policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'system_defined'. Possible values:<br>• "system_defined" - Failover targets generated automatically by the system,<br>• "disabled" - Failover targets generated manually by the admin,<br>• "enabled" - Failover targets defined by failover-group,<br>• "unused" - Failover targets are not generated based on this field |
| **vserver** | | string | Specifies the Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| | |

| | |
|---|---|
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **E_SAN_NOT_READY** | |
| **E_DEGRADED_PORT_CANT_MOVE_LIF** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-modify-iter

[top]

Modify the attributes of network interface or a group of network interface objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-interface-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple given network interface objects match a given query. If set to true, the API will continue modifying the next matching given network interface even when modification of a previous given network interface fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching given network interface even when the modification of a previous matching given network interface fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | net-interface-info | If modifying a specific given network interface, this input element must specify all keys. If modifying given network interface objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of given network interface objects (just keys) that were not modified due to some error. If set to false, the list of given network interface objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of given network interface objects (just keys) that were successfully updated. If set to false, the list of given network interface objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | net-interface-modify- | Information about given network interface objects that were not modified due to some error. This element will be returned only if |

| | | | |
|---|---|---|---|
| | | iter-info[] optional | input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching given network interface objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of given network interface objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of given network interface objects that matched the query and were successfully updated. |
| **success-list** | | net-interface-modify-iter-info[] optional | The given network interface objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |
| **E_SAN_NOT_READY** | |
| **E_DEGRADED_PORT_CANT_MOVE_LIF** | |

# net-interface-rename

[top]

Rename a logical interface.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string | Specifies the logical interface that is to be renamed. |
| **new-name** | | string | Specifies the new name for the interface. |
| **vserver** | | string | Specifies the Vserver that owns the logical interface that is to be renamed. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-revert

[top]

Revert a logical interface back to its home port following a deliberate migration or failover.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface-name** | | string | Specifies the logical interface that is to be reverted. |

| | | | |
|---|---|---|---|
| **vserver** | | string | Specifies the Vserver that owns the logical interface that is to be reverted. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |
| **E_DEGRADED_PORT_CANT_MOVE_LIF** | |

# net-interface-service-get

[top]

Get the attributes of the network interface service object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-interface-service-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **service** | | lif-service-name | The name of the network interface service. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-interface-service-info | The attributes of the net-interface-service. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |

# net-interface-service-get-iter

[top]

Iterate over a list of network interface service objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-interface-service-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | net-interface-service-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-interface-service object. All net-interface-service objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-interface-service-info[] optional | The list of attributes of net-interface-service objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-interface-service objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-interface-service-policy-add-service

[top]

Add an additional service to an existing network interface service policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allowed-addresses** | | ip-and-mask[] optional | The allowed address list to be associated with this service. |
| **policy** | | string | The name of the network interface service policy. |
| **service** | | lif-service-name | The service to be added to the specified network interface service policy. |
| **vserver** | | vserver-name | Vserver name that the network interface service policy belongs to. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **E_NET_SERVICE_NOT_FOUND** | |
| **E_NET_SERVICE_ALREADY_IN_POLICY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-service-policy-clone

[top]

Clone a network service policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | string | The name of the network interface service policy. |
| **target-policy** | | string | Use this name for the new network service policy. |
| **target-vserver** | | vserver-name | Use this vserver for the new network service policy. |
| **vserver** | | vserver-name | Vserver name that the network interface service policy belongs to. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **E_NET_SERVICE_POLICY_ALREADY_EXISTS** | |
| **E_NET_SERVICE_POLICY_VSERVER_UNSUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-service-policy-create

[top]

Create a new network interface service policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | string | The name of the network interface service policy. |
| **return-record** | | boolean optional | If set to true, returns the net-interface-service-policy on successful creation. Default: false |
| **services** | | lif-service-name[] optional | Services included in the network interface service policy. |
| **vserver** | | string | Vserver name that the network interface service policy belongs to. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-interface-service-policy-info optional | The net-interface-service-policy created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **E_NET_SERVICE_POLICY_NOT_SUPPORTED** | |
| **E_NET_SERVICE_POLICY_RESERVED_NAME** | |
| **E_NET_SERVICE_POLICY_VSERVER_UNSUPPORTED** | |
| **E_NET_SERVICE_NOT_FOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-service-policy-destroy

[top]

Delete an existing network interface service policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | string | The name of the network interface service policy. |
| **vserver** | | string | Vserver name that the network interface service policy belongs to. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **E_NET_SERVICE_POLICY_SYSTEM_OWNED** | |
| **E_NET_SERVICE_POLICY_IN_USE** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-service-policy-entry-get

[top]

Get the attributes of the network interface service policy entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-interface-service-policy-entry-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy** | | string | The name of the network interface service policy. |
| **service** | | lif-service-name | The name of the network interface service contained in this policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-interface-service-policy-entry-info | The attributes of the net-interface-service-policy-entry. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |

# net-interface-service-policy-entry-get-iter

[top]

Iterate over a list of network interface service policy entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-interface-service-policy-entry-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-interface-service-policy-entry-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-interface-service-policy-entry object. All net-interface-service-policy-entry objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-interface-service-policy-entry-info[] optional | The list of attributes of net-interface-service-policy-entry objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-interface-service-policy-entry objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-interface-service-policy-get

[top]

Get the attributes of the network interface service policy object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-interface-service-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy** | | string | The name of the network interface service policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **attributes** | | net-interface-service-policy-info | The attributes of the net-interface-service-policy. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |

# net-interface-service-policy-get-iter

[top]

Iterate over a list of network interface service policy objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-interface-service-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-interface-service-policy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-interface-service-policy object. All net-interface-service-policy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-interface-service-policy-info[] optional | The list of attributes of net-interface-service-policy objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-interface-service-policy objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-interface-service-policy-modify-service

[top]

Modify the attributes of an existing network interface service policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allowed-addresses** | | ip-and-mask[] | The allowed address list to be associated with this service. |
| **policy** | | string | The name of the network interface service policy. |
| **service** | | lif-service-name | The service to be updated in the specified network interface service policy. |
| **vserver** | | vserver-name | Vserver name that the network interface service policy belongs to. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **E_NET_SERVICE_NOT_IN_POLICY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-service-policy-remove-service

[top]

Remove a service from an existing network interface service policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | string | The name of the network interface service policy. |
| **service** | | lif-service-name | The service to be removed from the specified network interface service policy. |
| **vserver** | | vserver-name | Vserver name that the network interface service policy belongs to. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **E_NET_SERVICE_NOT_IN_POLICY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-service-policy-rename

[top]

Rename a network service policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-name** | | string | Assign this name to the network service policy. |
| **policy** | | string | The name of the network interface service policy. |
| | | | |

| | | | |
|---|---|---|---|
| **vserver** | | vserver-name | Vserver name that the network interface service policy belongs to. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **E_NET_SERVICE_POLICY_SYSTEM_OWNED** | |
| **E_NET_SERVICE_POLICY_ALREADY_EXISTS** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-interface-service-policy-restore-defaults

[top]

Restore default settings to a network service policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | string | The name of the network interface service policy. |
| **vserver** | | vserver-name | Vserver name that the network interface service policy belongs to. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **E_NET_SERVICE_POLICY_NO_DEFAULTS** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-ipspaces-create

[top]

Create an IPspace

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | IPspace name |
| **return-record** | | boolean optional | If set to true, returns the given IPspace on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-ipspaces-info optional | The given IPspace created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |

| | |
|---|---|
| **EINTERNALERROR** | |
| **EONTAPI_EEXIST** | |

# net-ipspaces-destroy

[top]

Delete an IPspace

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | IPspace name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# net-ipspaces-get

[top]

Get the attributes of an IPspace.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | IPspace name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domains** | | broadcast-domain-name[] optional | The broadcast domains that belong to the IPspace |
| **ports** | | net-qualified-port-name[] optional | The ports that have been assigned to the IPspace. This field must be specified with the following format: : |
| **vservers** | | vserver-name[] | The vservers that have been assigned to the IPspace |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# net-ipspaces-get-iter

[top]

Iterate over a list of IPspace objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-** | | net-ipspaces- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | info optional | present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-ipspaces-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the given IPspace object. All given IPspace objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-ipspaces-info[] optional | The list of attributes of given IPspace objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more given IPspace objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |

# net-ipspaces-rename

[top]

Rename an IPspace.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | Current IPspace name |
| **new-name** | | string | New IPspace name. Note: You cannot rename system defined ipspaces. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EONTAPI_EEXIST** | |

# net-ndp-active-neighbor-destroy

[top]

Delete an existing network ndp active neighbor object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **neighbor** | | ip-address | Specify the neighbor IPv6 address. Example: fd20:13::1 |
| **node** | | node-name | Specify the name of the node. |

| | | | |
|---|---|---|---|
| **port** | | lif-bindable | Specify the physical port. |
| **subnet-group** | | ip-and-mask | Subnet Group |
| **vserver** | | vif-owner-name | Specify the name of a System or Admin Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-ndp-active-neighbor-get

[top]

Get the attributes of the network ndp active neighbor.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-ndp-neighbor-cache-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **neighbor** | | ip-address | Specify the neighbor IPv6 address. Example: fd20:13::1 |
| **node** | | node-name | Specify the name of the node. |
| **port** | | lif-bindable | Specify the physical port. |
| **subnet-group** | | ip-and-mask | Subnet Group |
| **vserver** | | vif-owner-name | Specify the name of a System or Admin Vserver. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-ndp-neighbor-cache-info | The attributes of the network ndp active neighbor. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-ndp-active-neighbor-get-iter

[top]

Iterate over a list of network ndp active neighbor objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-** | | net-ndp-neighbor- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | cache-info optional | present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-ndp-neighbor-cache-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the network ndp active neighbor object. All network ndp active neighbor objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-ndp-neighbor-cache-info[] optional | The list of attributes of network ndp active neighbor objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more network ndp active neighbor objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-ndp-default-router-delete-all

[top]

Delete default routers on a given IPspace

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | Speicifies the IPspace where the default router list will be deleted. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-ndp-default-router-get

[top]

Get the attributes of the network ndp default-router.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-ndp-default-router-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be |

| | | | |
|---|---|---|---|
| | | optional | returned. |
| **ipspace** | | string | Specify the name of the Ipspace. |
| **node** | | node-name | Specify the name of the node. |
| **port** | | lif-bindable | Specify the physical interface. |
| **router-addr** | | ip-address | Specify the default router IPv6 address. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-ndp-default-router-info | The attributes of the network ndp default-router. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-ndp-default-router-get-iter

[top]

Iterate over a list of network ndp default-router objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-ndp-default-router-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-ndp-default-router-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the network ndp default-router object. All network ndp default-router objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-ndp-default-router-info[] optional | The list of attributes of network ndp default-router objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more network ndp default-router objects to return. |

| num-records | [0..2^32-1] | integer | The number of records returned in this call. |
|---|---|---|---|

| Errno | Description |
|---|---|
| EINTERNALERROR | |

## net-ndp-neighbor-create

[top]

Configure a new NDP neighbor entry

| Input Name | Range | Type | Description |
|---|---|---|---|
| mac-address | | mac-address | Specifies the neighbor's MAC Address. |
| neighbor-address | | ip-address | Specifies the neighbor's IPv6 Address. |
| return-record | | boolean optional | If set to true, returns the network NDP neighbor on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| result | | ndp-neighbor-info optional | The network NDP neighbor created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

## net-ndp-neighbor-destroy

[top]

Delete an existing static NDP neighbor entry

| Input Name | Range | Type | Description |
|---|---|---|---|
| neighbor-address | | ip-address | Specifies the neighbor's IPv6 Address. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

## net-ndp-neighbor-get

[top]

Get a static configured NDP neighbor entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | ndp-neighbor-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available |

| | | | |
|---|---|---|---|
| | | optional | will be returned. |
| **neighbor-address** | | ip-address | Specifies the neighbor's IPv6 Address. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ndp-neighbor-info | The attributes of the network NDP neighbor. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-ndp-neighbor-get-iter

[top]

Iterator over a list of static configured NDP neighbor entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ndp-neighbor-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ndp-neighbor-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the network NDP neighbor object. All network NDP neighbor objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ndp-neighbor-info[] optional | The list of attributes of network NDP neighbor objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more network NDP neighbor objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-ndp-prefix-delete-all

[top]

Delete IPv6 prefixes on a given IPspace

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | Speicifies the IPspace where the prefix list will be deleted. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-ndp-prefix-get

[top]

Get the attributes of the network ndp prefix.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-ndp-prefix-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **ipspace** | | string | Specify the name of the Ipspace. |
| **node** | | node-name | Specify the name of the node. |
| **port** | | lif-bindable | Specify the physical port. |
| **prefix** | | ip-and-mask | Specify the prefix. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-ndp-prefix-info | The attributes of the network ndp prefix. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-ndp-prefix-get-iter

[top]

Iterate over a list of network ndp prefix objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-ndp-prefix-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-ndp-prefix-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the network ndp prefix object. All network ndp prefix objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-ndp-prefix-info[] optional | The list of attributes of network ndp prefix objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more network ndp prefix objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-options-get

[top]

Get the attributes of the net.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **net-options** | | net-options | Network Options Typedef |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-options-hypervisor-uplink-monitoring-get

[top]

Get the hypervisor uplink monitoring status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-options-hypervisor-uplink-monitoring-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-options-hypervisor-uplink-monitoring-info | The attributes of the net. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-options-hypervisor-uplink-monitoring-modify

[top]

Modify the hypervisor uplink monitoring status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **enabled** | | boolean optional | Hypervisor Uplink Monitoring |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-options-modify

[top]

Modify the attributes of net object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **net-options** | | net-options | Network Options Typedef |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-placement-cache-delete

[top]

Delete LIF placement cached information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address | The IP address that was searched. |
| **netmask-length** | **[0..2^32-1]** | integer | The number of bits in the subnet mask (i.e. 24 or 64). |
| **node** | | string | Specifies the name of the node. |
| **port** | | string | The port name on the node. |
| | | | |

| vserver | | string | Vserver Name |
|---|---|---|---|

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINVALIDINPUTERROR | |

# net-placement-cache-get-iter

[top]

Iterate over the LIF placement cached information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | net-placement-cache optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | net-placement-cache optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the network interface placement object. All network interface placement objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | net-placement-cache[] optional | The list of attributes of network interface placement objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more network interface placement objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# net-placement-discover

[top]

Find the ports direcly connected to the IP address

| Input Name | Range | Type | Description |
|---|---|---|---|
| address | | string | IP Address |
| mac | | string | MAC Address |

| | | | |
|---|---|---|---|
| | | optional | |
| **netmask-length** | **[0..2^32-1]** | integer | Netmask Length |
| **vserver** | | string | Vserver Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# net-port-broadcast-domain-add-ports

[top]

Add ports to a layer 2 broadcast domain.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name | The name of the layer 2 broadcast domain. |
| **ipspace** | | string optional | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. |
| **ports** | | net-qualified-port-name[] | Ports to be added to the broadcast domain. Format:node-name:port-name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **port-update-status-combined** | | broadcast-domain-port-status | Overall Port Update Status |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_PORT_NOT_FOUND** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_PORT_ALREADY_ASSIGNED_TO_BROADCAST_DOMAIN** | |
| **E_VIFMGR_BROADCAST_DOMAIN_ASSIGNMENT_DISALLOWED_IFGRP** | |

# net-port-broadcast-domain-create

[top]

Create a new layer 2 broadcast domain object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name | The name of the layer 2 broadcast domain. |
| **ipspace** | | string optional | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. |
| | | | Maximum Transmission Unit (MTU) of the layer 2 broadcast |

| | | | |
|---|---|---|---|
| **mtu** | **[0..2^32-1]** | integer | domain. The MTU will be applied to all ports that belong to the layer 2 broadcast domain. |
| **ports** | | net-qualified-port-name[] optional | Ports added to the layer 2 broadcast domain. Ports added to a new layer 2 broadcast domain will be removed from their current layer 2 broadcast domain. Format: node-name:port-name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **port-update-status-combined** | | broadcast-domain-port-status optional | Overall status of the port updates. The value is 'in-progress' if any port is in progress, 'complete' if all port updates complete, or 'error' if any port update is unsuccessful. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_PORT_NOT_FOUND** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_CANNOT_ADD_TO_CLUSTER_IPSPACE** | |
| **E_VIFMGR_BROADCAST_DOMAIN_INVALID_MTU** | |
| **E_VIFMGR_PORT_ALREADY_ASSIGNED_TO_BROADCAST_DOMAIN** | |
| **E_VIFMGR_BROADCAST_DOMAIN_ASSIGNMENT_DISALLOWED_IFGRP** | |

# net-port-broadcast-domain-destroy

[top]

Destroy an existing layer 2 broadcast domain object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name | The name of the layer 2 broadcast domain. |
| **ipspace** | | string optional | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **port-update-status-combined** | | broadcast-domain-port-status optional | Overall status of the port updates. The value is 'in-progress' if any port is in progress, 'complete' if all port updates complete, or 'error' if any port update is unsuccessful. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_CANNOT_REMOVE_CLUSTER_BROADCAST_DOMAIN** | |
| **E_VIFMGR_BROADCAST_DOMAIN_HOSTS_PORTS** | |

# net-port-broadcast-domain-get

[top]

Get the attributes of the layer 2 broadcast domain object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name | The name of the layer 2 broadcast domain. |
| **desired-attributes** | | net-port-broadcast-domain-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **ipspace** | | string | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-port-broadcast-domain-info | The attributes of the net-port-broadcast-domain. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |

# net-port-broadcast-domain-get-iter

[top]

Iterate over a list of layer 2 broadcast domain objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-port-broadcast-domain-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-port-broadcast-domain-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-port-broadcast-domain object. All net-port-broadcast-domain objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| | | | |
|---|---|---|---|

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | net-port-broadcast-domain-info[] optional | The list of attributes of net-port-broadcast-domain objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more net-port-broadcast-domain objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| E_NET_UI_VIFMGR_NOT_INITIALIZED | |
| E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED | |

# net-port-broadcast-domain-merge

[top]

Merges two layer 2 broadcast domains.

| Input Name | Range | Type | Description |
|---|---|---|---|
| broadcast-domain | | broadcast-domain-name | The name of the layer 2 broadcast domain. |
| into-broadcast-domain | | broadcast-domain-name | Merge with this layer 2 broadcast domain. |
| ipspace | | string optional | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. |

| Errno | Description |
|---|---|
| E_NET_UI_VIFMGR_NOT_INITIALIZED | |
| E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED | |
| E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND | |
| E_VIFMGR_BROADCAST_DOMAIN_MERGE_MTU_MISMATCH | |

# net-port-broadcast-domain-modify

[top]

Modify the attributes of the layer 2 broadcast domain object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| broadcast-domain | | broadcast-domain-name | The name of the layer 2 broadcast domain. |
| ipspace | | string optional | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. |
| mtu | [0..2^32-1] | integer | Maximum Transmission Unit (MTU) of the layer 2 broadcast domain. The MTU will be applied to all ports that belong to the layer 2 broadcast domain. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **port-update-status-combined** | | broadcast-domain-port-status optional | Overall status of the port updates. The value is 'in-progress' if any port is in progress, 'complete' if all port updates complete, or 'error' if any port update is unsuccessful. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_INVALID_MTU** | |

# net-port-broadcast-domain-remove-ports

[top]

Remove ports from a layer 2 broadcast domain.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name | The name of the layer 2 broadcast domain. |
| **ipspace** | | string optional | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. |
| **ports** | | net-qualified-port-name[] | Ports to be removed from their current layer 2 broadcast domain. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **port-update-status-combined** | | broadcast-domain-port-status | Overall Port Update Status |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_PORT_NOT_FOUND** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_PORT_NOT_ASSIGNED_TO_BROADCAST_DOMAIN** | |

# net-port-broadcast-domain-rename

[top]

Rename a layer 2 broadcast domain.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name | The name of the layer 2 broadcast domain. |

| | | | |
|---|---|---|---|
| **ipspace** | | string<br>optional | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. |
| **new-name** | | string | New name for the layer 2 broadcast domain |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EONTAPI_EEXIST** | |
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_CANNOT_RENAME_CLUSTER_BROADCAST_DOMAIN** | |
| **E_VIFMGR_BROADCAST_DOMAIN_RENAME_ENTRY_EXISTS** | |

# net-port-broadcast-domain-split

[top]

Splits a layer 2 broadcast domain into two layer 2 broadcast domains.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name | The name of the layer 2 broadcast domain. |
| **ipspace** | | string<br>optional | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. |
| **new-broadcast-domain** | | broadcast-domain-name | New layer 2 broadcast domain name. |
| **ports** | | net-qualified-port-name[] | The ports to be split from current broadcast domain and added to the new broadcast domain. Format:node-name:port-name |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_PORT_NOT_ASSIGNED_TO_SAME_BROADCAST_DOMAIN** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NAMED_FAILOVER_GROUP_EXISTS** | |
| **E_VIFMGR_FAILOVER_GROUP_TARGETS_NOT_IN_SPLIT_PORTS** | |
| **E_VIFMGR_LIF_CURRENT_AND_HOME_NOT_IN_SPLIT** | |
| **E_VIFMGR_LIFS_FAILOVER_GROUP_USES_PORTS_NOT_SPLIT** | |
| **E_VIFMGR_LIFS_FAILOVER_GROUP_USES_PORTS_IN_SPLIT** | |
| **E_VIFMGR_SUBNET_USED_BY_PORTS_IN_BROADCAST_DOMAIN** | |

# net-port-delete

[top]

Delete a physical network port. This is typically used when there is an entry in the port table reffering to a physical port that was previously removed from a node. Any LIFs hosted on the port must be deleted

or moved to another port before deletion of the port is permitted

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Specifies the name of node. |
| **port** | | lif-bindable | Specifies the name of port. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |
| **E_CANT_DELETE_PORT_HOSTING_LIF** | |

# net-port-get

[top]

Get the attributes of a network port.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-port-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | string | Specifies the name of node. |
| **port** | | string | Specifies the name of port. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-port-info | The attributes of the given network port. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# net-port-get-iter

[top]

Iterate over a list of network port objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-port-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-** | integer | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| | 1] | optional | |
| **query** | | net-port-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the given network port object. All given network port objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-port-info[] optional | The list of attributes of given network port objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more given network port objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# net-port-health-monitor-disable

[top]

Disable one or more port health monitors

| Input Name | Range | Type | Description |
|---|---|---|---|
| **health-monitors** | | netport-degraded-reason[] | List of Port Health Monitors to Disable |
| **ipspace** | | string | IPspace Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-port-health-monitor-enable

[top]

Enable one or more port health monitors

| Input Name | Range | Type | Description |
|---|---|---|---|
| **health-monitors** | | netport-degraded-reason[] | List of Port Health Monitors to Enable |
| **ipspace** | | string | IPspace Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# net-port-health-monitor-get

[top]

Get the network port health monitors enabled for an IPspace.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | net-port-health-monitor-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| ipspace | | string | IPspace Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | net-port-health-monitor-info | The attributes of the net. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# net-port-health-monitor-get-iter

[top]

Iterate over the the network port health monitors enabled for each IPspace.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | net-port-health-monitor-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | net-port-health-monitor-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net object. All net objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | net-port-health- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | monitor-info[] optional | The list of attributes of net objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-port-ifgrp-add-port

[top]

Add port to a network interface group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ifgrp-name** | | netport-ifgrp-name | Specifies the interface group name. |
| **node** | | string | Specifies the name of node. |
| **port** | | string | Specifies the name of port. |
| **skip-broadcast-domain-placement** | | boolean optional | Skip Placement Into Broadcast Domain |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |
| **E_DEGRADED_PORT_IFGRP_ADDED** | |

# net-port-ifgrp-create

[top]

Create a new network interface group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **distribution-function** | | string | Specifies the traffic distribution function for the ifgrp. Possible values:<br>• "mac" - Network traffic is distributed on the basis of MAC addresses,<br>• "ip" - Network traffic is distributed on the basis of IP addresses,<br>• "sequential" - Network traffic is distributed round-robin to each interface,<br>• "port" - Network traffic is distributed by transport layer address 4-tuple |
| **ifgrp-name** | | netport-ifgrp-name | Specifies the interface group name. |
| | | | |

| | | | |
|---|---|---|---|
| **mode** | | string | Specifies the link policy for the ifgrp. Possible values:<br>• 'multimode - All links are simultaneously active',<br>• 'multimode_lacp - Link state is managed by the switch using link aggregation control protocol (LACP) (IEEE 802.3ad)',<br>• 'singlemode - Only one link is active at a time' |
| **node** | | string | Specifies the name of node. |
| **return-record** | | boolean optional | If set to true, returns the network interface group on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-ifgrp-info optional | The network interface group created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |
| **E_INVALID_IFGRP_NAME** | |

# net-port-ifgrp-destroy

[top]

Destroy an existing network interface group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ifgrp-name** | | netport-ifgrp-name | Specifies the interface group name. |
| **node** | | string | Specifies the name of node. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# net-port-ifgrp-get

[top]

Get the attributes of a network interface group (ifgrp).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-ifgrp-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| | | netport- | |

| | | | |
|---|---|---|---|
| **ifgrp-name** | | ifgrp-name | Specifies the interface group name. |
| **node** | | string | Specifies the name of node. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-ifgrp-info | The attributes of the network interface group. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# net-port-ifgrp-remove-port

[top]

Remove port from a network interface group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ifgrp-name** | | netport-ifgrp-name | Specifies the interface group name. |
| **node** | | string | Specifies the name of node. |
| **port** | | string | Specifies the name of port. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# net-port-modify

[top]

Modify the given attributes of network port and the rest remain unchanged.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **administrative-duplex** | | string optional | Specifies the user preferred duplex setting of the port. Possible values:<br>• "undef" - No defined duplex,<br>• "auto" - Auto-negotiate duplex setting for link,<br>• "half" - Half-duplex link usage,<br>• "full" - Full-duplex link usage |
| **administrative-flowcontrol** | | string optional | Specifies the user preferred flow control setting of the port. |
| | | | Specifies the user preferred speed setting of the port. Possible values: |

| | | | |
|---|---|---|---|
| **administrative-speed** | | string optional | • "undef" - No defined speed,<br>• "auto" - Auto-negotiate speed for link,<br>• "10" - 10 megabits per second,<br>• "100" - 100 megabits per second,<br>• "1000" - 1 gigabit per second,<br>• "10000" - 10 gigabits per second,<br>• "40000" - 40 gigabits per second,<br>• "100000" - 100 gigabits per second,<br>• "25000" - 25 gigabits per second |
| **autorevert-delay** | **[0..2^32-1]** | integer optional | For a port with role 'cluster', specifies the delay in seconds before autoreverting a LIF to this port. |
| **ignore-health-status** | | boolean optional | Use this parameter to specify that the system ignore network port health status of the specified port for the purpose of hosting a logical interface. The default value for this parameter is false. |
| **ipspace** | | string optional | Specifies the port's associated IPspace name. Note: the 'Cluster' ipspace is reserved for cluster ports. |
| **is-administrative-auto-negotiate** | | boolean optional | Enables or disables Ethernet auto-negotiation of speed, duplex and flow control. |
| **is-administrative-up** | | boolean optional | If true, it changes the state of the port to 'up'. |
| **mtu** | **[0..2^32-1]** | integer optional | Specifies the maximum transmission unit (MTU) reported by the port. |
| **node** | | string | Specifies the name of node. |
| **port** | | string | Specifies the name of port. |
| **role** | | string optional | This parameter has been deprecated in Data ONTAP 8.3, but is still returned for compatibility and may be removed in a future release. Prefer instead to use the 'ipspace' parameter. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# net-port-modify-iter

[top]

Modify the attributes of network port or a group of network port objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-port-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple given network port objects match a given query. If set to true, the API will continue modifying the next matching given network port even when modification of a previous given network port fails. If set to false, the API will return on the first failure. Default: false |
| | | | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify |

| | | | |
|---|---|---|---|
| **max-failure-count** | **[1..2^32-1]** | integer optional | operations before the server gives up and returns. If set, the API will continue modifying the next matching given network port even when the modification of a previous matching given network port fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | net-port-info | If modifying a specific given network port, this input element must specify all keys. If modifying given network port objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of given network port objects (just keys) that were not modified due to some error. If set to false, the list of given network port objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of given network port objects (just keys) that were successfully updated. If set to false, the list of given network port objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | net-port-modify-iter-info[] optional | Information about given network port objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching given network port objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of given network port objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of given network port objects that matched the query and were successfully updated. |
| **success-list** | | net-port-modify-iter-info[] optional | The given network port objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

# net-qos-marking-get-iter

[top]

Iterate over a list of QoS Marking attributes

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qos-marking optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | qos-marking optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-qos-marking object. All net-qos-marking objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | qos-marking[] optional | The list of attributes of net-qos-marking objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-qos-marking objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-qos-marking-modify

[top]

Modify the the QoS Marking attributes of a protocol

| Input Name | Range | Type | Description |
|---|---|---|---|
| **dscp** | **[0..63]** | integer optional | DSCP marking value. Default value for NFS, CIFS, iSCSI, HTTP-fileserv, NDMP, SnapMirror, and SnapMirror-Sync is 10 and for FTP, HTTP-admin, SSH, Telnet, and SNMP is 48. |
| **ipspace** | | string | IPspace Name. |
| **is-enabled** | | boolean optional | QoS Marking status. Default setting is false. |
| **protocol** | | string | Protocol name. Supported values are NFS, CIFS, iSCSI, NVMe-TCP, SnapMirror, SnapMirror-Sync, NDMP, FTP, HTTP-admin, HTTP-fileserv, SSH, Telnet, and SNMP. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-routes-create

[top]

Create a new network route.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination** | | ip-and-mask | Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 |
| **gateway** | | ip-address | Specify the route gateway. Example: 10.7.125.1, fd20:13::1 |
| **metric** | **[0..2^32-1]** | integer optional | Specify the route metric. If this field is not provided the default will be set to 30 |
| **return-record** | | boolean optional | If set to true, returns the network route on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-vs-routes-info optional | The network route created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_EEXIST** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-routes-destroy

[top]

Destroy an existing network route object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination** | | ip-and-mask | Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 |
| **gateway** | | ip-address | Specify the route gateway. Example: 10.7.125.1, fd20:13::1 |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# net-routes-get

[top]

Get the attributes of a network route.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-vs-routes-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination** | | ip-and-mask | Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 |
| **gateway** | | ip-address | Specify the route gateway. Example: 10.7.125.1, fd20:13::1 |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-vs-routes-info | The attributes of the network route. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# net-routes-get-iter

[top]

Iterate over a list of network route objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-vs-routes-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-vs-routes-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the network route object. All network route objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-vs-routes-info[] optional | The list of attributes of network route objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more network route objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EVSERVERNTFOUND | |

# net-routes-lifs-get

[top]

Get the logical interfaces (LIFs) associated with a network route.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-vs-routes-lif-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination** | | ip-and-mask | Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 |
| **gateway** | | ip-address | Specify the route gateway. Example: 10.7.125.1, fd20:13::1 |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-vs-routes-lif-info | The attributes of the network route showlifs. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EVSERVERNTFOUND | |
| EINTERNALERROR | |

# net-routes-lifs-get-iter

[top]

Iterate over a list of network route objects and get the associated logical interfaces (LIFs).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-vs-routes-lif-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-vs-routes-lif-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the network route showlifs object. All network route showlifs objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-vs-routes-lif-info[] optional | The list of attributes of network route showlifs objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more network route showlifs objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |

# net-san-lif-placement-get

[top]

Get the attributes of the SAN LIF Placement.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-type** | | adapter-type | Adapter type |
| **broadcast-domain** | | broadcast-domain-name optional | It is for iSCSI protocol only. If provided, only the candidate ports in the given broadcast domain will be returned; otherwise, all candidate ports will be returned. It is interchangeable with subnet-name. If both are provided but the given subnet is not in the given broadcast domain, then an error will be returned. |
| **ipspace-name** | | string optional | The IPspace that the given subnet or broadcast domain belongs to. It is required when either subnet-name or broadcast-domain is provided. |
| **lifs-per-node** | [0..2^32-1] | integer | LIFs per node |
| **nodelist** | | node-name[] optional | If provided, LIF placement is returned only for the given nodes. Otherwise, they are returned for all nodes in the cluster. |
| **protocol** | | data-protocol | Protocol |
| **subnet-name** | | subnet-name optional | It is for iSCSI protocol only. If provided, only the candidate ports in the broadcast domain that the subnet belongs to will be returned; otherwise, all candidate ports will be returned. It is interchangeable with broadcast-domain. If both are provide but the given subnet is not in the given broadcast domain, then an error will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **lif-placement** | | lif-placement-info[] | SAN LIF placement |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |
| **EADAPTERNOTFOUND** | |
| **E_TOO_FEW_PORTS** | |
| **EAPIUNSUPPORTEDVERSION** | |

# net-subnet-add-ranges

[top]

Add address ranges to a subnet.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force-update-lif-associations** | | boolean optional | This command will fail if any service processor interfaces or network interfaces are using the IP addresses in the ranges provided. Setting this value to true will associate any manually addressed interfaces with the subnet and will allow the command to succeed. |
| **ip-ranges** | | ip-range[] | The list of ranges to add to the subnet |
| **ipspace** | | string optional | IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'. |
| **subnet-name** | | subnet-name | Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_RANGES_NOT_IN_SUBNET** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP** | |

# net-subnet-create

[top]

Create a new subnet object. A subnet object represents a layer 3 subnet in a network.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name | Layer 2 broadcast domain name that the subnet belongs to. |
| **force-update-lif-associations** | | boolean optional | This command will fail if any service processor interfaces or network interfaces are using the IP addresses in the ranges provided. Setting this value to true will associate any manually addressed interfaces with the subnet and will allow the command to succeed. |
| **gateway** | | ip-address optional | The gateway for the default route of the subnet. |

| | | | |
|---|---|---|---|
| **ip-ranges** | | ip-range[] optional | The list of IP address ranges associated with the subnet. |
| **ipspace** | | string optional | IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'. |
| **return-record** | | boolean optional | If set to true, returns the net-subnet on successful creation. Default: false |
| **subnet** | | ip-and-mask | Layer 3 Subnet |
| **subnet-name** | | subnet-name | Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | net-subnet-info optional | The net-subnet created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_INVALID_GATEWAY** | |
| **E_VIFMGR_CONFLICTS_WITH_EXISTING_SUBNET** | |
| **E_VIFMGR_SUBNET_NAME_ALREADY_EXISTS** | |
| **E_VIFMGR_SUBNET_ALREADY_EXISTS** | |
| **E_VIFMGR_SUBNET_SUBNET_NESTED** | |
| **E_VIFMGR_SUBNET_INVALID** | |
| **E_VIFMGR_SUBNET_GATEWAY_NOT_IN_SUBNET** | |
| **E_VIFMGR_SUBNET_GATEWAY_INVALID** | |
| **E_VIFMGR_SUBNET_RANGES_NOT_IN_SUBNET** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_INVALID** | |
| **E_VIFMGR_SUBNET_RANGES_INCLUDE_GATEWAY** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP** | |

# net-subnet-destroy

[top]

Destroy an existing subnet object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force-update-lif-associations** | | boolean optional | This command will fail if the subnet has ranges containing any existing service processor interface or network interface IP addresses. Setting this value to true will remove the network interface associations with the subnet and allow the command to succeed. However, it will not affect service processor interfaces. |
| **ipspace** | | string optional | IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'. |
| **subnet-** | | subnet- | Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or |

| | | | |
|---|---|---|---|
| **name** | | name | a specific subnet IP value, 198.18.10.0/24 is allowed. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP** | |

# net-subnet-get

[top]

Get the attributes of the subnet object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-subnet-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **ipspace** | | string | IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'. |
| **subnet-name** | | subnet-name | Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-subnet-info | The attributes of the net-subnet. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_NOT_FOUND** | |

# net-subnet-get-iter

[top]

Iterate over a list of subnet objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-subnet-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-** | integer | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| | 1] | optional | |
| **query** | | net-subnet-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-subnet object. All net-subnet objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-subnet-info[] optional | The list of attributes of net-subnet objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-subnet objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_NOT_FOUND** | |

# net-subnet-modify

[top]

Modify an existing subnet object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force-update-lif-associations** | | boolean optional | This command will fail if any service processor interfaces or network interfaces are using the IP addresses in the ranges provided. Setting this value to true will associate any manually addressed interfaces with the subnet and will allow the command to succeed. |
| **gateway** | | ip-address optional | The gateway for the default route of the subnet. |
| **ip-ranges** | | ip-range[] optional | The list of IP address ranges associated with the subnet. |
| **ipspace** | | string optional | IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'. |
| **subnet** | | ip-and-mask optional | Layer 3 Subnet |
| **subnet-name** | | subnet-name | Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |

| | |
|---|---|
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_ENTRY_EXISTS** | |
| **E_VIFMGR_SUBNET_DUPLICATE_SUBNET** | |
| **E_VIFMGR_SUBNET_SUBNET_NESTED** | |
| **E_VIFMGR_SUBNET_INVALID** | |
| **E_VIFMGR_SUBNET_GATEWAY_NOT_IN_SUBNET** | |
| **E_VIFMGR_SUBNET_GATEWAY_INVALID** | |
| **E_VIFMGR_SUBNET_RANGES_NOT_IN_SUBNET** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_INVALID** | |
| **E_VIFMGR_SUBNET_RANGES_INCLUDE_GATEWAY** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP** | |
| **E_VIFMGR_SUBNET_LIF_NETMASK_CHANGE_NOT_SUPPORTED** | |
| **E_VIFMGR_SUBNET_LIF_NETMASK_MISMATCH** | |

# net-subnet-remove-ranges

[top]

Remove address ranges from a subnet.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force-update-lif-associations** | | boolean optional | This command will fail if any existing service processor interfaces or network interfaces are using IP addresses in the ranges provided. Setting this value to true will remove the subnet's association with those interfaces and allow the command to succeed. |
| **ip-ranges** | | ip-range[] | IP ranges to remove |
| **ipspace** | | string optional | IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'. |
| **subnet-name** | | subnet-name | Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_RANGES_NOT_IN_SUBNET** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE** | |
| **E_VIFMGR_SUBNET_RANGES_ADDRESS_IN_USE_BY_SP** | |

# net-subnet-rename

[top]

Rename a layer 3 subnet.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string optional | IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'. |
| **new-name** | | string | New name for the layer 3 subnet |
| **subnet-name** | | subnet-name | Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |
| **E_VIFMGR_BROADCAST_DOMAINS_NOT_ENABLED** | |
| **E_VIFMGR_IPSPACE_NOT_FOUND** | |
| **E_VIFMGR_BROADCAST_DOMAIN_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_NOT_FOUND** | |
| **E_VIFMGR_SUBNET_ALREADY_EXISTS** | |

# net-subnets-for-broadcast-domain-get

[top]

Get the list of subnets associated with the layer 2 broadcast domain object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name | The name of the layer 2 broadcast domain. |
| **desired-attributes** | | net-subnets-for-broadcast-domain-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **ipspace** | | string | IPspace name that the layer 2 broadcast domain belongs to. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-subnets-for-broadcast-domain-info | The attributes of the net-subnets-for-broadcast-domain. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |

# net-subnets-for-broadcast-domain-get-iter

[top]

Iterate over a list of subnets associated with the layer 2 broadcast domain objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | net- | |

| | | | |
|---|---|---|---|
| **desired-attributes** | | subnets-for-broadcast-domain-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | net-subnets-for-broadcast-domain-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-subnets-for-broadcast-domain object. All net-subnets-for-broadcast-domain objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | net-subnets-for-broadcast-domain-info[] optional | The list of attributes of net-subnets-for-broadcast-domain objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-subnets-for-broadcast-domain objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **E_NET_UI_VIFMGR_NOT_INITIALIZED** | |

# net-test-path

[top]

Test performance between specified nodes

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection-detail** | | boolean optional | Display test results per network path. |
| **destination-cluster** | | cluster-name | The cluster containing the destination node. |
| **destination-node** | | string | The node receiving the session request. |
| **session-type** | | csm-session-type | Type of session used for session parameters. Possible values:<br>• "asyncmirrorlocal" - Intra-cluster Async Mirror,<br>• "asyncmirrorremote" - Inter-cluster Async Mirror,<br>• "remotedatatransfer" - Intra-cluster File/Lun Read/Write |

| | | | |
|---|---|---|---|
| **source-node** | | node-name | The node initiating the session request. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **average-latency** | **[0..2^64-1]** | integer optional | Average request + response time in microseconds, for all request/response pairs. |
| **cookie** | **[0..2^32-1]** | integer optional | The send cookie used for the request. |
| **maximum-latency** | **[0..2^64-1]** | integer optional | Maximum request + response time in microseconds, for all request/response pairs. |
| **minimum-latency** | **[0..2^64-1]** | integer optional | Minimum request + response time in microseconds, for all request/response pairs. |
| **receive-throughput** | **[0..2^64-1]** | integer optional | Receive throughput (destination to source node) in bytes/second. |
| **send-throughput** | **[0..2^64-1]** | integer optional | Send throughput (source to destination node) in bytes/second. |
| **test-duration** | **[0..2^64-1]** | integer optional | Test duration in microseconds. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-traceroute6

[top]

Trace the route IPv6 packets take to a host. The input node is exclusive with the interface input. Only one is allowed. The interface input must be specified with interface owner.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **debug-mode** | | boolean optional | Specifies the use of debug-mode for socket level debugging. Default: False |
| **destination-address** | | string | Specifies the IPv6 address of the destination. |
| **first-hop** | | integer optional | Specifies the number of hops to skip in trace. Default: 1. |
| **gateway** | | remote-inet-address optional | Specifies the intermediate gateway. |
| **hop-limit** | | integer optional | Specifies the maximum hoplimit. Default: 64. Range: [1..255]. |
| **interface** | | string optional | Specifies the LIF from where traceroute is to be started. This interface input must be specified with the interface-owner input. |
| **interface-owner** | | string optional | Specifies the optional Vserver from which traceroute is to be started. If Vserver is not specified, then traceroute will be started from cluster adminstration Vserver of the cluster. |
| **node** | | string optional | Specifies the node from which traceroute is to be started. The input node is exclusive with the interface input. Only one is allowed. |
| **nqueries** | | integer optional | Specifies the number of probes per hop. Default: 3. |
| **numeric** | | boolean | Specifies printing of hop addresses only numerically rather than |

| | | | |
|---|---|---|---|
| | | optional | symbolically and numerically. Default: False. |
| **packet-size** | | integer optional | Specifies the size of probe packets in bytes. Default: 16 for ICMP6 ECHO and 12 for UDP datagrams. |
| **port** | | integer optional | Specifies the base UDP port number used in probes. Default: 33434. |
| **use-icmp6** | | boolean optional | Specifies use of ICMP6 ECHO instead of UDP datagrams for probes. This parameter is mutually exclusive with the udp parameter. Default: False. |
| **use-udp** | | boolean optional | Specifies use of UDP datagrams for probes. This parameter is mutually exclusive with the icmp6 parameter. Default: True. |
| **verbose** | | boolean optional | Specifies that all received ICMP packets must be displayed rather than just TIME_EXCEEDED and UNREACHABLE packets. Default: False. |
| **wait-time** | | integer optional | Specifies the delay time between probes in seconds. Default: 5. Range: [1..65535]. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **raw-output** | | string optional | The multi-line output of the OS level traceroute6 command. |

| Errno | Description |
|---|---|
| **EONTAPI_EAFNOSUPPORT** | |
| **EONTAPI_EPERM** | |
| **EONTAPI_ENOPROTOOPT** | |
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# net-tuning-icmp-get

[top]

Get ICMP tuning options.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-tuning-icmp-options optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-tuning-icmp-options | The attributes of the ICMP protocol tuning. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-tuning-icmp-modify

[top]

Modify ICMP tuning options

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-drop-redirect-enabled** | | boolean optional | Drop redirect ICMP |
| **node** | | node-name | Node |
| **redirect-timeout** | **[0..65535]** | integer optional | Maximum seconds for route redirect timeout |
| **tx-icmp-limit** | **[0..2^32-1]** | integer optional | Maximum number of ICMP packets sent per second |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-tuning-icmp6-get

[top]

Get ICMPv6 tuning options.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-tuning-icmp6-options optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-tuning-icmp6-options | The attributes of the ICMPv6 protocol tuning. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-tuning-icmp6-modify

[top]

Modify ICMPv6 tuning options

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-v6-redirect-** | | boolean | Accept redirects via ICMPv6 |

| | | | |
|---|---|---|---|
| **accepted** | | optional | |
| **node** | | node-name | Node |
| **redirect-v6-timeout** | **[0..65535]** | integer optional | Maximum seconds for route redirect timeout |
| **tx-icmp6-err-limit** | **[0..2^32-1]** | integer optional | Maximum number of ICMPv6 error messages sent per second |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-tuning-tcp-get

[top]

Get TCP tuning options.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | net-tuning-tcp-options optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | net-tuning-tcp-options | The attributes of the TCP protocol tuning. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-tuning-tcp-modify

[top]

Modify TCP tuning options

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-path-mtu-discovery-enabled** | | boolean optional | Path MTU discovery enabled |
| **is-rfc3390-enabled** | | boolean optional | RFC3390 enabled |
| **is-rfc3465-enabled** | | boolean optional | RFC3465 enabled |
| **is-sack-enabled** | | boolean | SACK support enabled |

| | | | |
|---|---|---|---|
| | | optional | |
| **max-cwnd-increment** | **[0..2^32-1]** | integer optional | Maximum congestion window segments incrementation |
| **node** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-vip-port-create

[top]

Create a new VIP port.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string | IPspace Name |
| **node** | | node-name | Node |
| **port** | | net-port | Network Port |
| **return-record** | | boolean optional | If set to true, returns the net-vip-port on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | vip-port-info optional | The net-vip-port created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-vip-port-destroy

[top]

Delete a VIP port.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node |
| **port** | | net-port | Network Port |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# net-vip-port-get

[top]

Get the attributes of a VIP port.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vip-port-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |
| **port** | | net-port | Network Port |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vip-port-info | The attributes of the net-vip-port. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

# net-vip-port-get-iter

[top]

Iterate over a list of VIP ports.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vip-port-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vip-port-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-vip-port object. All net-vip-port objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vip-port-info[] optional | The list of attributes of net-vip-port objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-vip-port objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# net-vlan-create

[top]

Create a new vlan interface. In Data ONTAP 7-Mode, changes made by this API are not persisted across system reboots. In Data ONTAP Cluster-Mode, changes made by this API are persisted across system reboots.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **vlan-info** | | vlan-info | Vlan to create. |

| Errno | Description |
|---|---|
| **EVLANEXISTS** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EINVALIDTAG** | |
| **EINTERFACENOTFOUND** | |

# net-vlan-delete

[top]

Delete a vlan interface. In Data ONTAP 7-Mode, changes made by this API are not persisted across system reboots. In Data ONTAP Cluster-Mode, changes made by this API are persisted across system reboots.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **vlan-info** | | vlan-info | Vlan to delete. |

| Errno | Description |
|---|---|
| **EINTERFACENOTFOUND** | |

# net-vlan-get

[top]

Get the attributes of a VLAN.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vlan-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **interface-name** | | string | Name of vlan interface. The name must be of the format <parent-inteface>-<vlanid> |
| **node** | | string | Node name of vlan interface. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | vlan- | |

| | | | |
|---|---|---|---|
| **attributes** | | info | The attributes of the network VLAN |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

## net-vlan-get-iter

[top]

Iterate over a list of VLAN objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vlan-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vlan-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the net-vlan object. All net-vlan objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vlan-info[] optional | The list of attributes of net-vlan objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more net-vlan objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

# Element definition: **adapter-type**

[top]

Adapter types of physical and logical network ports capable of hosting LIFs. Possible values:

- "fc" - Used for FC Adapters,
- "cna" - Used for CNA Adapters,
- "nic" - Used for NIC Adapters,

"ifgrp" - Used for Interface Groups,
- "cna_or_nic" - Used for CNA and NIC Adapters

[none]

# Element definition: **bgp-vserver-info**

[top]

BGP Vserver status. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ipv4-status** | | vserver-bgp-state optional | IPv4 status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Fail to query BGP sessions state,<br>• "unconfigured" - BGP is not configured,<br>• "up" - At lease one BGP session is up,<br>• "down" - No BGP sessions are up |
| **ipv6-status** | | vserver-bgp-state optional | IPv6 status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Fail to query BGP sessions state,<br>• "unconfigured" - BGP is not configured,<br>• "up" - At lease one BGP session is up,<br>• "down" - No BGP sessions are up |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **broadcast-domain-name**

[top]

Broadcast Domain

[none]

# Element definition: **broadcast-domain-port-status**

[top]

Possible port update states for a broadcast domain operation Possible values:

- "complete" - Port updates are complete and values match the broadcast domain,
- "in_progress" - Port values are being updated to match the broadcast domain,
- "error" - An error was encountered and values do not match the broadcast domain,
- "overridden_while_offline" - Port values were overriden while offline

[none]

# Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

# Element definition: **csm-session-type**

[top]

AsyncMirrorLocal|AsyncMirrorRemote|RemoteDataTransfer Possible values:

- "asyncmirrorlocal" - Intra-cluster Async Mirror,
- "asyncmirrorremote" - Inter-cluster Async Mirror,
- "remotedatatransfer" - Intra-cluster File/Lun Read/Write

[none]

# Element definition: **data-lif-capacity-details-info**

[top]

Information Regarding Data LIF Capacity When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **capacity-for-node** | **[0..2^32-1]** | integer optional | Specifies the number of IP data LIFs that can be configured on the nblade of this node. Attributes: non-creatable, non-modifiable |
| **count-for-node** | **[0..2^32-1]** | integer optional | Specifies the number of IP data LIFs that are currently homed on this node. Attributes: non-creatable, non-modifiable |
| **limit-for-node** | **[0..2^32-1]** | integer optional | Specifies the number of IP data LIFs that are supported on this node. Attributes: non-creatable, non-modifiable |
| | | node- | Specifies the node for which the capacity details are provided. |

| | | | |
|---|---|---|---|
| **node** | | name optional | Attributes: key, non-creatable, non-modifiable |

# Element definition: **data-lif-capacity-info**

[top]

Information Regarding Data LIF Capacity When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^32-1]** | integer optional | Specifies the number of IP data LIFs that are currently configured in the cluster. Attributes: non-creatable, non-modifiable |
| **limit** | **[0..2^32-1]** | integer optional | Specifies the number of IP data LIFs that are supported in the cluster. Attributes: non-creatable, non-modifiable |

# Element definition: **data-protocol**

[top]

nfs|cifs|iscsi|fcp|fcache|none|fc-nvme|s3|nvme-tcp Possible values:

- "nfs" - Used for NFS connections,
- "cifs" - Used for CIFS connections,
- "iscsi" - Used for iSCSI connections,
- "fcp" - Used for Fibre Channel connections,
- "fcache" - Used for 7-mode FlexCache connections,
- "none" - Used for management. Does not serve any file protocols.,
- "http" - Used for HTTP connections,
- "fc_nvme" - Used for NVMe/FC connections,
- "s3" - Used for S3 connections,
- "nvme_roce" - Used for NVMe/RoCE connections,
- "nvme_tcp" - Used for NVMe/TCP connections

[none]

# Element definition: **dns-status**

[top]

DNS Configuration Check When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **name-server** | | string optional | Specifies the IP address of a DNS configuration. Attributes: key, non-creatable, non-modifiable |
| **status** | | string optional | Specifies the status of a DNS configuration. Attributes: non-creatable, non-modifiable |
| **status-details** | | string optional | Specifies additional information about the status of a DNS configuration. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Specifies the Vserver for the DNS configuration. Attributes: key, non-creatable, non-modifiable |

# Element definition: **dns-zone**

[top]

Specifies the unique, fully qualified domain name of the DNS zone of this LIF.

[none]

# Element definition: **enable**

[top]

'enabled' or 'disabled'

[none]

# Element definition: **external-route-table-info**

[top]

External Routing Table Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **route-table-id** | | string optional | Route Table ID Attributes: key, required-for-create, non-modifiable |

# Element definition: **failover-group**

[top]

Specifies the failover group name.

[none]

# Element definition: **filer-id**

[top]

Filer UUID

[none]

# Element definition: **fw-service**

[top]

[none]

# Element definition: **hosts-info**

[top]

Name attributes for one host When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aliases** | | string[] optional | The list of aliases such as 'host1.sales.foo.com'. Attributes: optional-for-create, modifiable |
| **host-ip-address** | | ip-address optional | IPv4 address in dotted form as '123.123.123.123'. Attributes: key, required-for-create, non-modifiable |
| **hostname** | | string optional | Canonical hostname in a simple string or in FQDN Attributes: required-for-create, modifiable |
| **vserver-name** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

## Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

## Element definition: **ip-range**

[top]

IPv4 and IPv6 address range containing a start address and an end address. The start and end addresses themselves are included in the range.

An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '4:3:2:1:d:c:b:b-4:3:2:1:d:c:b:c'

[none]

## Element definition: **ipaddresstype**

[top]

ipv4|ipv6|ipv6z Possible values:

- "unknown" ,
- "ipv4" ,
- "ipv6" ,
- "ipv4z" ,
- "ipv6z" ,
- "dns"

[none]

## Element definition: **lif-bindable**

[top]

|

[none]

## Element definition: **lif-capacity-info**

[top]

Information Regarding Potentially Over-Provisioned LIFs When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **destination-nodes** | | filer-id[] optional | This represents the set of nodes a given LIF or LIFs could fail over to. Each node in the list contains at least one port in the given LIF's set of failover targets. Filtering on this field will select only LIFs whose set of failover targets matches the query. Attributes: key, non-creatable, non-modifiable |
| **failover-group** | | failover-group optional | Specifies the name of an at-risk LIF's failover group. Filtering on this field will select only LIFs whose failover-group attribute matches the query. Attributes: non-creatable, non-modifiable |
| **failover-policy** | | string optional | Specifies the failover policy for an at-risk LIF. Filtering on this field will select only LIFs whose failover-policy attribute matches the query. Attributes: non-creatable, non-modifiable |
| **lif-name** | | lif-name optional | Specifies the name of an at-risk LIF. Filtering on this field will select only LIFs whose name matches the query. Attributes: key, non-creatable, non-modifiable |
| **over-amount** | **[0..2^32-1]** | integer optional | Indicates the number of LIFs over capacity for a given set of destination-nodes. For all rows returned, this value shall be greater than zero. Filtering on this field will select only LIFs associated with a set of destination nodes whose amount over capacity matches the query. Attributes: non-creatable, non-modifiable |
| **vserver-name** | | vif-owner-name optional | Specifies the name of the vserver which owns the LIF. Filtering on this field will select only LIFs whose vserver matches the query. Attributes: key, non-creatable, non-modifiable |

# Element definition: **lif-name**

[top]

Logical Interface Id

[none]

# Element definition: **lif-placement-info**

[top]

SAN LIF placement When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **home-node** | | node-name optional | Home node info Attributes: non-creatable, non-modifiable |
| **home-port** | | string optional | Port info Attributes: non-creatable, non-modifiable |

# Element definition: **lif-service-name** [top]

The name of network interface service.

[none]

# Element definition: **mac-address** [top]

MAC Address

[none]

# Element definition: **ndp-neighbor-info** [top]

NDP Neighbor Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **mac-address** | | mac-address optional | Specifies the neighbor's MAC Address. Attributes: required-for-create, non-modifiable |
| **neighbor-address** | | ip-address optional | Specifies the neighbor's IPv6 Address. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | Specifies the Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-active-routes-info**

[top]

Active Routes Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address-type** | | ipaddresstype optional | Specify the address type. Possible values are ipv4 and ipv6. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "ipv4" ,<br>• "ipv6" ,<br>• "ipv4z" ,<br>• "ipv6z" ,<br>• "dns" |
| **destination** | | string optional | Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 Attributes: key, non-creatable, non-modifiable |
| **flags** | | string optional | Specify the route's flags. Possible values for flags are U(Usable), G(Gateway), H(Host), R(Reject), D(Dynamic), S(Static), 1(Protocol1), 2(Protocol2), L(Llinfo), and C(Clone). Multiple values can be specified. Example: UHS, UC Attributes: non-creatable, non-modifiable |
| **gateway** | | string optional | Specify the gateway. Example: 10.7.125.1, fd20:13::1 Attributes: key, non-creatable, non-modifiable |
| **interface** | | string optional | Specify the route's interface. Attributes: key, non-creatable, non-modifiable |
| **lookup-count** | **[0..2^32-1]** | integer optional | Specify the count of lookups for the route. Attributes: non-creatable, non-modifiable |
| **metric** | **[0..2^32-1]** | integer optional | Specify the route metric. Default: 30 Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | Specify the name of the node. Attributes: key, non-creatable, non-modifiable |
| **path-mtu** | **[0..2^32-1]** | integer optional | Specify the Maximum Transmission Unit for the Path. Attributes: non-creatable, non-modifiable |
| **reference-count** | **[0..2^32-1]** | integer optional | Specify the route's reference count. Attributes: non-creatable, non-modifiable |
| **route-interface-address** | | string optional | Specify the Route Interface Address. Attributes: key, non-creatable, non-modifiable |
| **subnet-group** | | ip-and-mask optional | Specify the name of the subnet group. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vif-owner-name optional | Specify the name of the Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-arp-info**

[top]

ARP Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ip-space** | | string optional | IPspace from which to get the ARP entry. Attributes: non-creatable, non-modifiable |
| **mac-address** | | mac-address optional | MAC address of remote host. Attributes: required-for-create, non-modifiable |
| **remote-host** | | ip-address optional | Remote IP address for which to get the ARP entry. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | Vserver from which to get the ARP entry. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-arp-operational-info**

[top]

ARP Active-entry Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **mac-address** | | string optional | MAC address of remote host. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node from which to get the ARP active entry. Attributes: key, required-for-create, non-modifiable |
| **port-name** | | string optional | Port name from which to get the ARP active entry. Attributes: key, optional-for-create, non-modifiable |
| **remote-host** | | string optional | Remote IP address for which to get the ARP active entry. Attributes: key, required-for-create, non-modifiable |
| **subnet-group** | | ip-and-mask optional | Subnet group from which to get the ARP active entry. Attributes: key, required-for-create, non-modifiable |
| | | vif-owner- | System or Admin Vserver from which to get the ARP active entry. |

| | | | |
|---|---|---|---|
| **vserver** | | name optional | Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-bgp-config-info**

[top]

BGP Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **asn** | **[0..2^32-1]** | integer optional | The autonomous system number to which this node belongs. Attributes: required-for-create, modifiable |
| **hold-time** | **[0..2^32-1]** | integer optional | The hold time (seconds) value to use for this node when negotiating a connection with the peer. Attributes: required-for-create, modifiable |
| **node** | | node-name optional | The node name that the BGP configuration belongs to. Attributes: key, required-for-create, non-modifiable |
| **router-id** | | ip-address optional | The router id (IPv4) to use for this node when negotiating a connection with the peer. Attributes: required-for-create, modifiable |

# Element definition: **net-bgp-defaults-info**

[top]

BGP Default Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **asn** | **[0..2^32-1]** | integer optional | The cluster wide default value for autonomous system number. Attributes: non-creatable, modifiable |
| **hold-time** | **[0..2^32-1]** | integer optional | The cluster wide default value for routing information hold time (seconds). Attributes: non-creatable, modifiable |

[top]

# Element definition: **net-bgp-peer-group-info**

BGP peer group information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **bgp-lif** | | lif-name optional | The LIF associated with this peer group. Attributes: required-for-create, non-modifiable |
| **bgp-node** | | filer-id optional | The node where the peer group exists. Attributes: non-creatable, non-modifiable |
| **bgp-port** | | net-port optional | The port where the BGP interface is hosted. Attributes: non-creatable, non-modifiable |
| **ipspace** | | string optional | Name of the IPspace that the peer group belongs to. Attributes: key, required-for-create, non-modifiable |
| **peer-address** | | ip-address optional | The remote peer router address. Attributes: required-for-create, modifiable |
| **peer-asn** | **[0..2^32-1]** | integer optional | The remote peer router Autonomous number. The default value for this paramenter is '0'. Attributes: optional-for-create, non-modifiable |
| **peer-group** | | string optional | The name of the peer group. Attributes: key, required-for-create, non-modifiable |
| **route-preference** | **[0..2^32-1]** | integer optional | The route preference value associated with this peer group. Attributes: required-for-create, non-modifiable |
| **state** | | bgp-session-state optional | The bgp session state. Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "unknown" ,<br>• "up" ,<br>• "down" |

# Element definition: **net-ddns-info**

[top]

Contains Dynamic DNS Update configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **domain-name** | | string optional | Vserver FQDN to Be Used for DNS Updates Attributes: optional-for-create, modifiable |
| **is-enabled** | | boolean optional | Is Dynamic DNS Update Enabled? Attributes: optional-for-create, modifiable |
| **skip-fqdn-validation** | | boolean optional | Specifies if the Vserver FQDN name validation is skipped. Attributes: optional-for-create, modifiable |
| **ttl** | | time-interval optional | TTL For the Dynamically Updated DNS Records. Maximum Supported Value Is 720h. Default: 24h. Attributes: optional-for-create, modifiable |
| **use-secure** | | boolean optional | Use Secure Dynamic DNS Updates? Attributes: optional-for-create, modifiable |
| **vserver-name** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-device-discovery-info**

[top]

Information about discovered devices When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **capabilities** | | device-capability[] optional | Capabilities of the discovered devices. For example: switch, igmp. Attributes: non-creatable, non-modifiable Possible values:<br>• "router" - Router,<br>• "trans_bridge" - Trans Bridge,<br>• "source_route_bridge" - Source Route Bridge,<br>• "switch" - Switch,<br>• "host" - Host,<br>• "igmp" - IGMP,<br>• "repeater" - Repeater,<br>• "phone" - Phone |
| **chassis-id** | | string optional | Chassis ID of the discovered device. Attributes: non-creatable, non-modifiable |
| **device-ip** | | ip-address[] optional | IP address(es) of the discovered device. At present, only IPv4 addresses are included. Attributes: non-creatable, non-modifiable |
| **discovered-device** | | string optional | Device discovered by the physical network port. Attributes: key, non-creatable, non-modifiable |
| **hold-time-remaining** | **[0..2^32-1]** | integer optional | Remaining packet hold time in seconds for the discovered device. Attributes: non-creatable, non-modifiable |
| **interface** | | string optional | Interface port of the discovered device. The format is dependent on the reporting device. For example: FastEthernet0/12 or e0a Attributes: key, non-creatable, non-modifiable |
| | | string | The node on which the network port resides. Attributes: key, non- |

| | | | |
|---|---|---|---|
| **node** | | optional | creatable, non-modifiable |
| **platform** | | string optional | Platform of the discovered device. For example: N5K-C5010P-BF Attributes: non-creatable, non-modifiable |
| **port** | | string optional | The name of the physical network port for device discovery. For example: e0a Attributes: key, non-creatable, non-modifiable |
| **protocol** | | string optional | The name of the discovery protocol. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "cdp" ,<br>• "lldp" |
| **system-name** | | string optional | System Name of the discovered device. Attributes: non-creatable, non-modifiable |
| **version** | | string optional | Software version of the discovered device. Attributes: non-creatable, non-modifiable |

# Element definition: **net-dns-info**

[top]

Contains DNS configuration information of a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **attempts** | **[1..4]** | integer optional | Max number of trials before giving up and returning error. Default is one. Attributes: optional-for-create, modifiable |
| **dns-state** | | enable optional | Enable/Disable DNS. Possible values are 'enabled' or 'disabled'. Attributes: optional-for-create, modifiable |
| **domains** | | string[] optional | List of DNS domains such as 'sales.bar.com'. The first domain is the one that the Vserver belongs to. Attributes: required-for-create, modifiable |
| **is-tld-query-enabled** | | boolean optional | Use this parameter to enable or disable top-level domain (TLD) queries. TLD is a name that contains no dots. Default is true. Attributes: optional-for-create, modifiable |
| **name-servers** | | ip-address[] optional | IPv4 addresses of name servers such as '123.123.123.123'. Attributes: required-for-create, modifiable |
| **require-packet-query-match** | | boolean optional | Require query sections of query and response packets to match. Attributes: optional-for-create, modifiable |
| **require-source-address-match** | | boolean optional | Require source IP address of reply to match the name-server address. Attributes: optional-for-create, modifiable |
| **skip-config-validation** | | boolean optional | Skip Configuration Validation Attributes: optional-for-create, modifiable |
| | | | Number of seconds to wait for a response from a name server before |

| | | | |
|---|---|---|---|
| **timeout** | **[1..5]** | integer optional | trying a different name server. Default is two seconds. Attributes: optional-for-create, modifiable |
| **vserver-name** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-failover-group-info**

[top]

Failover Group Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name optional | Broadcast Domain Attributes: non-creatable, non-modifiable |
| **failover-group** | | string optional | The failover group. Attributes: key, required-for-create, non-modifiable |
| **targets** | | net-qualified-port-name[] optional | The list of potential failover targets to be used. Lifs within the specified vserver and assigned to the specified failover-group will use this list of failover targets as needed. Format: node-name:port-name Attributes: required-for-create, modifiable |
| **vserver** | | vif-owner-name optional | The vserver for which the failover group is defined. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-firewall-config-info**

[top]

Firewall configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-** | | boolean | Specifies whether firewall protection is enabled (true) or disabled (false) for |

| | | | |
|---|---|---|---|
| **enabled** | | optional | the node's network ports. The default setting is true. Attributes: non-creatable, modifiable |
| **is-logging** | | boolean optional | This parameter has been deprecated in Data ONTAP 9.0, but is still returned for compatibility and may be removed in a future release. Specifies whether logging is enabled (true) or disabled (false) for the firewall service. The default setting is false. Attributes: non-creatable, modifiable |
| **node-name** | | node-name optional | Specifies the node on which the firewall configiration is set. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-firewall-config-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against firewall configuration object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **net-firewall-config-key** | | net-firewall-config-info | The keys for the firewall configuration object to which the modify operation applies. |

# Element definition: **net-firewall-policy-info**

[top]

Firewall policy When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **allow-list** | | ip-and-mask[] optional | Specifies the list of client IPs that are permitted to access the specified service running on LIFs with the specified policy. Format: Attributes: required-for-create, modifiable |
| **ipspace** | | string optional | Specifies the ipspace of the vserver for which the policy is defined. Attributes: non-creatable, non-modifiable |
| **policy** | | string optional | Specifies the name of the firewall policy Attributes: key, required-for-create, non-modifiable |
| | | | Specifies the network service that is associated with the firewall policy. A firewall policy can be associated with multiple services. Possible values include:<br>• 'dns: - THe DNS protocol server',<br>• 'http: - The HTTP protocol', |

| | | | |
|---|---|---|---|
| **service** | | fw-service optional | • 'ndmp: - The NDMP tape backup protocol',<br>• 'ndmps: - The NDMPS tape backup protocol',<br>• 'none: - No protocol (for creating an empty policy)',<br>• 'ntp: - The NTP protocol',<br>• 'rsh: - The RSH protocol',<br>• 'snmp: - The SNMP protocol',<br>• 'telnet: - The Telnet protocol',<br><br>Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | Specifies the name of the vserver on which the firewall policy is defined. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-ifgrp-info**

[top]

Network interface group information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **distribution-function** | | string optional | Specifies the traffic distribution function for the ifgrp. Attributes: required-for-create, non-modifiable Possible values:<br><br>• "mac" - Network traffic is distributed on the basis of MAC addresses,<br>• "ip" - Network traffic is distributed on the basis of IP addresses,<br>• "sequential" - Network traffic is distributed round-robin to each interface,<br>• "port" - Network traffic is distributed by transport layer address 4-tuple |
| **down-ports** | | lif-bindable[] optional | Specifies all inactive ports of an ifgrp. Attributes: non-creatable, non-modifiable |
| **ifgrp-name** | | netport-ifgrp-name optional | Specifies the interface group name. Attributes: key, required-for-create, non-modifiable |
| **mac-address** | | string optional | Specifies the MAC address of the ifgrp. For example: '02:0c:29:78:e1:b7' Attributes: non-creatable, non-modifiable |
| **mode** | | string optional | Specifies the link policy for the ifgrp. Possible values:<br><br>• 'multimode - All links are simultaneously active',<br>• 'multimode_lacp - Link state is managed by the switch using link aggregation control protocol (LACP) (IEEE 802.3ad)',<br>• 'singlemode - Only one link is active at a time'<br><br>Attributes: required-for-create, non-modifiable |
| **node** | | string optional | Specifies the name of node. Attributes: key, required-for-create, non-modifiable |

| | | | |
|---|---|---|---|
| **port-participation** | | string optional | Port participation state of the ifgrp. Attributes: non-creatable, non-modifiable Possible values:<br>• "full" - Indicates all the ifgrp ports are active,<br>• "partial" - Indicates not all the ifgrp ports are active,<br>• "none" - Indicates none of the ifgrp ports is active |
| **ports** | | lif-bindable[] optional | List of ports associated with this ifgrp. Attributes: non-creatable, non-modifiable |
| **up-ports** | | lif-bindable[] optional | Specifies all active ports of an ifgrp. Attributes: non-creatable, non-modifiable |

# Element definition: **net-interface-info**

[top]

Network interface information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | Specifies the LIF's IP address. This element is valid for all data protocols except FCP. Attributes: optional-for-create, modifiable |
| **address-family** | | string optional | Address family Attributes: non-creatable, non-modifiable |
| **administrative-status** | | string optional | Specifies the administrative status of the LIF. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the interface from functioning, the operational status remains as down. Possible values:<br>• 'up',<br>• 'down',<br><br>Attributes: optional-for-create, modifiable |
| **comment** | | string optional | Comment Attributes: optional-for-create, modifiable |
| **current-node** | | string optional | The node on which the LIF currently resides. Upon LIF migration 'current-node' may be different from 'home-node'. Attributes: non-creatable, non-modifiable |
| **current-port** | | string optional | The port on which the LIF currently resides. Upon LIF migration 'current-port' may be different from 'home-port'. Attributes: non-creatable, non-modifiable |
| | | | Specifies the list of data protocols configured on the LIF. By default, the values in this element are nfs, cifs and fcache. Other supported protocols are iscsi and fcp. A LIF can be configured to not support any data protocols by specifying |

| | | | |
|---|---|---|---|
| **data-protocols** | | data-protocol[] optional | 'none'. Protocol values of none, iscsi or fcp can't be combined with any other data protocol(s). Attributes: optional-for-create, non-modifiable Possible values:<br>• "nfs" - Used for NFS connections,<br>• "cifs" - Used for CIFS connections,<br>• "iscsi" - Used for iSCSI connections,<br>• "fcp" - Used for Fibre Channel connections,<br>• "fcache" - Used for 7-mode FlexCache connections,<br>• "none" - Used for management. Does not serve any file protocols.,<br>• "http" - Used for HTTP connections,<br>• "fc_nvme" - Used for NVMe/FC connections,<br>• "s3" - Used for S3 connections,<br>• "nvme_roce" - Used for NVMe/RoCE connections,<br>• "nvme_tcp" - Used for NVMe/TCP connections |
| **dns-domain-name** | | dns-zone optional | Specifies the unique, fully qualified domain name of the DNS zone of this LIF. Attributes: optional-for-create, modifiable |
| **extended-status** | | string optional | Specifies an extended description of why the LIF has an operational status of down. Attributes: non-creatable, non-modifiable |
| **failover-group** | | failover-group optional | Specifies the failover group name. Attributes: optional-for-create, modifiable |
| **failover-policy** | | string optional | Specifies the failover policy for the LIF. For FCP and iSCSI LIFs, the only failover policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'nextavail'. Attributes: optional-for-create, modifiable |
| **firewall-policy** | | string optional | Specifies the firewall policy for the LIF. Default firewall-policy is set as per the following table:<br>• 'LIF Role Protocols Default policy',<br>• '------- --------- --------------',<br>• 'data none mgmt',<br>• 'data any (except fcp) data',<br>• 'node_mgmt any mgmt',<br>• 'cluster_mgmt any mgmt',<br>• 'cluster any cluster',<br>• 'intercluster any intercluster'<br><br>Attributes: optional-for-create, modifiable |
| **force-subnet-association** | | boolean optional | Force the LIF's Subnet Association Attributes: optional-for-create, modifiable |
| **home-node** | | string optional | Specifies the LIF's home node. Attributes: optional-for-create, modifiable |
| **home-port** | | string optional | Specifies the LIF's home port. Attributes: optional-for-create, modifiable |
| **interface-name** | | string optional | Specifies the logical interface (LIF) name. Attributes: key, required-for-create, non-modifiable |
| **ipspace** | | string optional | IPspace of LIF Attributes: non-creatable, non-modifiable |
| **is-auto-revert** | | boolean optional | If true, data LIF will revert to its home node under certain circumstances such as startup, and load balancing migration capability is disabled automatically. Default: false Attributes: optional-for-create, modifiable |
| **is-dns-update-enabled** | | boolean optional | Specifies if DNS update is enabled for this LIF. Dynamic updates will be sent for this LIF if updates are enabled at Vserver level |

| | | | |
|---|---|---|---|
| | | | Attributes: optional-for-create, modifiable |
| **is-home** | | boolean optional | True if LIF is currently on 'home-node' and 'home-port'. Attributes: non-creatable, non-modifiable |
| **is-ipv4-link-local** | | boolean optional | If true, automatically configure an interface with an IPv4 address. User can configure an interface by explicitly specifying <address> and <netmask> (or <netmask-length>); or by enabling is-ipv4-link-local to true. Attributes: optional-for-create, non-modifiable |
| **is-vip** | | boolean optional | Specifies if this is a LIF will be hosted on VIP port with /32 or /128 netmask Attributes: optional-for-create, non-modifiable |
| **lif-uuid** | | uuid optional | Available in Data ONTAP 8.2 and later. Attributes: non-creatable, non-modifiable |
| **listen-for-dns-query** | | boolean optional | If True, this IP address will listen for DNS queries for the dns-zone specified. Attributes: optional-for-create, modifiable |
| **netmask** | | ip-address optional | Specifies the LIF's netmask. This element is valid for all data protocols except FCP. Attributes: optional-for-create, modifiable |
| **netmask-length** | **[0..2^32-1]** | integer optional | Specifies number of bits in the netmask. Attributes: optional-for-create, modifiable |
| **operational-status** | | string optional | Specifies the operational status of the LIF. Possible values:<br>• 'up',<br>• 'down',<br><br>Attributes: non-creatable, non-modifiable |
| **probe-port** | **[0..2^32-1]** | integer optional | Probe-port for Cloud Load Balancer Attributes: optional-for-create, non-modifiable |
| **role** | | string optional | Specifies the role of the LIF. Default: data Attributes: optional-for-create, non-modifiable Possible values:<br>• "undef" - No defined role,<br>• "cluster" - Used for communication using the private cluster network,<br>• "data" - Used for communicating with file service clients,<br>• "node_mgmt" - Used by administrators to configure the node,<br>• "intercluster" - Used for communication with a different cluster,<br>• "cluster_mgmt" - Used by administrators to configure the cluster |
| **routing-group-name** | | string optional | Specifies the routing group, which enables multiple logical interfaces to share a set of routing table entries. For example: d192.168.1.0/24 ('d' stands for data LIF and 192.168.1.0/24 is subnet) c192.168.1.0/24 ('c' stands for cluster LIF and 192.168.1.0/24 is subnet) n192.168.1.0/24 ('n' stands for node management LIF and 192.168.1.0/24 is subnet) dfd20:13::0/50 ('d' stands for data LIF and fd20:13::0/50 is IPv6 subnet) Attributes: optional-for-create, modifiable |
| **service-names** | | lif-service-name[] optional | Specifies the services included in the LIF's service policy. Attributes: non-creatable, non-modifiable |
| | | string | Specifies the service policy of the LIF. The service policy attribute is currently only supported on a limited number of LIF roles, and each supported LIF role corresponds to a specific default service policy. Supported Roles: |

| | | | |
|---|---|---|---|
| **service-policy** | | optional | • 'LIF Role Default Policy'<br>• '------------ -----------------'<br>• 'intercluster net-intercluster'<br>Attributes: optional-for-create, modifiable |
| **subnet-name** | | subnet-name optional | Subnet where the interface address is allocated from. If the option is not used, the IP address will need to be provided by the administrator during configuration. Attributes: optional-for-create, modifiable |
| **use-failover-group** | | string optional | Specifies whether failover rules are automatically created, manually created by the administrator, or disabled. For FCP and iSCSI LIFs, the default policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'system_defined'. Attributes: optional-for-create, modifiable Possible values:<br>• "system_defined" - Failover targets generated automatically by the system,<br>• "disabled" - Failover targets generated manually by the admin,<br>• "enabled" - Failover targets defined by failover-group,<br>• "unused" - Failover targets are not generated based on this field |
| **vserver** | | string optional | Specifies the Vserver name. Attributes: key, non-creatable, non-modifiable |
| **wwpn** | | string optional | Specifies the LIF's WWPN. This element is valid for FCP LIFs only. Attributes: non-creatable, non-modifiable |

# Element definition: **net-interface-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against given network interface object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **net-key** | | net-interface-info | The keys for the given network interface object to which the modify operation applies. |

# Element definition: **net-interface-service-info**

[top]

Network interface service information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **failover-policy** | | svc-failover-policy optional | The policy that defines specific interface failover restrictions for the service. Attributes: non-creatable, non-modifiable Possible values:<br>• "unrestricted" - Service has no restrictions on LIF failover,<br>• "home_port_only" - Service requires that LIFs do not fail off their home port,<br>• "home_node_only" - Service requires that LIFs do not fail off their home node,<br>• "home_pair_only" - Service requires that LIFs do not fail off their home node or sfo partner |
| **ports** | | service-port-info[] optional | TCP/UDP Port Information |
| **service** | | lif-service-name optional | The name of the network interface service. Attributes: key, non-creatable, non-modifiable |
| **vserver-policy** | | svc-vserver-policy optional | The policy that defines specific vserver restrictions for the the service. Attributes: non-creatable, non-modifiable Possible values:<br>• "unrestricted" - Service has no vserver restrictions,<br>• "system_only" - Service is only compatible with system vservers,<br>• "data_only" - Service is only compatible with data vservers,<br>• "cluster_only" - Service is only compatible with cluster vservers |

# Element definition: **net-interface-service-policy-entry-info**

[top]

network interface service policy entry information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **allowed-addresses** | | ip-and-mask[] optional | A list of IP address and IP mask pairs defining which remote addresses are accepted by this policy. Attributes: non-creatable, non-modifiable |
| **policy** | | string optional | The name of the network interface service policy. Attributes: key, non-creatable, non-modifiable |
| **service** | | lif-service-name optional | The name of the network interface service contained in this policy. Attributes: key, non-creatable, non-modifiable |
| | | vserver- | |

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|---|---|---|---|
| **vserver** | | name optional | Vserver name that the network interface service policy belongs to. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-interface-service-policy-info**

[top]

network interface service policy configuration information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-built-in** | | boolean optional | True if the network interface service policy is managed by the system. Attributes: non-creatable, non-modifiable |
| **policy** | | string optional | The name of the network interface service policy. Attributes: key, required-for-create, non-modifiable |
| **services** | | lif-service-name[] optional | Services included in the network interface service policy. Attributes: optional-for-create, non-modifiable |
| **vserver** | | string optional | Vserver name that the network interface service policy belongs to. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-ipspaces-info**

[top]

IPspace Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domains** | | broadcast-domain-name[] optional | The broadcast domains that belong to the IPspace Attributes: non-creatable, non-modifiable |
| **id** | **[0..2^32-1]** | integer optional | The ID of the IPspace. The system will assign a unique id. Attributes: non-creatable, non-modifiable |
| **ipspace** | | string optional | IPspace name Attributes: key, required-for-create, non-modifiable |
| | | net- | |

| | | | |
|---|---|---|---|
| **ports** | | qualified-port-name[] optional | The ports that have been assigned to the IPspace. This field must be specified with the following format: : Attributes: non-creatable, non-modifiable |
| **uuid** | | uuid optional | The uuid of the IPspace. The system will assign a unique uuid. Attributes: non-creatable, non-modifiable |
| **vservers** | | vserver-name[] optional | The vservers that have been assigned to the IPspace Attributes: non-creatable, non-modifiable |

# Element definition: **net-ndp-default-router-info**

[top]

Default Router Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **expire-time** | | ndp-expire-time optional | Specify the expire time of the default router entry. Attributes: non-creatable, non-modifiable |
| **flag** | | ndp-ra-flag optional | Specify the flag of the default router. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" - None,<br>• "managed_address_dhcpv6" - Managed Address from DHCPv6,<br>• "other_dhcpv6" - Other Configuration from DHCPv6 |
| **ipspace** | | string optional | Specify the name of the Ipspace. Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Specify the name of the node. Attributes: key, non-creatable, non-modifiable |
| **port** | | lif-bindable optional | Specify the physical interface. Attributes: key, non-creatable, non-modifiable |
| **router-addr** | | ip-address optional | Specify the default router IPv6 address. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-ndp-neighbor-cache-info**

[top]

Neighbor Cache Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **expire-time** | | ndp-expire-time optional | Specify the expire time of the neighbor cache entry. Attributes: non-creatable, non-modifiable |
| **is-router** | | boolean optional | Specify whether the neighbor is a router. Attributes: non-creatable, non-modifiable |
| **mac-address** | | mac-address optional | Specify the MAC address of the neighbor. Attributes: required-for-create, non-modifiable |
| **neighbor** | | ip-address optional | Specify the neighbor IPv6 address. Example: fd20:13::1 Attributes: key, required-for-create, non-modifiable |
| **node** | | node-name optional | Specify the name of the node. Attributes: key, required-for-create, non-modifiable |
| **port** | | lif-bindable optional | Specify the physical port. Attributes: key, required-for-create, non-modifiable |
| **probe-count** | **[0..2^32-1]** | integer optional | Specify how many times the neighbor MAC are requested for. Attributes: non-creatable, non-modifiable |
| **state** | | nd-state optional | Specify the state of the neighbor cache entry. Attributes: non-creatable, non-modifiable Possible values:<br>• "nostate" - No State,<br>• "incomplete" - Incomplete,<br>• "reachable" - Reachable,<br>• "stale" - Stale,<br>• "delay" - Delay,<br>• "probe" - Probe,<br>• "unknown" - Unknown State |
| **subnet-group** | | ip-and-mask optional | Subnet Group Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vif-owner-name optional | Specify the name of a System or Admin Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-ndp-prefix-info**

[top]

Prefix Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **advertising-router** | | ip-address[] optional | Specify the routers who advertise the prefix. Attributes: non-creatable, non-modifiable |
| **expire-time** | | ndp-expire-time optional | Specify the expire time of the prefix entry. Attributes: non-creatable, non-modifiable |
| **flag** | | ndp-prefix-flag optional | Specify the flag of the prefix entry. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" - None,<br>• "on_link" - On-link Prefix,<br>• "autonomous" - Autonomous Prefix,<br>• "on_link_autonomous" - On-link and Autonomous Prefix |
| **ipspace** | | string optional | Specify the name of the Ipspace. Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Specify the name of the node. Attributes: key, non-creatable, non-modifiable |
| **origin** | | ndp-prefix-origin optional | Specify where the prefix assigned from. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknow,<br>• "router_advertise" - Router Advertise,<br>• "renumber_request" - Renumber Request,<br>• "static" - Static,<br>• "kernel" - Kernel |
| **port** | | lif-bindable optional | Specify the physical port. Attributes: key, non-creatable, non-modifiable |
| **preferred-lifetime** | | ndp-prefix-lifetime optional | Specify the preferred lifetime of the prefix entry. Attributes: non-creatable, non-modifiable |
| **prefix** | | ip-and-mask optional | Specify the prefix. Attributes: key, non-creatable, non-modifiable |
| **valid-lifetime** | | ndp-prefix-lifetime optional | Specify the valid lifetime of the prefix entry. Attributes: non-creatable, non-modifiable |

# Element definition: **net-options**

[top]

Network Options Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **detect-switchless-cluster-info** | | detect-switchless-cluster-info optional | Network options detect-switchless-cluster |
| **ipv6-options-info** | | ipv6-options-info optional | Network options ipv6 |
| **switchless-cluster-info** | | switchless-cluster-info optional | Network options switchless-cluster |

# Element definition: **net-options-hypervisor-uplink-monitoring-info**

[top]

Hypervisor Uplink Monitoring Information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **enabled** | | boolean optional | Hypervisor Uplink Monitoring Attributes: non-creatable, modifiable |

# Element definition: **net-placement-cache**

[top]

Network interface (LIF) placement cached information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | The IP address that was searched. Attributes: key, required-for-create, non-modifiable |
| **found** | | boolean optional | Whether the subnet described was found on this port. Attributes: non-creatable, non-modifiable |
| **netmask-length** | **[0..2^32-1]** | integer optional | The number of bits in the subnet mask (i.e. 24 or 64). Attributes: key, required-for-create, non-modifiable |
| **node** | | string optional | Specifies the name of the node. Attributes: key, required-for-create, non-modifiable |
| **port** | | string optional | The port name on the node. Attributes: key, required-for-create, non-modifiable |

| | | | |
|---|---|---|---|
| **vserver** | | string optional | Vserver Name Attributes: key, required-for-create, non-modifiable |

# Element definition: **net-port**

[top]

Network Port formatted as 1-byte 'type', 4-byte 'slot', 1-byte 'suffix', and 4-byte 'vlan'.

[none]

# Element definition: **net-port-broadcast-domain-info**

[top]

Layer 2 broadcast domain configuration and status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name optional | The name of the layer 2 broadcast domain. Attributes: key, required-for-create, non-modifiable |
| **failover-groups** | | failover-group[] optional | The list of failover groups associated with the layer 2 broadcast domain. Attributes: non-creatable, non-modifiable |
| **ipspace** | | string optional | IPspace name that the layer 2 broadcast domain belongs to. The default value for this parameter is 'Default'. Attributes: key, non-creatable, non-modifiable |
| **is-vip** | | boolean optional | Whether this is a system created VIP broadcast domain. Attributes: non-creatable, non-modifiable |
| **mtu** | **[0..2^32-1]** | integer optional | Maximum Transmission Unit (MTU) of the layer 2 broadcast domain. The MTU will be applied to all ports that belong to the layer 2 broadcast domain. Attributes: required-for-create, modifiable |
| **port-update-status-combined** | | broadcast-domain-port-status optional | Overall status of the port updates. The value is 'in-progress' if any port is in progress, 'complete' if all port updates complete, or 'error' if any port update is unsuccessful. Attributes: non-creatable, non-modifiable Possible values:<br>• "complete" - Port updates are complete and values match the broadcast domain,<br>• "in_progress" - Port values are being updated to match the broadcast domain,<br>• "error" - An error was encountered and values do not match the broadcast domain,<br>• "overridden_while_offline" - Port values were overriden while offline |

| | | | |
|---|---|---|---|
| **ports** | | port-info[] optional | Port information. |
| **subnet-names** | | subnet-name[] optional | The list of subnet names associated with the layer 2 broadcast domain. Attributes: non-creatable, non-modifiable |

# Element definition: **net-port-health-monitor-info**

[top]

Network Port Health Monitor Information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **health-monitors** | | netport-degraded-reason[] optional | List of Enabled Port Health Monitors Attributes: non-creatable, modifiable Possible values:<br>• "l2_reachability" - L2 reachability,<br>• "link_flapping" - Link flapping,<br>• "crc_errors" - CRC errors,<br>• "vswitch_link" - vSwitch link |
| **ipspace** | | string optional | IPspace Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-port-info**

[top]

Network port information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **administrative-duplex** | | string optional | Specifies the user preferred duplex setting of the port. Attributes: required-for-create, modifiable Possible values:<br>• "undef" - No defined duplex,<br>• "auto" - Auto-negotiate duplex setting for link,<br>• "half" - Half-duplex link usage,<br>• "full" - Full-duplex link usage |

| | | | |
|---|---|---|---|
| **administrative-flowcontrol** | | string optional | Specifies the user preferred flow control setting of the port. Attributes: required-for-create, modifiable |
| **administrative-speed** | | string optional | Specifies the user preferred speed setting of the port. Attributes: required-for-create, modifiable Possible values:<br>• "undef" - No defined speed,<br>• "auto" - Auto-negotiate speed for link,<br>• "10" - 10 megabits per second,<br>• "100" - 100 megabits per second,<br>• "1000" - 1 gigabit per second,<br>• "10000" - 10 gigabits per second,<br>• "40000" - 40 gigabits per second,<br>• "100000" - 100 gigabits per second,<br>• "25000" - 25 gigabits per second |
| **autorevert-delay** | **[0..2^32-1]** | integer optional | For a port with role 'cluster', specifies the delay in seconds before autoreverting a LIF to this port. Attributes: optional-for-create, modifiable |
| **broadcast-domain** | | broadcast-domain-name optional | Specifies the port's associated Broadcast Domain. Attributes: non-creatable, non-modifiable |
| **health-degraded-reasons** | | netport-degraded-reason[] optional | Specifies the list of reasons which cause port marked as degraded Attributes: non-creatable, non-modifiable Possible values:<br>• "l2_reachability" - L2 reachability,<br>• "link_flapping" - Link flapping,<br>• "crc_errors" - CRC errors,<br>• "vswitch_link" - vSwitch link |
| **health-status** | | netport-health-status optional | Specifies the health status of the given port. Attributes: non-creatable, non-modifiable Possible values:<br>• "healthy" ,<br>• "degraded" |
| **ifgrp-distribution-function** | | string optional | For a port of type 'ifgrp', specifies the traffic distribution function. Attributes: non-creatable, non-modifiable Possible values:<br>• "mac" - Network traffic is distributed on the basis of MAC addresses,<br>• "ip" - Network traffic is distributed on the basis of IP addresses,<br>• "sequential" - Network traffic is distributed round-robin to each interface,<br>• "port" - Network traffic is distributed by transport layer address 4-tuple |
| **ifgrp-mode** | | string optional | For a port of type 'ifgrp', specifies the link policy. Possible values:<br>• 'multimode - All links are simultaneously active',<br>• 'multimode_lacp - Link state is managed by the switch using link aggregation control protocol (LACP) (IEEE 802.3ad)',<br>• 'singlemode - Only one link is active at a time' |

| | | | |
|---|---|---|---|
| | | | Attributes: non-creatable, non-modifiable |
| **ifgrp-node** | | string optional | For a port of type 'physical' that is a member of an interface group (ifgrp), specifies the name of the node on which the interface group was created. Attributes: non-creatable, non-modifiable |
| **ifgrp-port** | | string optional | For a port of type 'physical' that is a member of an interface group (ifgrp), specifies the name of the interface group. Attributes: non-creatable, non-modifiable |
| **ignore-health-status** | | boolean optional | Use this parameter to specify that the system ignore network port health status of the specified port for the purpose of hosting a logical interface. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **ipspace** | | string optional | Specifies the port's associated IPspace name. Note: the 'Cluster' ipspace is reserved for cluster ports. Attributes: optional-for-create, modifiable |
| **is-administrative-auto-negotiate** | | boolean optional | Enables or disables Ethernet auto-negotiation of speed, duplex and flow control. Attributes: required-for-create, modifiable |
| **is-administrative-up** | | boolean optional | If true, it changes the state of the port to 'up'. Attributes: required-for-create, modifiable |
| **is-operational-auto-negotiate** | | boolean optional | True if Ethernet auto negotiation is successful, false otherwise. Attributes: non-creatable, non-modifiable |
| **link-status** | | string optional | Specifies the link status of the port. Possible values:<br>• 'unknown - Port status unknown',<br>• 'up - Port is up',<br>• 'down - Port is down'<br><br>Attributes: non-creatable, non-modifiable |
| **mac-address** | | string optional | Specifies the MAC address of the port. Attributes: non-creatable, non-modifiable |
| **mtu** | **[0..2^32-1]** | integer optional | Specifies the maximum transmission unit (MTU) reported by the port. Attributes: required-for-create, modifiable |
| **mtu-admin** | **[0..2^32-1]** | integer optional | Specifies the user preferred maximum transmission unit (MTU) of the port. Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Specifies the name of node. Attributes: key, required-for-create, non-modifiable |
| **operational-duplex** | | string optional | Duplex setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable Possible values:<br>• "undef" - No defined duplex,<br>• "auto" - Auto-negotiate duplex setting for link,<br>• "half" - Half-duplex link usage,<br>• "full" - Full-duplex link usage |
| **operational-flowcontrol** | | string optional | Flow control setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable |
| **operational-speed** | | string optional | Speed setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable Possible values:<br>• "undef" - No defined speed,<br>• "auto" - Auto-negotiate speed for link,<br>• "10" - 10 megabits per second,<br>• "100" - 100 megabits per second,<br>• "1000" - 1 gigabit per second, |

| | | | |
|---|---|---|---|
| | | | • "10000" - 10 gigabits per second,<br>• "40000" - 40 gigabits per second,<br>• "100000" - 100 gigabits per second,<br>• "25000" - 25 gigabits per second |
| **port** | | string optional | Specifies the name of port. Attributes: key, required-for-create, non-modifiable |
| **port-type** | | string optional | Specifies the type of port. Attributes: non-creatable, non-modifiable Possible values:<br>• "physical" - Physical network interface,<br>• "if_group" - Logical interface group (IEEE 802.3, section 43),<br>• "vlan" - Virtual LAN (IEEE 802.1Q),<br>• "undef" - No defined port type,<br>• "vip" - Virtual network interface for Virtual IP,<br>• "pvlan" - Pseudo Virtual LAN |
| **remote-device-id** | | string optional | Remote device ID reported by L2 discovery protocol Attributes: non-creatable, non-modifiable |
| **role** | | string optional | This parameter has been deprecated in Data ONTAP 8.3, but is still returned for compatibility and may be removed in a future release. Prefer instead to use the 'ipspace' parameter. Attributes: optional-for-create, modifiable |
| **vlan-id** | **[0..2^32-1]** | integer optional | For a port of type 'vlan', specifies the vlan identification number. Attributes: non-creatable, non-modifiable |
| **vlan-node** | | string optional | Specifies the name of the node on which vlan is created. Attributes: non-creatable, non-modifiable |
| **vlan-port** | | string optional | For a port of type 'vlan', specifies the name of the physical port on which the vlan is created. Attributes: non-creatable, non-modifiable |
| **vm-network-name** | | string optional | Virtual Machine network name Attributes: non-creatable, non-modifiable |

# Element definition: **net-port-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against given network port object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **net-key** | | net-port-info | The keys for the given network port object to which the modify operation applies. |

# Element definition: **net-qualified-port-name**

[top]

A node and port specification in the following format: :.

[none]

# Element definition: **net-subnet-info**

[top]

Layer 3 subnet configuration and status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **available-count** | **[0..2^32-1]** | integer optional | Number of available pre-allocated addresses for the subnet. Attributes: non-creatable, non-modifiable |
| **broadcast-domain** | | broadcast-domain-name optional | Layer 2 broadcast domain name that the subnet belongs to. Attributes: required-for-create, non-modifiable |
| **force-update-lif-associations** | | boolean optional | This command will fail if any service processor interfaces or network interfaces are using the IP addresses in the ranges provided. Setting this value to true will associate any manually addressed interfaces with the subnet and will allow the command to succeed. Attributes: optional-for-create, modifiable |
| **gateway** | | ip-address optional | The gateway for the default route of the subnet. Attributes: optional-for-create, modifiable |
| **ip-ranges** | | ip-range[] optional | The list of IP address ranges associated with the subnet. Attributes: optional-for-create, modifiable |
| **ipspace** | | string optional | IPspace Name that the subnet belongs to. The default value for this parameter is the default IPspace, named 'Default'. Attributes: key, non-creatable, non-modifiable |
| **subnet** | | ip-and-mask optional | Layer 3 Subnet Attributes: required-for-create, modifiable |
| **subnet-name** | | subnet-name optional | Layer 3 subnet. A specific subnet name, for example 'Mgmt' or 'Data', or a specific subnet IP value, 198.18.10.0/24 is allowed. Attributes: key, required-for-create, non-modifiable |
| **total-count** | **[0..2^32-1]** | integer optional | Number of addresses pre-allocated for the subnet. Attributes: non-creatable, non-modifiable |
| **used-count** | **[0..2^32-1]** | integer optional | Number of addresses used from pre-allocated addresses for the subnet. Attributes: non-creatable, non-modifiable |

# Element definition: **net-subnets-for-broadcast-domain-info**

[top]

Subnets associated with Layer 2 broadcast domain configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **broadcast-domain** | | broadcast-domain-name optional | The name of the layer 2 broadcast domain. Attributes: key, non-creatable, non-modifiable |
| **ipspace** | | string optional | IPspace name that the layer 2 broadcast domain belongs to. Attributes: key, non-creatable, non-modifiable |
| **subnets** | | subnets-info[] optional | Subnet information. |

# Element definition: **net-tuning-icmp-options**

[top]

ICMP Tuning Options Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-drop-redirect-enabled** | | boolean optional | Drop redirect ICMP Attributes: non-creatable, modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **redirect-timeout** | **[0..65535]** | integer optional | Maximum seconds for route redirect timeout Attributes: non-creatable, modifiable |
| **tx-icmp-limit** | **[0..2^32-1]** | integer optional | Maximum number of ICMP packets sent per second Attributes: non-creatable, modifiable |

# Element definition: **net-tuning-icmp6-options**

[top]

ICMPv6 Tuning Options Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-v6-redirect-accepted** | | boolean optional | Accept redirects via ICMPv6 Attributes: non-creatable, modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **redirect-v6-timeout** | **[0..65535]** | integer optional | Maximum seconds for route redirect timeout Attributes: non-creatable, modifiable |
| **tx-icmp6-err-limit** | **[0..2^32-1]** | integer optional | Maximum number of ICMPv6 error messages sent per second Attributes: non-creatable, modifiable |

# Element definition: **net-tuning-tcp-options**

[top]

TCP Tuning Options Typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-path-mtu-discovery-enabled** | | boolean optional | Path MTU discovery enabled Attributes: non-creatable, modifiable |
| **is-rfc3390-enabled** | | boolean optional | RFC3390 enabled Attributes: non-creatable, modifiable |
| **is-rfc3465-enabled** | | boolean optional | RFC3465 enabled Attributes: non-creatable, modifiable |
| **is-sack-enabled** | | boolean optional | SACK support enabled Attributes: non-creatable, modifiable |
| **max-cwnd-increment** | **[0..2^32-1]** | integer optional | Maximum congestion window segments incrementation Attributes: non-creatable, modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-vs-routes-info**

[top]

Vserver routes information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address-family** | | ipaddresstype optional | Address family of the route Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "ipv4" ,<br>• "ipv6" ,<br>• "ipv4z" ,<br>• "ipv6z" ,<br>• "dns" |
| **destination** | | ip-and-mask optional | Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 Attributes: key, required-for-create, non-modifiable |
| **gateway** | | ip-address optional | Specify the route gateway. Example: 10.7.125.1, fd20:13::1 Attributes: key, required-for-create, non-modifiable |
| **metric** | **[0..2^32-1]** | integer optional | Specify the route metric. If this field is not provided the default will be set to 30 Attributes: optional-for-create, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-vs-routes-lif-info**

[top]

Logical Interfaces associated with a route When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address-family** | | ipaddresstype optional | Address Family Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "ipv4" ,<br>• "ipv6" ,<br>• "ipv4z" ,<br>• "ipv6z" ,<br>• "dns" |
| **destination** | | ip-and-mask optional | Specify the route destination. Example: 10.7.125.5/20, fd20:13::/64 Attributes: key, non-creatable, non-modifiable |
| **gateway** | | ip-address optional | Specify the route gateway. Example: 10.7.125.1, fd20:13::1 Attributes: key, non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **lif-names** | | lif-name[] optional | Specify the Logical Interface(s). Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **netport-degraded-reason**

[top]

l2-reachability|link-flapping|crc-errors|vswitch-link Possible values:

- "l2_reachability" - L2 reachability,
- "link_flapping" - Link flapping,
- "crc_errors" - CRC errors,
- "vswitch_link" - vSwitch link

[none]

# Element definition: **netport-ifgrp-name**

[top]

Interface Group Name

[none]

# Element definition: **network-type**

[top]

The network topology classification Possible values:

- "wan" ,
- "lan" ,
- "undefined"

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **protocol-layer4**

[top]

The network layer 4 protocol type Possible values:

- "udp" - UDP,
- "tcp" - TCP,
- "na" - not_available

[none]

# Element definition: **qos-marking**

[top]

QoS Marking Table When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **dscp** | **[0..63]** | integer optional | DSCP marking value. Default value for NFS, CIFS, iSCSI, HTTP-fileserv, NDMP, SnapMirror, and SnapMirror-Sync is 10 and for FTP, HTTP-admin, SSH, Telnet, and SNMP is 48. Attributes: non-creatable, modifiable |
| **ipspace** | | string optional | IPspace Name. Attributes: key, non-creatable, non-modifiable |
| **is-enabled** | | boolean optional | QoS Marking status. Default setting is false. Attributes: non-creatable, modifiable |
| **protocol** | | string optional | Protocol name. Supported values are NFS, CIFS, iSCSI, NVMe-TCP, SnapMirror, SnapMirror-Sync, NDMP, FTP, HTTP-admin, HTTP-fileserv, SSH, Telnet, and SNMP. Attributes: key, non-creatable, non-modifiable |

# Element definition: **receive-buffer**

[top]

Receive buffer window size configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **network** | | network-type | The network topology classification Attributes: key, required-for-create, non-modifiable Possible values:<br>• "wan" , |

| | | | |
|---|---|---|---|
| | | optional | • "lan" ,<br>• "undefined" |
| **protocol** | | protocol-layer4 optional | The network layer 4 protocol type Attributes: key, required-for-create, non-modifiable Possible values:<br>• "udp" - UDP,<br>• "tcp" - TCP,<br>• "na" - not_available |
| **receive-auto-tune** | | boolean optional | If true, allow the system to automatically adjust the receive buffer size. The default value is false for the ctlopcp service using the LAN network type, and true in all other cases. Attributes: required-for-create, modifiable |
| **receive-buffer** | **[256..7168]** | integer optional | If receive-auto-tune is false, receive buffer size in kilobytes (1024). If receive-auto-tune flag is true, this value has no effect. The default value is 2048 for the ctlopcp service using the WAN network type, and 256 in other cases. Attributes: required-for-create, modifiable |
| **service** | | stream-protocol-service optional | The stream protocol connection classification Attributes: key, required-for-create, non-modifiable Possible values:<br>• "mount" - Mount stream protocol,<br>• "nfs" - NFS stream protocol,<br>• "nfs_v3" - NFS version 3 stream protocol,<br>• "nlm_v4" - Network lock manager stream protocol,<br>• "sm" - Session Manager stream protocol,<br>• "ftp_ctrl" - FTP control stream protocol,<br>• "ftp_data" - FTP data stream protocol,<br>• "http_1_0" - HTTP version 1 stream protocol,<br>• "http_1_1" - HTTP version 1.1 stream protocol,<br>• "iscsi" - ISCSI stream protocol,<br>• "cifs_srv" - CIFS server stream protocol,<br>• "cifs_nam" - CIFS name server stream protocol,<br>• "loopback" - loopback stream protocol,<br>• "rf" - RC stream protocol,<br>• "rawscp" - Raw secure copy stream protocol,<br>• "discard" - Discard stream protocol,<br>• "port_map" - Port map stream protocol,<br>• "pass_thru" - Passthru stream protocol,<br>• "rclopcp" - Rc connection stream protocol,<br>• "nfs_v4" - NFS version 4 stream protocol,<br>• "fcache" - 7 Mode FlexCache stream protocol,<br>• "ctlopcp" - Ct connection stream protocol,<br>• "rquota" - Rquota stream protocol,<br>• "cifs_msrpc" - CIFS MsRpc stream protocol,<br>• "http" - HTTP stream protocol,<br>• "unknown" - unknown protocol,<br>• "s3" - S3 stream protocol,<br>• "sdapi" - SDAPI stream protocol |

# Element definition: **remote-inet-address**

[top]

IPv4 Address, IPv6 Address or Host Name

[none]

# Element definition: **stream-protocol-service**

[top]

The stream protocol connection classification Possible values:

- "mount" - Mount stream protocol,
- "nfs" - NFS stream protocol,
- "nfs_v3" - NFS version 3 stream protocol,
- "nlm_v4" - Network lock manager stream protocol,
- "sm" - Session Manager stream protocol,
- "ftp_ctrl" - FTP control stream protocol,
- "ftp_data" - FTP data stream protocol,
- "http_1_0" - HTTP version 1 stream protocol,
- "http_1_1" - HTTP version 1.1 stream protocol,
- "iscsi" - ISCSI stream protocol,
- "cifs_srv" - CIFS server stream protocol,
- "cifs_nam" - CIFS name server stream protocol,
- "loopback" - loopback stream protocol,
- "rf" - RC stream protocol,
- "rawscp" - Raw secure copy stream protocol,
- "discard" - Discard stream protocol,
- "port_map" - Port map stream protocol,
- "pass_thru" - Passthru stream protocol,
- "rclopcp" - Rc connection stream protocol,
- "nfs_v4" - NFS version 4 stream protocol,
- "fcache" - 7 Mode FlexCache stream protocol,
- "ctlopcp" - Ct connection stream protocol,
- "rquota" - Rquota stream protocol,
- "cifs_msrpc" - CIFS MsRpc stream protocol,
- "http" - HTTP stream protocol,
- "unknown" - unknown protocol,
- "s3" - S3 stream protocol,
- "sdapi" - SDAPI stream protocol

[none]

# Element definition: **subnet-name**

[top]

Name of Subnet

[none]

# Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

# Element definition: **vif-owner-name**

[top]

Vserver

[none]

# Element definition: **vip-port-info**

[top]

VIP Port Information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string optional | IPspace Name Attributes: required-for-create, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, required-for-create, non-modifiable |
| **port** | | net-port optional | Network Port Attributes: key, required-for-create, non-modifiable |

# Element definition: **vlan-info**

[top]

vlan

| Name | Range | Type | Description |
|---|---|---|---|
| **gvrp-enabled** | | boolean optional | true: GVRP is enabled. Default is false. GVRP is deprecated and this attribute is ignored in cluster mode. GVRP is a standard vlan trunking protocol that enables a port to advertise which vlans it trunks, thereby decreasing traffic over the trunk. This protocol eliminates the need to manually configure vlan information on each switch in the network. |
| **interface-name** | | string optional | Name of vlan interface. The name must be of the format <parent-inteface>-<vlanid> |
| **node** | | string optional | Node name of vlan interface. |
| **parent-interface** | | string | The interface that hosts the vlan interface. |
| **skip-broadcast-domain-placement** | | boolean optional | true: placement of the vlan port into a broadcast domain will be skipped. Default is false. |
| | | | |

| | | | |
|---|---|---|---|
| **vlanid** | | integer | The vlan id. Range: 1..4094. |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **bgp-session-state**

[top]

BGP Session State Possible values:

- "unknown" ,
- "up" ,
- "down"

[none]

# Element definition: **broadcast-domain-name**

[top]

Broadcast Domain

[none]

# Element definition: **broadcast-domain-port-status**

[top]

Possible port update states for a broadcast domain operation Possible values:

- "complete" - Port updates are complete and values match the broadcast domain,
- "in_progress" - Port values are being updated to match the broadcast domain,
- "error" - An error was encountered and values do not match the broadcast domain,
- "overridden_while_offline" - Port values were overriden while offline

[none]

# Element definition: **data-protocol**

[top]

nfs|cifs|iscsi|fcp|fcache|none|fc-nvme|s3|nvme-tcp Possible values:

- "nfs" - Used for NFS connections,

"cifs" - Used for CIFS connections,
- "iscsi" - Used for iSCSI connections,
- "fcp" - Used for Fibre Channel connections,
- "fcache" - Used for 7-mode FlexCache connections,
- "none" - Used for management. Does not serve any file protocols.,
- "http" - Used for HTTP connections,
- "fc_nvme" - Used for NVMe/FC connections,
- "s3" - Used for S3 connections,
- "nvme_roce" - Used for NVMe/RoCE connections,
- "nvme_tcp" - Used for NVMe/TCP connections

[none]

# Element definition: **detect-switchless-cluster-info**

[top]

Network options detect-switchless-cluster typedef

| Name | Range | Type | Description |
|---|---|---|---|
| **enabled** | | boolean optional | Enable Switchless Cluster Detection Attributes: non-creatable, modifiable |

# Element definition: **device-capability**

[top]

router|trans-bridge|source-route-bridge|switch|host|igmp|repeater|phone Possible values:

- "router" - Router,
- "trans_bridge" - Trans Bridge,
- "source_route_bridge" - Source Route Bridge,
- "switch" - Switch,
- "host" - Host,
- "igmp" - IGMP,
- "repeater" - Repeater,
- "phone" - Phone

[none]

# Element definition: **dns-zone**

[top]

Specifies the unique, fully qualified domain name of the DNS zone of this LIF.

[none]

# Element definition: **enable**

[top]

'enabled' or 'disabled'

[none]

## Element definition: **failover-group** [top]

Specifies the failover group name.

[none]

## Element definition: **filer-id** [top]

Filer UUID

[none]

## Element definition: **fw-service** [top]

[none]

## Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

## Element definition: **ip-and-mask** [top]

4-byte IP address followed by 4-byte mask

[none]

## Element definition: **ip-range** [top]

IPv4 and IPv6 address range containing a start address and an end address. The start and end addresses themselves are included in the range.

An example of a valid IPv4 address range is: '192.168.1.100-192.168.1.150'. An example of a valid IPv6 address range is: '4:3:2:1:d:c:b:b-4:3:2:1:d:c:b:c'

[none]

## Element definition: **ipaddresstype**

[top]

ipv4|ipv6|ipv6z Possible values:

- "unknown" ,
- "ipv4" ,
- "ipv6" ,
- "ipv4z" ,
- "ipv6z" ,
- "dns"

[none]

## Element definition: **ipv6-options-info**

[top]

Network options ipv6 typedef

| Name | Range | Type | Description |
|---|---|---|---|
| **enabled** | | boolean optional | IPv6 Enabled Attributes: non-creatable, modifiable |
| **is-ipv6-ra-processing-enabled** | | boolean optional | Router Advertisement (RA) Processing Enabled Attributes: non-creatable, modifiable |

## Element definition: **lif-bindable**

[top]

|

[none]

## Element definition: **lif-name**

[top]

Logical Interface Id

[none]

# Element definition: **lif-service-name**

[top]

The name of network interface service.

[none]

# Element definition: **mac-address**

[top]

MAC Address

[none]

# Element definition: **nd-state**

[top]

Possible values:

- "nostate" - No State,
- "incomplete" - Incomplete,
- "reachable" - Reachable,
- "stale" - Stale,
- "delay" - Delay,
- "probe" - Probe,
- "unknown" - Unknown State

[none]

# Element definition: **ndp-expire-time**

[top]

Expire Time Interval

[none]

# Element definition: **ndp-prefix-flag**

[top]

none|on-link|autonomous|on-link-autonomous Possible values:

- "none" - None,
- "on_link" - On-link Prefix,
- "autonomous" - Autonomous Prefix,
- "on_link_autonomous" - On-link and Autonomous Prefix

[none]

# Element definition: **ndp-prefix-lifetime**

[top]

Prefix Lifetime in seconds

[none]

# Element definition: **ndp-prefix-origin**

[top]

router-advertise|renumber-request|static|kernel|unknown Possible values:

- "unknown" - Unknow,
- "router_advertise" - Router Advertise,
- "renumber_request" - Renumber Request,
- "static" - Static,
- "kernel" - Kernel

[none]

# Element definition: **ndp-ra-flag**

[top]

none|managed-address-DHCPv6|other-DHCPv6 Possible values:

- "none" - None,
- "managed_address_dhcpv6" - Managed Address from DHCPv6,
- "other_dhcpv6" - Other Configuration from DHCPv6

[none]

# Element definition: **net-firewall-config-info**

[top]

Firewall configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-** | | boolean | Specifies whether firewall protection is enabled (true) or disabled (false) for the node's network ports. The default setting is true. Attributes: non- |

| | | | |
|---|---|---|---|
| **enabled** | | optional | creatable, modifiable |
| **is-logging** | | boolean optional | This parameter has been deprecated in Data ONTAP 9.0, but is still returned for compatibility and may be removed in a future release. Specifies whether logging is enabled (true) or disabled (false) for the firewall service. The default setting is false. Attributes: non-creatable, modifiable |
| **node-name** | | node-name optional | Specifies the node on which the firewall configiration is set. Attributes: key, non-creatable, non-modifiable |

# Element definition: **net-interface-info**

[top]

Network interface information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | Specifies the LIF's IP address. This element is valid for all data protocols except FCP. Attributes: optional-for-create, modifiable |
| **address-family** | | string optional | Address family Attributes: non-creatable, non-modifiable |
| **administrative-status** | | string optional | Specifies the administrative status of the LIF. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the interface from functioning, the operational status remains as down. Possible values:<br>• 'up',<br>• 'down',<br><br>Attributes: optional-for-create, modifiable |
| **comment** | | string optional | Comment Attributes: optional-for-create, modifiable |
| **current-node** | | string optional | The node on which the LIF currently resides. Upon LIF migration 'current-node' may be different from 'home-node'. Attributes: non-creatable, non-modifiable |
| **current-port** | | string optional | The port on which the LIF currently resides. Upon LIF migration 'current-port' may be different from 'home-port'. Attributes: non-creatable, non-modifiable |
| | | | Specifies the list of data protocols configured on the LIF. By default, the values in this element are nfs, cifs and fcache. Other supported protocols are iscsi and fcp. A LIF can be configured to not support any data protocols by specifying 'none'. Protocol values of none, iscsi or fcp can't be combined with any other data protocol(s). Attributes: optional-for-create, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **data-protocols** | | data-protocol[] optional | • "nfs" - Used for NFS connections,<br>• "cifs" - Used for CIFS connections,<br>• "iscsi" - Used for iSCSI connections,<br>• "fcp" - Used for Fibre Channel connections,<br>• "fcache" - Used for 7-mode FlexCache connections,<br>• "none" - Used for management. Does not serve any file protocols.,<br>• "http" - Used for HTTP connections,<br>• "fc_nvme" - Used for NVMe/FC connections,<br>• "s3" - Used for S3 connections,<br>• "nvme_roce" - Used for NVMe/RoCE connections,<br>• "nvme_tcp" - Used for NVMe/TCP connections |
| **dns-domain-name** | | dns-zone optional | Specifies the unique, fully qualified domain name of the DNS zone of this LIF. Attributes: optional-for-create, modifiable |
| **extended-status** | | string optional | Specifies an extended description of why the LIF has an operational status of down. Attributes: non-creatable, non-modifiable |
| **failover-group** | | failover-group optional | Specifies the failover group name. Attributes: optional-for-create, modifiable |
| **failover-policy** | | string optional | Specifies the failover policy for the LIF. For FCP and iSCSI LIFs, the only failover policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'nextavail'. Attributes: optional-for-create, modifiable |
| **firewall-policy** | | string optional | Specifies the firewall policy for the LIF. Default firewall-policy is set as per the following table:<br><br>• 'LIF Role Protocols Default policy',<br>• '------- --------- --------------',<br>• 'data none mgmt',<br>• 'data any (except fcp) data',<br>• 'node_mgmt any mgmt',<br>• 'cluster_mgmt any mgmt',<br>• 'cluster any cluster',<br>• 'intercluster any intercluster'<br><br>Attributes: optional-for-create, modifiable |
| **force-subnet-association** | | boolean optional | Force the LIF's Subnet Association Attributes: optional-for-create, modifiable |
| **home-node** | | string optional | Specifies the LIF's home node. Attributes: optional-for-create, modifiable |
| **home-port** | | string optional | Specifies the LIF's home port. Attributes: optional-for-create, modifiable |
| **interface-name** | | string optional | Specifies the logical interface (LIF) name. Attributes: key, required-for-create, non-modifiable |
| **ipspace** | | string optional | IPspace of LIF Attributes: non-creatable, non-modifiable |
| **is-auto-revert** | | boolean optional | If true, data LIF will revert to its home node under certain circumstances such as startup, and load balancing migration capability is disabled automatically. Default: false Attributes: optional-for-create, modifiable |
| **is-dns-update-enabled** | | boolean optional | Specifies if DNS update is enabled for this LIF. Dynamic updates will be sent for this LIF if updates are enabled at Vserver level Attributes: optional-for-create, modifiable |
| **is-home** | | boolean optional | True if LIF is currently on 'home-node' and 'home-port'. Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **is-ipv4-link-local** | | boolean optional | If true, automatically configure an interface with an IPv4 address. User can configure an interface by explicitly specifying <address> and <netmask> (or <netmask-length>); or by enabling is-ipv4-link-local to true. Attributes: optional-for-create, non-modifiable |
| **is-vip** | | boolean optional | Specifies if this is a LIF will be hosted on VIP port with /32 or /128 netmask Attributes: optional-for-create, non-modifiable |
| **lif-uuid** | | uuid optional | Available in Data ONTAP 8.2 and later. Attributes: non-creatable, non-modifiable |
| **listen-for-dns-query** | | boolean optional | If True, this IP address will listen for DNS queries for the dns-zone specified. Attributes: optional-for-create, modifiable |
| **netmask** | | ip-address optional | Specifies the LIF's netmask. This element is valid for all data protocols except FCP. Attributes: optional-for-create, modifiable |
| **netmask-length** | **[0..2^32-1]** | integer optional | Specifies number of bits in the netmask. Attributes: optional-for-create, modifiable |
| **operational-status** | | string optional | Specifies the operational status of the LIF. Possible values:<br>• 'up',<br>• 'down',<br><br>Attributes: non-creatable, non-modifiable |
| **probe-port** | **[0..2^32-1]** | integer optional | Probe-port for Cloud Load Balancer Attributes: optional-for-create, non-modifiable |
| **role** | | string optional | Specifies the role of the LIF. Default: data Attributes: optional-for-create, non-modifiable Possible values:<br>• "undef" - No defined role,<br>• "cluster" - Used for communication using the private cluster network,<br>• "data" - Used for communicating with file service clients,<br>• "node_mgmt" - Used by administrators to configure the node,<br>• "intercluster" - Used for communication with a different cluster,<br>• "cluster_mgmt" - Used by administrators to configure the cluster |
| **routing-group-name** | | string optional | Specifies the routing group, which enables multiple logical interfaces to share a set of routing table entries. For example: d192.168.1.0/24 ('d' stands for data LIF and 192.168.1.0/24 is subnet) c192.168.1.0/24 ('c' stands for cluster LIF and 192.168.1.0/24 is subnet) n192.168.1.0/24 ('n' stands for node management LIF and 192.168.1.0/24 is subnet) dfd20:13::0/50 ('d' stands for data LIF and fd20:13::0/50 is IPv6 subnet) Attributes: optional-for-create, modifiable |
| **service-names** | | lif-service-name[] optional | Specifies the services included in the LIF's service policy. Attributes: non-creatable, non-modifiable |
| **service-policy** | | string optional | Specifies the service policy of the LIF. The service policy attribute is currently only supported on a limited number of LIF roles, and each supported LIF role corresponds to a specific default service policy. Supported Roles:<br>• 'LIF Role Default Policy'<br>• '------------ -----------------'<br>• 'intercluster net-intercluster' |

| | | | |
|---|---|---|---|
| | | | Attributes: optional-for-create, modifiable |
| **subnet-name** | | subnet-name optional | Subnet where the interface address is allocated from. If the option is not used, the IP address will need to be provided by the administrator during configuration. Attributes: optional-for-create, modifiable |
| **use-failover-group** | | string optional | Specifies whether failover rules are automatically created, manually created by the administrator, or disabled. For FCP and iSCSI LIFs, the default policy is 'disabled'; for NFS, CIFs and fcache LIFs, the default policy is 'system_defined'. Attributes: optional-for-create, modifiable Possible values:<br>• "system_defined" - Failover targets generated automatically by the system,<br>• "disabled" - Failover targets generated manually by the admin,<br>• "enabled" - Failover targets defined by failover-group,<br>• "unused" - Failover targets are not generated based on this field |
| **vserver** | | string optional | Specifies the Vserver name. Attributes: key, non-creatable, non-modifiable |
| **wwpn** | | string optional | Specifies the LIF's WWPN. This element is valid for FCP LIFs only. Attributes: non-creatable, non-modifiable |

# Element definition: **net-port**

[top]

Network Port formatted as 1-byte 'type', 4-byte 'slot', 1-byte 'suffix', and 4-byte 'vlan'.

[none]

# Element definition: **net-port-info**

[top]

Network port information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **administrative-duplex** | | string optional | Specifies the user preferred duplex setting of the port. Attributes: required-for-create, modifiable Possible values:<br>• "undef" - No defined duplex,<br>• "auto" - Auto-negotiate duplex setting for link,<br>• "half" - Half-duplex link usage,<br>• "full" - Full-duplex link usage |

| | | | |
|---|---|---|---|
| **administrative-flowcontrol** | | string optional | Specifies the user preferred flow control setting of the port. Attributes: required-for-create, modifiable |
| **administrative-speed** | | string optional | Specifies the user preferred speed setting of the port. Attributes: required-for-create, modifiable Possible values:<br>• "undef" - No defined speed,<br>• "auto" - Auto-negotiate speed for link,<br>• "10" - 10 megabits per second,<br>• "100" - 100 megabits per second,<br>• "1000" - 1 gigabit per second,<br>• "10000" - 10 gigabits per second,<br>• "40000" - 40 gigabits per second,<br>• "100000" - 100 gigabits per second,<br>• "25000" - 25 gigabits per second |
| **autorevert-delay** | **[0..2^32-1]** | integer optional | For a port with role 'cluster', specifies the delay in seconds before autoreverting a LIF to this port. Attributes: optional-for-create, modifiable |
| **broadcast-domain** | | broadcast-domain-name optional | Specifies the port's associated Broadcast Domain. Attributes: non-creatable, non-modifiable |
| **health-degraded-reasons** | | netport-degraded-reason[] optional | Specifies the list of reasons which cause port marked as degraded Attributes: non-creatable, non-modifiable Possible values:<br>• "l2_reachability" - L2 reachability,<br>• "link_flapping" - Link flapping,<br>• "crc_errors" - CRC errors,<br>• "vswitch_link" - vSwitch link |
| **health-status** | | netport-health-status optional | Specifies the health status of the given port. Attributes: non-creatable, non-modifiable Possible values:<br>• "healthy" ,<br>• "degraded" |
| **ifgrp-distribution-function** | | string optional | For a port of type 'ifgrp', specifies the traffic distribution function. Attributes: non-creatable, non-modifiable Possible values:<br>• "mac" - Network traffic is distributed on the basis of MAC addresses,<br>• "ip" - Network traffic is distributed on the basis of IP addresses,<br>• "sequential" - Network traffic is distributed round-robin to each interface,<br>• "port" - Network traffic is distributed by transport layer address 4-tuple |
| **ifgrp-mode** | | string optional | For a port of type 'ifgrp', specifies the link policy. Possible values:<br>• 'multimode - All links are simultaneously active',<br>• 'multimode_lacp - Link state is managed by the switch using link aggregation control protocol (LACP) (IEEE 802.3ad)',<br>• 'singlemode - Only one link is active at a time'<br><br>Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **ifgrp-node** | | string optional | For a port of type 'physical' that is a member of an interface group (ifgrp), specifies the name of the node on which the interface group was created. Attributes: non-creatable, non-modifiable |
| **ifgrp-port** | | string optional | For a port of type 'physical' that is a member of an interface group (ifgrp), specifies the name of the interface group. Attributes: non-creatable, non-modifiable |
| **ignore-health-status** | | boolean optional | Use this parameter to specify that the system ignore network port health status of the specified port for the purpose of hosting a logical interface. The default value for this parameter is false. Attributes: optional-for-create, modifiable |
| **ipspace** | | string optional | Specifies the port's associated IPspace name. Note: the 'Cluster' ipspace is reserved for cluster ports. Attributes: optional-for-create, modifiable |
| **is-administrative-auto-negotiate** | | boolean optional | Enables or disables Ethernet auto-negotiation of speed, duplex and flow control. Attributes: required-for-create, modifiable |
| **is-administrative-up** | | boolean optional | If true, it changes the state of the port to 'up'. Attributes: required-for-create, modifiable |
| **is-operational-auto-negotiate** | | boolean optional | True if Ethernet auto negotiation is successful, false otherwise. Attributes: non-creatable, non-modifiable |
| **link-status** | | string optional | Specifies the link status of the port. Possible values:<br>• 'unknown - Port status unknown',<br>• 'up - Port is up',<br>• 'down - Port is down'<br>Attributes: non-creatable, non-modifiable |
| **mac-address** | | string optional | Specifies the MAC address of the port. Attributes: non-creatable, non-modifiable |
| **mtu** | **[0..2^32-1]** | integer optional | Specifies the maximum transmission unit (MTU) reported by the port. Attributes: required-for-create, modifiable |
| **mtu-admin** | **[0..2^32-1]** | integer optional | Specifies the user preferred maximum transmission unit (MTU) of the port. Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Specifies the name of node. Attributes: key, required-for-create, non-modifiable |
| **operational-duplex** | | string optional | Duplex setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable Possible values:<br>• "undef" - No defined duplex,<br>• "auto" - Auto-negotiate duplex setting for link,<br>• "half" - Half-duplex link usage,<br>• "full" - Full-duplex link usage |
| **operational-flowcontrol** | | string optional | Flow control setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable |
| **operational-speed** | | string optional | Speed setting reported by the port after Ethernet auto-negotiation. Attributes: non-creatable, non-modifiable Possible values:<br>• "undef" - No defined speed,<br>• "auto" - Auto-negotiate speed for link,<br>• "10" - 10 megabits per second,<br>• "100" - 100 megabits per second,<br>• "1000" - 1 gigabit per second,<br>• "10000" - 10 gigabits per second, |

| | | | |
|---|---|---|---|
| | | | • "40000" - 40 gigabits per second,<br>• "100000" - 100 gigabits per second,<br>• "25000" - 25 gigabits per second |
| **port** | | string<br>optional | Specifies the name of port. Attributes: key, required-for-create, non-modifiable |
| **port-type** | | string<br>optional | Specifies the type of port. Attributes: non-creatable, non-modifiable Possible values:<br>• "physical" - Physical network interface,<br>• "if_group" - Logical interface group (IEEE 802.3, section 43),<br>• "vlan" - Virtual LAN (IEEE 802.1Q),<br>• "undef" - No defined port type,<br>• "vip" - Virtual network interface for Virtual IP,<br>• "pvlan" - Pseudo Virtual LAN |
| **remote-device-id** | | string<br>optional | Remote device ID reported by L2 discovery protocol Attributes: non-creatable, non-modifiable |
| **role** | | string<br>optional | This parameter has been deprecated in Data ONTAP 8.3, but is still returned for compatibility and may be removed in a future release. Prefer instead to use the 'ipspace' parameter. Attributes: optional-for-create, modifiable |
| **vlan-id** | **[0..2^32-1]** | integer<br>optional | For a port of type 'vlan', specifies the vlan identification number. Attributes: non-creatable, non-modifiable |
| **vlan-node** | | string<br>optional | Specifies the name of the node on which vlan is created. Attributes: non-creatable, non-modifiable |
| **vlan-port** | | string<br>optional | For a port of type 'vlan', specifies the name of the physical port on which the vlan is created. Attributes: non-creatable, non-modifiable |
| **vm-network-name** | | string<br>optional | Virtual Machine network name Attributes: non-creatable, non-modifiable |

# Element definition: **netport-degraded-reason**

[top]

l2-reachability|link-flapping|crc-errors|vswitch-link Possible values:

- "l2_reachability" - L2 reachability,
- "link_flapping" - Link flapping,
- "crc_errors" - CRC errors,
- "vswitch_link" - vSwitch link

[none]

# Element definition: **netport-health-status**

[top]

healthy|degraded Possible values:

- "healthy" ,
- "degraded"

[none]

## Element definition: **network-type** [top]

The network topology classification Possible values:

- "wan" ,
- "lan" ,
- "undefined"

[none]

## Element definition: **node-name** [top]

The node's name

[none]

## Element definition: **port-info** [top]

Port information.

| Name | Range | Type | Description |
|---|---|---|---|
| **port** | | net-qualified-port-name optional | Ports added to the layer 2 broadcast domain. Ports added to a new layer 2 broadcast domain will be removed from their current layer 2 broadcast domain. Format: node-name:port-name Attributes: optional-for-create, non-modifiable |
| **port-update-status** | | broadcast-domain-port-status optional | Status for each port's updates to match the broadcast domain. See port-update-status-details for detailed error text. Attributes: non-creatable, non-modifiable Possible values:<br>• "complete" - Port updates are complete and values match the broadcast domain,<br>• "in_progress" - Port values are being updated to match the broadcast domain,<br>• "error" - An error was encountered and values do not match the broadcast domain,<br>• "overridden_while_offline" - Port values were overriden while offline |
| **port-update-status-details** | | string optional | Descriptions of each port's update status. When the status is 'error', this field will contain text describing the error. Attributes: non-creatable, non-modifiable |

# Element definition: **protocol-layer4**

[top]

The network layer 4 protocol type Possible values:

- "udp" - UDP,
- "tcp" - TCP,
- "na" - not_available

[none]

# Element definition: **service-port-info**

[top]

TCP/UDP Port Information

| Name | Range | Type | Description |
|---|---|---|---|
| **port** | **[0..2^32-1]** | integer optional | The list of TCP and UDP ports that the service will listen on. Attributes: non-creatable, non-modifiable |
| **protocol** | | fw-policy-protocol optional | The IP protocol associated with each port number. Attributes: non-creatable, non-modifiable Possible values:<br>• "tcp" - Applies only to TCP,<br>• "udp" - Applies only to UDP,<br>• "tcp_udp" - Applies to both TCP and UDP,<br>• "icmp" - Applies only to ICMP,<br>• "ipv6_icmp" - Applies only to IPv6-ICMP,<br>• "undef" - Undefined,<br>• "esp" - Applies only to ESP |

# Element definition: **subnet-name**

[top]

Name of Subnet

[none]

# Element definition: **subnets-info**

[top]

Subnet information.

| Name | Range | Type | Description |
|---|---|---|---|
| **subnet** | | ip-and-mask optional | The list of subnets associated with the layer 2 broadcast domain. Attributes: non-creatable, non-modifiable |

# Element definition: **svc-failover-policy**

[top]

svc_failover_policy Possible values:

- "unrestricted" - Service has no restrictions on LIF failover,
- "home_port_only" - Service requires that LIFs do not fail off their home port,
- "home_node_only" - Service requires that LIFs do not fail off their home node,
- "home_pair_only" - Service requires that LIFs do not fail off their home node or sfo partner

[none]

# Element definition: **svc-vserver-policy**

[top]

svc_vserver_policy Possible values:

- "unrestricted" - Service has no vserver restrictions,
- "system_only" - Service is only compatible with system vservers,
- "data_only" - Service is only compatible with data vservers,
- "cluster_only" - Service is only compatible with cluster vservers

[none]

# Element definition: **switchless-cluster-info**

[top]

Network options switchless-cluster typedef

| Name | Range | Type | Description |
|---|---|---|---|
| **enabled** | | boolean<br>optional | Enable Switchless Cluster Attributes: non-creatable, modifiable |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **vserver-bgp-state**

[top]

unknown|unconfigured|up|down Possible values:

- "unknown" - Fail to query BGP sessions state,
- "unconfigured" - BGP is not configured,
- "up" - At lease one BGP session is up,
- "down" - No BGP sessions are up

[none]

## Element definition: **broadcast-domain-name**

[top]

Broadcast Domain

[none]

## Element definition: **broadcast-domain-port-status**

[top]

Possible port update states for a broadcast domain operation Possible values:

- "complete" - Port updates are complete and values match the broadcast domain,
- "in_progress" - Port values are being updated to match the broadcast domain,
- "error" - An error was encountered and values do not match the broadcast domain,
- "overridden_while_offline" - Port values were overriden while offline

[none]

## Element definition: **data-protocol**

[top]

nfs|cifs|iscsi|fcp|fcache|none|fc-nvme|s3|nvme-tcp Possible values:

- "nfs" - Used for NFS connections,
- "cifs" - Used for CIFS connections,
- "iscsi" - Used for iSCSI connections,
- "fcp" - Used for Fibre Channel connections,
- "fcache" - Used for 7-mode FlexCache connections,
- "none" - Used for management. Does not serve any file protocols.,
- "http" - Used for HTTP connections,
- "fc_nvme" - Used for NVMe/FC connections,
- "s3" - Used for S3 connections,
- "nvme_roce" - Used for NVMe/RoCE connections,
- "nvme_tcp" - Used for NVMe/TCP connections

[none]

# Element definition: **dns-zone**

[top]

Specifies the unique, fully qualified domain name of the DNS zone of this LIF.

[none]

# Element definition: **failover-group**

[top]

Specifies the failover group name.

[none]

# Element definition: **fw-policy-protocol**

[top]

fw_policy_protocol Possible values:

- "tcp" - Applies only to TCP,
- "udp" - Applies only to UDP,
- "tcp_udp" - Applies to both TCP and UDP,
- "icmp" - Applies only to ICMP,
- "ipv6_icmp" - Applies only to IPv6-ICMP,
- "undef" - Undefined,
- "esp" - Applies only to ESP

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

# Element definition: **lif-service-name**

[top]

The name of network interface service.

[none]

## Element definition: **net-qualified-port-name**

[top]

A node and port specification in the following format: :.

[none]

# APIs in Category: **netgroup**


netgroups-file-delete
netgroups-file-get
netgroups-file-get-iter


## netgroups-file-delete

[top]

Destroy an existing netgroups file configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **vserver-name** | | vserver-name | Specifies the Vserver for the local netgroup file. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

## netgroups-file-get

[top]

Get netgroups file configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | netgroups-file-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **domain** | | string optional | Specifies the domain name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The domain name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'. |
| **host** | | string optional | Specifies the host name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The host name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'. |
| **member-netgroup** | | string optional | Specifies the name of a member netgroup contained within this netgroup. |
| **netgroup-name** | | string optional | Specifies the name of a netgroup within the Vserver's local netgroup file. Each netgroup is composed of a list of members. Each member can be either the name of another netgroup or a specification of a tuple as follows: (host, user, domain). All of these members are given similar network access. |

| | | | |
|---|---|---|---|
| **user** | | string optional | Specifies the user name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The user name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'. |
| **vserver** | | vserver-name | Specifies the Vserver for the local netgroup file. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | netgroups-file-config-info | The attributes of the netgroup |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# netgroups-file-get-iter

[top]

Iterate over a list of netgroups file configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | netgroups-file-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | netgroups-file-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Netgroups file configuration object. All Netgroups file configuration objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | netgroups-file-config-info[] optional | The list of attributes of Netgroups file configuration objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Netgroups file configuration objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |

# Element definition: **netgroups-file-config-info**

[top]

Netgroups file configuration information When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **domain** | | string optional | Specifies the domain name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The domain name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'. Attributes: non-creatable, non-modifiable |
| **host** | | string optional | Specifies the host name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The host name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'. Attributes: non-creatable, non-modifiable |
| **member-netgroup** | | string optional | Specifies the name of a member netgroup contained within this netgroup. Attributes: non-creatable, non-modifiable |
| **netgroup-name** | | string optional | Specifies the name of a netgroup within the Vserver's local netgroup file. Each netgroup is composed of a list of members. Each member can be either the name of another netgroup or a specification of a tuple as follows: (host, user, domain). All of these members are given similar network access. Attributes: non-creatable, non-modifiable |
| **user** | | string optional | Specifies the user name component of (host, user, domain) tuple where the tuple is a member of the specified netgroup. The user name may be empty to specify a 'wildcard' value or may consist of the string '-' to specify 'no valid value'. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Specifies the Vserver for the local netgroup file. Attributes: key, non-creatable, non-modifiable |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **nfs**


nfs-disable
nfs-enable
nfs-exportfs-append-rules
nfs-exportfs-append-rules-2
nfs-exportfs-check-permission
nfs-exportfs-delete-rules
nfs-exportfs-fence-disable
nfs-exportfs-fence-enable
nfs-exportfs-flush-cache
nfs-exportfs-list-rules
nfs-exportfs-list-rules-2
nfs-exportfs-load-exports
nfs-exportfs-modify-rule
nfs-exportfs-modify-rule-2
nfs-exportfs-storage-path
nfs-get-supported-sec-flavors
nfs-monitor-add
nfs-monitor-list
nfs-monitor-reclaim
nfs-monitor-remove
nfs-monitor-remove-locks
nfs-service-create
nfs-service-destroy
nfs-service-get
nfs-service-get-create-defaults
nfs-service-get-iter
nfs-service-modify
nfs-stats-get-client-stats
nfs-stats-top-clients-list-iter-end
nfs-stats-top-clients-list-iter-next
nfs-stats-top-clients-list-iter-start
nfs-stats-zero-stats
nfs-status


## nfs-disable

[top]

In Data ONTAP 7-Mode, this API will disable NFS server access (effectively same as the CLI command "nfs off") In Data ONTAP Cluster-Mode, this will stop the Vserver's NFS service. If the NFS service was not explicitly created, this API does nothing.

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| nfs |

# nfs-enable

[top]

In Data ONTAP 7-Mode, this API will enable NFS server access (effectively same as the CLI command "nfs on") In Data ONTAP Cluster-Mode, this will start the Vserver's NFS service. If the NFS service was not explicitly created, this API will create one with default options.

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |
| EVSERVERNOTFOUND | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| nfs |

# nfs-exportfs-append-rules

[top]

Enables pathnames for mounting according to the rules specified. New rules for the pathnames take effect immediately, ignoring previous rules for specified pathnames. In the Data ONTAP 7-Mode, set the persistent option to true to save the rule in the etc/exports file and keep the option persistent upon loading or reboot whereas it must be true in Data ONTAP Cluster-Mode as the export entries are always persistent.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| create-multi-clientmatch | | boolean optional | If true, the export rules are created using multiple clientmatches per rule to minimize the number of export rules created. If false, each export rule contains a single clientmatch string. Default value is true. |
| persistent | | boolean optional | In Data ONTAP 7-Mode, default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned. |
| rules | | exports-rule-info[] | List of rules to add to the exports table. |
| verbose | | boolean optional | If true, returns a list of directories which were appended. Errors during the append are recorded in the 'results' field error and 'loaded-pathnames' will contain which pathnames were successfully appended. Default value is false. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |

| | | | |
|---|---|---|---|
| **exported-pathnames** | | pathname-info[] optional | In Data ONTAP 7-Mode, this will return verbose output of what pathnames were successfully saved in the etc/exports file. Only returned if verbose and persistent options are set. In Data ONTAP Cluster-Mode, this will return verbose output of what pathnames were successfully appended. Only returned if verbose option is set. |
| **loaded-pathnames** | | pathname-info[] optional | Verbose output of what pathnames were successfully appended Only returned if verbose option is set. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ENOENT** | |
| **EINVAL** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-append-rules-2

[top]

Enables pathnames for mounting according to the rules specified. New rules for the pathnames take effect immediately, ignoring previous rules for specified pathnames. In the Data ONTAP 7-Mode, set the persistent option to true to save the rule in the etc/exports file and keep the option persistent upon loading or reboot whereas it must be true in Data ONTAP Cluster-Mode as the export entries are always persistent. The new security-rule-info structure contains finer grained information about security rules than exports-rule-info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **create-multi-clientmatch** | | boolean optional | If true, the export rules are created using multiple clientmatches per rule to minimize the number of export rules created. If false, each export rule contains a single clientmatch string. Default value is true. |
| **persistent** | | boolean optional | In Data ONTAP 7-Mode, default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned. |
| **rules** | | exports-rule-info-2[] | List of rules to add to the exports table. |
| **verbose** | | boolean optional | If true, returns a list of directories which were appended. Errors during the append are recorded in the 'results' field error and 'loaded-pathnames' will contain which pathnames were successfully appended. Default value is false. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **exported-pathnames** | | pathname-info[] optional | In Data ONTAP 7-Mode, this will return verbose output of what pathnames were successfully saved in the etc/exports file. Only returned if verbose and persistent options are set. In Data ONTAP Cluster-Mode, this will return verbose output of what pathnames |

| | | | |
|---|---|---|---|
| | | | were successfully appended. Only returned if verbose option is set. |
| **loaded-pathnames** | | pathname-info[] optional | Verbose output of what pathnames were successfully appended Only returned if verbose option is set. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ENOENT** | |
| **EINVAL** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-check-permission

[top]

Returns true if the host IP has mount permissions for a specified path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **host** | | string | IP address of the host to check in dotted decimal format: AAA.BBB.CCC.DDD |
| **pathname** | | string | Returns the permissions for this path. |
| **permission** | | string | Possible values: "read-only", "read-write", and "root". |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-permissible** | | boolean | True if host has permission to the path. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-delete-rules

[top]

Removes the rules for a set of pathnames. This returns an error if any of the pathnames don't have a rule. In the Data ONTAP 7-Mode, set the persistent option to modify the etc/exports file and keep this change persistent upon reboots whereas it must be true in Data ONTAP Cluster-Mode as the export

entries are always persistent.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **all-pathnames** | | boolean optional | Default value is false. Set to true to delete all rules. 'pathnames' option must be left empty if this option is true. |
| **pathnames** | | pathname-info[] optional | In the Data ONTAP 7-Mode, these must be the pathnames to be deleted from the exports table. In Data ONTAP Cluster-Mode the pathname for a volume must be specified using the junction path ("/junction"). The pathname for a qtree must be specified as ("/vol/volname/qtreename0") or ("/junction/qtreename0"). |
| **persistent** | | boolean optional | In Data ONTAP 7-Mode, default value is false. Modify the etc/exports file to delete the rules permanently. CAUTION: If 'all-pathnames' and 'persistent' are both true, all exports are removed permanently. In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned. |
| **verbose** | | boolean optional | Return a verbose output of what occurred. If there is an error after deleting only a few rules, 'deleted-pathnames' will return which rules were deleted. Default value is false. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **deleted-pathnames** | | pathname-info[] optional | In Data ONTAP 7-Mode, this will return the list of pathnames deleted from the exports table in memory. Only returned if verbose option is set. In Data ONTAP Cluster-Mode, this will return the list of pathnames unexported. |
| **unexported-pathnames** | | pathname-info[] optional | In Data ONTAP 7-Mode, this will return the list of pathnames deleted from the exports file. Only returned if verbose and persistent options are set. In Data ONTAP Cluster-Mode, this will return the list of pathnames unexported. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-fence-disable

[top]

Disables fencing to the given exports for the given entry. This means that the entry will have write permission to the exports. The rule changes take effect immediately. Set the persistent option to true to save the rule in the /etc/exports file and keep the option persistent upon loading or reboot.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **all-pathnames** | | boolean optional | Default value is false. Set to true to unfence all rules. 'fenced-paths' option must be left empty if this option is true. |
| **fenced-hosts** | | exports-hostname-info[] | An array of hostnames which are to be fenced off. |

| | | | |
|---|---|---|---|
| **fenced-paths** | | pathname-info[] optional | An array of paths which are to be fenced off. |
| **persistent** | | boolean optional | Default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) If false, only change the exports in memory. |
| **remove-locks** | | boolean optional | Default value is false. Set to true to reclaim locks of the specified fenced-hosts. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-fence-enable

[top]

Enables fencing to the given exports for the given entry. This means that the entry will not have write permission to the exports. The rule changes take effect immediately. Set the persistent option to true to save the rule in the /etc/exports file and keep the option persistent upon loading or reboot.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **all-pathnames** | | boolean optional | Default value is false. Set to true to fence all rules. 'fenced-paths' option must be left empty if this option is true. |
| **fenced-hosts** | | exports-hostname-info[] | An array of hostnames which are to be fenced off. |
| **fenced-paths** | | pathname-info[] optional | An array of paths which are to be fenced off. |
| **persistent** | | boolean optional | Default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) If false, only change the exports in memory. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-flush-cache

[top]

For the given path, renew or flush the access cache.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **pathname** | | string optional | Pathname to flush. If this input is not provided, all of the paths in the exports table are flushed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-list-rules

[top]

Returns the export rules that were configured with a single security flavor. If a pathname is specified, the rules associated with the export matching that pathname are returned; otherwise, rules for all exports are returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **pathname** | | string optional | The pathname, for whose matching export, the client wants a listing of the associated rules. If this parameter is provided, the persistent parameter is ignored. |
| **persistent** | | boolean optional | In Data ONTAP 7-Mode, default value is false. If true, the export entries that are present in the /etc/exports file are returned; otherwise, those loaded in memory are returned. This parameter is ignored, if the pathname parameter is provided. In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an empty list will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **rules** | | exports-rule-info[] | Array of exports rules loaded in memory or found in the etc/exports file. If pathname parameter is provided, returns the corresponding rules that are loaded in memory. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EEXPORTSINCOMPATIBLE** | |
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-list-rules-2

[top]

Returns the export rules that were configured with more than one security flavor, using the new security info structure. If a pathname is specified, the rules associated with the export matching that pathname are returned; otherwise, rules for all exports are returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **pathname** | | string optional | The pathname, for whose matching export, the client wants a listing of the associated rules. If this parameter is provided, the persistent parameter is ignored. |
| **persistent** | | boolean optional | In Data ONTAP 7-Mode, default value is false. If true, the export entries that are present in the /etc/exports file are returned; otherwise, those loaded in memory are returned. This parameter is ignored, if the pathname parameter is provided. In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an empty list will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **rules** | | exports-rule-info-2[] | Array of exports rules loaded in memory or found in the etc/exports file. If pathname parameter is provided, returns the corresponding rules that are loaded in memory. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-load-exports

[top]

Loads the etc/exports file into memory. Replaces exports rules already residing in memory.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **persistent-only** | | boolean optional | Default value is false. If true, atomically reloads each rule from the exports file and unloads all other rules. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-exportfs-modify-rule

[top]

Functionally similar to append with the following caveats. In Data ONTAP 7-Mode, returns an error if the rule does not exist. In Data ONTAP Cluster-Mode, returns an error if the export policy associated with the path doesn't contain any rules. Only works for one rule at a time.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **create-multi-clientmatch** | | boolean optional | If true, the export rules are created using multiple clientmatches per rule to minimize the number of export rules created. If false, each export rule contains a single clientmatch string. Default value is true. |
| **persistent** | | boolean | In Data ONTAP 7-Mode, default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned. |
| **rule** | | exports-rule-info | The rule to modify. In Data ONTAP 7-mode, returns an error if a previous rule with the same pathname is not already loaded into memory. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ENOENT** | |
| **EINVAL** | |

| Vfiler-enabled |
|---|
| **Yes** |

# nfs-exportfs-modify-rule-2

[top]

Functionally similar to append-2 with the following caveats. In Data ONTAP 7-Mode, returns an error if the rule does not exist. In Data ONTAP Cluster-Mode, returns an error if the export policy associated with the path doesn't contain any rules. Only works for one rule at a time.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **create-multi-clientmatch** | | boolean optional | If true, the export rules are created using multiple clientmatches per rule to minimize the number of export rules created. If false, each export rule contains a single clientmatch string. Default value is true. |
| **persistent** | | boolean | In Data ONTAP 7-Mode, default value is false. If true, modifies the etc/exports file to append the rule for a permanent change. (The new rule still takes effect immediately.) In Data ONTAP Cluster-Mode, the export entries are always persistent. Default value is true. If false, an error will be returned. |
| **rule** | | exports-rule-info-2 | The rule to modify. In Data ONTAP 7-mode, returns an error if a previous rule with the same pathname is not already loaded into memory. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ENOENT** | |
| **EINVAL** | |

| Vfiler-enabled |
|---|
| **Yes** |

## nfs-exportfs-storage-path

[top]

For the given path, determine the actual storage path. Returns an error if the path does not exist.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **pathname** | | string | Virtual pathname which has a rule associated with an actual pathname. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **actual-pathname** | | string | True path name on the filer, which uses a virtual path for interfacing with the NFS. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

## nfs-get-supported-sec-flavors

[top]

Returns a list of currently supported security flavors. Hosts with permmisions and connecting via the proper security flavor have access to directories on the filer. Default security flavor for all exports is "sys".

| Output Name | Range | Type | Description |
|---|---|---|---|
| **sec-flavor** | | sec-flavor-info[] | List of possible security flavors NFS supports. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| |

| License |
| --- |
| nfs |

# nfs-monitor-add

[top]

starts monitoring the specified hosts for NFS lock recovery purposes. The specified hosts are added to the list of of clients that will be notified of lock recovery in the event of an NFS server crash/reboot. For more information, see the sm_mon(1a) manual page.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| hosts | | hostaddr[] | an array of hosts that are to be monitored. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| nfs |

# nfs-monitor-list

[top]

Lists the hosts that are currently being monitored by the NFS status monitor.

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| hosts | | hostaddr[] | an array of hosts that are currently being monitored. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| nfs |

# nfs-monitor-reclaim

[top]

reclaims the NFS locks for the specified client hosts. If no hosts are specified, then all the clients locks are removed and are notified about lock recovery, as if an NFS server crash/reboot had happened. If any hosts are specified, then only those client hosts locks are reclaimed For more information, see the sm_mon(1a) manual page.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |

| | | | |
|---|---|---|---|
| **hosts** | | hostaddr[]<br>optional | hosts whose locks have to be reclaimed. If no hosts are specified, then all the clients locks are reclaimed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-monitor-remove

[top]

Starts unmonitoring the specified hosts for NFS lock recovery purposes. The specified hosts are removed from the list of clients that will be notified of lock recovery in the event of an NFS server crash/reboot. For more information, see the sm_mon(1a) manual page.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hosts** | | hostaddr[] | an array of hosts that are to be unmonitored. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-monitor-remove-locks

[top]

removes the NFS locks of a specfied process of a specified client host.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **owners** | | owner-info[] | List of owners whose locks have to be deleted. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-service-create

[top]

Create a new NFS configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allow-idle-connection-timeout** | | boolean optional | Are Idle NFS Connections Supported |
| **auth-sys-extended-groups** | | boolean optional | If 'true', auxillary groups up to 'extended-groups-limit' are fetched from the name service rather than the RPC header for AUTH_SYS. Default value is 'false'. |
| **cached-cred-harvest-timeout** | **[60000..604800000]** | integer optional | Harvest timeout (in msecs) for a Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms. |
| **cached-cred-negative-ttl** | **[60000..604800000]** | integer optional | Time To Live Value (in msecs) of a Negative Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 7200000 ms. |
| **cached-cred-positive-ttl** | **[60000..604800000]** | integer optional | Time To Live Value (in msecs) of a Positive Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms. |
| **cached-transient-err-ttl** | **[30000..300000]** | integer optional | Time To Live Value (in msecs) of a Cached Entry for a Transient Error. The range is 30000 ms to 300000 ms. The default is 30000 ms. |
| **chown-mode** | | nfschownmode optional | Vserver Change Ownership Mode. Possible values are 'ignore', 'fail', 'use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. Possible values:<br>• "restricted" ,<br>• "unrestricted" ,<br>• "use_export_policy" |
| **default-windows-group** | | string optional | The default windows group for CIFS access. |
| **default-windows-user** | | string optional | The default windows user for CIFS access. |
| **enable-ejukebox** | | boolean optional | If 'true', then the NFS server will send EJUKEBOX error on server delays. |
| **extended-groups-limit** | **[32..1024]** | integer optional | Maximum auxillary groups supported over AUTH_SYS and RPCSEC_GSS. This value always applies for RPCSEC_GSS and applies to AUTH_SYS only when 'auth-sys-extended-groups' is set to 'enabled'. Range is 32 to 1024. Default value is 32. |
| | | | Number of I/O operations on a file to be |

| | | | |
|---|---|---|---|
| **file-session-io-grouping-count** | **[1000..20000]** | integer<br>optional | grouped and considered as one session for event generation applications, such as FPolicy. The range is 1000 to 20000. The default is 5000. |
| **file-session-io-grouping-duration** | **[60..600]** | integer<br>optional | The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy. The range is 60 seconds to 600 seconds. The default is 120s. |
| **hadoop-allow-non-root-mount** | | boolean<br>optional | Whether to allow non-root user doing MOUNT operations from hadoop connector though -mount-rootonly option is enabled. The default value is enabled. |
| **idle-connection-timeout** | **[120..86400]** | integer<br>optional | Idle Connection Timeout Value (in seconds) |
| **ignore-nt-acl-for-root** | | boolean<br>optional | If 'true', then the Vserver allows the 'root' user to ignore the NT ACLs Check. Default value is 'false'. |
| **is-checksum-enabled-for-replay-cache** | | boolean<br>optional | Use Checksum for Replay-Cache, in order to identify invalid retransmitted requests. |
| **is-mount-rootonly-enabled** | | boolean<br>optional | If 'true', then the vserver allows MOUNT protocol calls only from privileged ports (port numbers less than 1024). Default value is 'true'. |
| **is-netgroup-dns-domain-search** | | boolean<br>optional | If 'true', then the Vserver allows for searching various DNS domains during netgroup lookup. Default value is 'true'. |
| **is-nfs-access-enabled** | | boolean<br>optional | If 'true',then NFS server access is enabled. Default value is 'true'. |
| **is-nfs-rootonly-enabled** | | boolean<br>optional | If 'true', then the vserver allows NFS protocol calls only from privileged ports (port numbers less than 1024). Default value is 'false'. |
| **is-nfsv2-enabled** | | boolean<br>optional | Starting Data ONTAP 8.2, NFS v2 is no longer supported. Default value is 'false'. |
| **is-nfsv3-64bit-identifiers-enabled** | | boolean<br>optional | If 'true', then NFSv3 clients see 64-bit values for FSID and File Identifiers. Default value is 'false'. |
| **is-nfsv3-connection-drop-enabled** | | boolean<br>optional | If 'true', then connection is dropped when an NFSv3 request is dropped. Default value is 'true'. |
| **is-nfsv3-enabled** | | boolean<br>optional | If 'true', then NFS version 3 is enabled. Default value is 'true'. |
| **is-nfsv3-fsid-change-enabled** | | boolean<br>optional | If 'true', then NFSv3 clients see change in FSID as they traverse filesystems. Default value is 'true'. |
| **is-nfsv4-64bit-identifiers-enabled** | | boolean<br>optional | If 'true', then NFSv4.x clients see 64-bit values for FSID and File Identifiers. Default value is 'true'. |
| **is-nfsv4-fsid-change-enabled** | | boolean<br>optional | If 'true', then clients see change in FSID as NFSv4 clients traverse filesystems. Default value is 'true'. |
| **is-nfsv4-** | | boolean | If 'true', then NFSv4 support for Numeric |

| | | | |
|---|---|---|---|
| **numeric-ids-enabled** | | optional | Owner IDs is enabled. Default value is 'true'. |
| **is-nfsv40-acl-enabled** | | boolean optional | If 'true', then NFSv4.0 ACL feature is enabled. Default value is 'false'. |
| **is-nfsv40-enabled** | | boolean optional | If 'true', then NFS version 4.0 is enabled. Default value is 'false'. |
| **is-nfsv40-migration-enabled** | | boolean optional | If 'true', then NFSv4.0 Migration feature is enabled. Default value is 'false'. |
| **is-nfsv40-read-delegation-enabled** | | boolean optional | If 'true', NFSv4.0 read delegation feature is enabled. Default value is 'false'. |
| **is-nfsv40-referrals-enabled** | | boolean optional | If 'true', then NFSv4.0 Referrals feature is enabled. Default value is 'false'. |
| **is-nfsv40-req-open-confirm-enabled** | | boolean optional | If 'true', then the server will require an OPEN_CONFIRM operation for all NFSv4.0 clients. Default value is 'false'. |
| **is-nfsv40-write-delegation-enabled** | | boolean optional | If 'true', NFSv4.0 write delegation feature is enabled. Default value is 'false'. |
| **is-nfsv41-acl-enabled** | | boolean optional | If 'true', then NFSv4.1 ACL feature is enabled. Default value is 'false'. |
| **is-nfsv41-acl-preserve-enabled** | | boolean optional | If 'true', the NFSv4 server will preserve and modify ACL when chmod is done. Default value is 'true'. This is applicable to all NFSv4.x instances. |
| **is-nfsv41-enabled** | | boolean optional | If 'true', then NFS version 4.1 is enabled. Default value is 'false'. |
| **is-nfsv41-migration-enabled** | | boolean optional | If 'true', then NFSv4.1 Migration feature is enabled. Default value is 'false'. |
| **is-nfsv41-pnfs-enabled** | | boolean optional | If 'true', then Parallel NFS support for NFS version 4.1 is enabled. Default value is 'true'. |
| **is-nfsv41-read-delegation-enabled** | | boolean optional | If 'true', NFSv4.1 read delegation feature is enabled. Default value is 'false'. |
| **is-nfsv41-referrals-enabled** | | boolean optional | If 'true', then NFSv4.1 Referrals feature is enabled. Default value is 'false'. |
| **is-nfsv41-state-protection-enabled** | | boolean optional | If 'true', then NFSv4.1 State Protection is enabled. Default value is 'true'. |
| **is-nfsv41-trunking-enabled** | | boolean optional | If 'true', then NFS version 4.1 Trunking feature is enabled. Default value is 'false'. |
| **is-nfsv41-write-delegation-enabled** | | boolean optional | If 'true', NFSv4.1 write delegation feature is enabled. Default value is 'false'. |
| **is-nfsv42-seclabel-enabled** | | boolean optional | If 'true', then NFS version 4.2 Security label feature is enabled. Default value is 'false'. |
| **is-nfsv42-sparsefile-ops-enabled** | | boolean optional | If 'true', then NFS version 4.2 Sparse file ops Allocate, Deallocate and Seek are supported. Default value is 'false'. |

| | | | |
|---|---|---|---|
| **is-nfsv42-xattrs-enabled** | | boolean optional | If 'true', then NFS version 4.2 Extended attributes feature is enabled. Default value is 'false'. |
| **is-rdma-enabled** | | boolean optional | If 'true', then enable NFS access over RDMA. Default value is 'true'. |
| **is-restrict-chmod-acl** | | nfsrestrictchmodacl optional | If 'restricted', then the Vserver restricts setting modebits and Acls for non-susperuser. Default value is 'unrestricted'. Possible values:<br>• "unrestricted" ,<br>• "restricted" |
| **is-rquota-enabled** | | boolean optional | If 'true', then rquota is enabled. Default value is 'false'. |
| **is-tcp-enabled** | | boolean optional | If 'true', then enable NFS access over TCP. Default value is 'true'. |
| **is-udp-enabled** | | boolean optional | If 'true', then enable NFS access over UDP. Default value is 'true'. |
| **is-v3-hide-snapshot** | | boolean optional | Hide .snapshot directory under NFSv3 mount point. Default value is disabled. |
| **is-v3-ms-dos-client-enabled** | | boolean optional | If 'true', then the Vserver allows NFSv3 access for Windows clients. Default value is 'true'. |
| **is-validate-qtree-export-enabled** | | boolean optional | If 'true', then the Vserver performs additional validation for qtree. Default value is 'true'. |
| **is-vstorage-enabled** | | boolean optional | If 'true', then enables the usage of vStorage protocol for server side copies, which is mostly used in hypervisors. Default value is 'false'. |
| **map-unknown-uid-to-default-windows-user** | | boolean optional | Map Unknown UID to Default Windows User |
| **mountd-port** | **[0..2^32-1]** | integer optional | Port that NFS mount daemon is listening to. Default value is 635. |
| **name-service-lookup-protocol** | | export-lookup-protos optional | Set the protocol used for name service lookups for exports. Valid inputs are TCP and UDP. Default value is UDP. Possible values:<br>• "tcp" ,<br>• "udp" |
| **netgroup-trust-any-ns-switch-no-match** | | boolean optional | If 'true', then the Vserver will consider a no-match from any one of the netgroup ns-switch sources to be authoritative even though other sources could not be consulted. Default value is 'false'. |
| **nfsv4-acl-max-aces** | **[192..1024]** | integer optional | Maximum Number of ACEs allowed in an ACL. Range is 192 to 1024. Default value is 400. |
| **nfsv4-grace-seconds** | **[0..2^32-1]** | integer optional | NFSv4 Grace timeout value in seconds. Default value is 45 seconds. |
| **nfsv4-id-domain** | | string optional | NFSv4 ID mapping domain. Default value is 'defaultv4iddomain.com'. |
| **nfsv4-lease-** | | integer | NFSv4 Lease timeout value in seconds. |

| | | | |
|---|---|---|---|
| **seconds** | **[0..2^32-1]** | optional | Default value is 30 seconds. |
| **nfsv41-implementation-id-domain** | | string optional | NFSv4.1 Implementation id domain. Default value is 'defaultv41impliddomain.com'. |
| **nfsv41-implementation-id-name** | | string optional | NFSv4.1 Implementation id name. Default value is 'defaultv41implidname'. |
| **nfsv41-implementation-id-time** | | date optional | NFSv4.1 Implementation id time.The number of seconds since January 1, 1970. |
| **nfsv4x-session-num-slots** | **[1..2000]** | integer optional | Number of Slots in the NFSv4.x Session Slot Tables. Default value is 180. |
| **nfsv4x-session-slot-reply-cache-size** | **[512..4096]** | integer optional | Size of the Reply that will be Cached in Each NFSv4.x Session Slot (in bytes). Default value is 640. |
| **nlm-port** | **[0..2^32-1]** | integer optional | Port that network lock manager is listening to. Default value is 4045. |
| **nsm-port** | **[0..2^32-1]** | integer optional | Port that network status monitor is listening to. Default value is 4046. |
| **ntacl-display-permissive-perms** | | boolean optional | This optional parameter controls the permissions that are displayed to NFS clients on a file or directory that has an NT ACL set. If 'true', the displayed permissions are based on the maximum access granted by the NT ACL to any user. When false, the displayed permissions are based on the minimum access granted by the NT ACL to any user. Default value is 'false'. |
| **ntfs-unix-security-ops** | | string optional | Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail','use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. |
| **permitted-enc-types** | | string[] optional | List of permitted encryption types for Kerberos over NFS. Default values are aes-288, aes-256. Valid inputs are des, des-3, aes-128, and aes-256. |
| **return-record** | | boolean optional | If set to true, returns the NFS Server on successful creation. Default: false |
| **rpcsec-ctx-high** | **[0..2^32-1]** | integer optional | High water mark for the RPCSEC_GSS Context Cache. Default value is 0. |
| **rpcsec-ctx-idle** | **[0..2^32-1]** | integer optional | Time in seconds before an idle entry in RPCSEC_GSS context cache is deleted. Default value is 0. |
| **rquotad-port** | **[0..2^32-1]** | integer optional | Port that NFS quota daemon is listening to. Default value is 4049. |
| **showmount** | | boolean optional | If 'true', then the Vserver allows showmount. Default value is 'enabled'. |
| **showmount-rootonly** | | boolean optional | Whether to provide root path as showmount state when -showmount parameter is disabled. The default value is disabled. |
| **skip-root-** | | boolean | If 'true', then permission check will be avoided for NFS Write requests from |

| | | | |
|---|---|---|---|
| **owner-write-perm-check** | | optional | root/owner. For copying read-only files, this must be true. Default value is 'false'. |
| **tcp-max-xfer-size** | **[8192..1048576]** | integer optional | TCP Maximum Transfer Size (bytes). The default value is 65536 |
| **udp-max-xfer-size** | **[8192..57344]** | integer optional | UDP Maximum Transfer Size (bytes). The default value is 32768. |
| **v3-search-unconverted-filename** | | boolean optional | Whether to continue the search as an unconverted name while doing lookup in a directory. Default value is disabled. |
| **v4-inherited-acl-preserve** | | boolean optional | Whether client specified mode bits should be ignored and inherited NFSv4 ACL should be preserved during creation of file or directory. Default value is disabled. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | nfs-info optional | The NFS Server created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nfs-service-destroy

[top]

Delete an NFS configuration.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nfs-service-get

[top]

Get the NFS server configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nfs-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **attributes** | | nfs-info | The attributes of the NFS Server. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# nfs-service-get-create-defaults

[top]

Obtain the default values for NFS server configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | nfs-info optional | Optionally specify the value for attributes if available. The default values for some attributes may depend on the values specified for some other attribute. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **defaults** | | nfs-info | The default attributes for the NFS Server. |

# nfs-service-get-iter

[top]

Iterate over the list of NFS servers.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nfs-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nfs-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NFS Server object. All NFS Server objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nfs-info[] optional | The list of attributes of NFS Server objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more NFS Server objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| | |
|---|---|
| | |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

# nfs-service-modify

[top]

Modify an NFS configuration. If no values are given, the NFS configuration is not modified.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| allow-idle-connection-timeout | | boolean optional | Are Idle NFS Connections Supported |
| auth-sys-extended-groups | | boolean optional | If 'true', auxillary groups up to 'extended-groups-limit' are fetched from the name service rather than the RPC header for AUTH_SYS. Default value is 'false'. |
| cached-cred-harvest-timeout | [60000..604800000] | integer optional | Harvest timeout (in msecs) for a Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms. |
| cached-cred-negative-ttl | [60000..604800000] | integer optional | Time To Live Value (in msecs) of a Negative Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 7200000 ms. |
| cached-cred-positive-ttl | [60000..604800000] | integer optional | Time To Live Value (in msecs) of a Positive Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms. |
| cached-transient-err-ttl | [30000..300000] | integer optional | Time To Live Value (in msecs) of a Cached Entry for a Transient Error. The range is 30000 ms to 300000 ms. The default is 30000 ms. |
| chown-mode | | nfschownmode optional | Vserver Change Ownership Mode. Possible values are 'ignore', 'fail', 'use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. Possible values:<br>• "restricted" ,<br>• "unrestricted" ,<br>• "use_export_policy" |
| default-windows-group | | string optional | The default windows group for CIFS access. |
| default-windows-user | | string optional | The default windows user for CIFS access. |
| enable-ejukebox | | boolean optional | If 'true', then the NFS server will send EJUKEBOX error on server delays. |
| extended-groups-limit | [32..1024] | integer optional | Maximum auxillary groups supported over AUTH_SYS and RPCSEC_GSS. This value always applies for RPCSEC_GSS and applies to AUTH_SYS only when 'auth-sys-extended-groups' is set to |

| | | | |
|---|---|---|---|
| | | | 'enabled'. Range is 32 to 1024. Default value is 32. |
| **file-session-io-grouping-count** | **[1000..20000]** | integer optional | Number of I/O operations on a file to be grouped and considered as one session for event generation applications, such as FPolicy. The range is 1000 to 20000. The default is 5000. |
| **file-session-io-grouping-duration** | **[60..600]** | integer optional | The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy. The range is 60 seconds to 600 seconds. The default is 120s. |
| **hadoop-allow-non-root-mount** | | boolean optional | Whether to allow non-root user doing MOUNT operations from hadoop connector though -mount-rootonly option is enabled. The default value is enabled. |
| **idle-connection-timeout** | **[120..86400]** | integer optional | Idle Connection Timeout Value (in seconds) |
| **ignore-nt-acl-for-root** | | boolean optional | If 'true', then the Vserver allows the 'root' user to ignore the NT ACLs Check. Default value is 'false'. |
| **is-checksum-enabled-for-replay-cache** | | boolean optional | Use Checksum for Replay-Cache, in order to identify invalid retransmitted requests. |
| **is-mount-rootonly-enabled** | | boolean optional | If 'true', then the vserver allows MOUNT protocol calls only from privileged ports (port numbers less than 1024). Default value is 'true'. |
| **is-netgroup-dns-domain-search** | | boolean optional | If 'true', then the Vserver allows for searching various DNS domains during netgroup lookup. Default value is 'true'. |
| **is-nfs-access-enabled** | | boolean optional | If 'true',then NFS server access is enabled. Default value is 'true'. |
| **is-nfs-rootonly-enabled** | | boolean optional | If 'true', then the vserver allows NFS protocol calls only from privileged ports (port numbers less than 1024). Default value is 'false'. |
| **is-nfsv2-enabled** | | boolean optional | Starting Data ONTAP 8.2, NFS v2 is no longer supported. Default value is 'false'. |
| **is-nfsv3-64bit-identifiers-enabled** | | boolean optional | If 'true', then NFSv3 clients see 64-bit values for FSID and File Identifiers. Default value is 'false'. |
| **is-nfsv3-connection-drop-enabled** | | boolean optional | If 'true', then connection is dropped when an NFSv3 request is dropped. Default value is 'true'. |
| **is-nfsv3-enabled** | | boolean optional | If 'true', then NFS version 3 is enabled. Default value is 'true'. |
| **is-nfsv3-fsid-change-enabled** | | boolean optional | If 'true', then NFSv3 clients see change in FSID as they traverse filesystems. Default value is 'true'. |
| **is-nfsv4-64bit-identifiers-enabled** | | boolean optional | If 'true', then NFSv4.x clients see 64-bit values for FSID and File Identifiers. Default value is 'true'. |
| **is-nfsv4-fsid-** | | boolean | If 'true', then clients see change in FSID |

| | | | |
|---|---|---|---|
| **change-enabled** | | optional | as NFSv4 clients traverse filesystems. Default value is 'true'. |
| **is-nfsv4-numeric-ids-enabled** | | boolean optional | If 'true', then NFSv4 support for Numeric Owner IDs is enabled. Default value is 'true'. |
| **is-nfsv40-acl-enabled** | | boolean optional | If 'true', then NFSv4.0 ACL feature is enabled. Default value is 'false'. |
| **is-nfsv40-enabled** | | boolean optional | If 'true', then NFS version 4.0 is enabled. Default value is 'false'. |
| **is-nfsv40-migration-enabled** | | boolean optional | If 'true', then NFSv4.0 Migration feature is enabled. Default value is 'false'. |
| **is-nfsv40-read-delegation-enabled** | | boolean optional | If 'true', NFSv4.0 read delegation feature is enabled. Default value is 'false'. |
| **is-nfsv40-referrals-enabled** | | boolean optional | If 'true', then NFSv4.0 Referrals feature is enabled. Default value is 'false'. |
| **is-nfsv40-req-open-confirm-enabled** | | boolean optional | If 'true', then the server will require an OPEN_CONFIRM operation for all NFSv4.0 clients. Default value is 'false'. |
| **is-nfsv40-write-delegation-enabled** | | boolean optional | If 'true', NFSv4.0 write delegation feature is enabled. Default value is 'false'. |
| **is-nfsv41-acl-enabled** | | boolean optional | If 'true', then NFSv4.1 ACL feature is enabled. Default value is 'false'. |
| **is-nfsv41-acl-preserve-enabled** | | boolean optional | If 'true', the NFSv4 server will preserve and modify ACL when chmod is done. Default value is 'true'. This is applicable to all NFSv4.x instances. |
| **is-nfsv41-enabled** | | boolean optional | If 'true', then NFS version 4.1 is enabled. Default value is 'false'. |
| **is-nfsv41-migration-enabled** | | boolean optional | If 'true', then NFSv4.1 Migration feature is enabled. Default value is 'false'. |
| **is-nfsv41-pnfs-enabled** | | boolean optional | If 'true', then Parallel NFS support for NFS version 4.1 is enabled. Default value is 'true'. |
| **is-nfsv41-read-delegation-enabled** | | boolean optional | If 'true', NFSv4.1 read delegation feature is enabled. Default value is 'false'. |
| **is-nfsv41-referrals-enabled** | | boolean optional | If 'true', then NFSv4.1 Referrals feature is enabled. Default value is 'false'. |
| **is-nfsv41-state-protection-enabled** | | boolean optional | If 'true', then NFSv4.1 State Protection is enabled. Default value is 'true'. |
| **is-nfsv41-trunking-enabled** | | boolean optional | If 'true', then NFS version 4.1 Trunking feature is enabled. Default value is 'false'. |
| **is-nfsv41-write-delegation-enabled** | | boolean optional | If 'true', NFSv4.1 write delegation feature is enabled. Default value is 'false'. |
| **is-nfsv42-seclabel-enabled** | | boolean optional | If 'true', then NFS version 4.2 Security label feature is enabled. Default value is 'false'. |

| | | | |
|---|---|---|---|
| **is-nfsv42-sparsefile-ops-enabled** | | boolean optional | If 'true', then NFS version 4.2 Sparse file ops Allocate, Deallocate and Seek are supported. Default value is 'false'. |
| **is-nfsv42-xattrs-enabled** | | boolean optional | If 'true', then NFS version 4.2 Extended attributes feature is enabled. Default value is 'false'. |
| **is-rdma-enabled** | | boolean optional | If 'true', then enable NFS access over RDMA. Default value is 'true'. |
| **is-restrict-chmod-acl** | | nfsrestrictchmodacl optional | If 'restricted', then the Vserver restricts setting modebits and Acls for non-susperuser. Default value is 'unrestricted'. Possible values:<br>• "unrestricted" ,<br>• "restricted" |
| **is-rquota-enabled** | | boolean optional | If 'true', then rquota is enabled. Default value is 'false'. |
| **is-tcp-enabled** | | boolean optional | If 'true', then enable NFS access over TCP. Default value is 'true'. |
| **is-udp-enabled** | | boolean optional | If 'true', then enable NFS access over UDP. Default value is 'true'. |
| **is-v3-hide-snapshot** | | boolean optional | Hide .snapshot directory under NFSv3 mount point. Default value is disabled. |
| **is-v3-ms-dos-client-enabled** | | boolean optional | If 'true', then the Vserver allows NFSv3 access for Windows clients. Default value is 'true'. |
| **is-validate-qtree-export-enabled** | | boolean optional | If 'true', then the Vserver performs additional validation for qtree. Default value is 'true'. |
| **is-vstorage-enabled** | | boolean optional | If 'true', then enables the usage of vStorage protocol for server side copies, which is mostly used in hypervisors. Default value is 'false'. |
| **map-unknown-uid-to-default-windows-user** | | boolean optional | Map Unknown UID to Default Windows User |
| **mountd-port** | **[0..2^32-1]** | integer optional | Port that NFS mount daemon is listening to. Default value is 635. |
| **name-service-lookup-protocol** | | export-lookup-protos optional | Set the protocol used for name service lookups for exports. Valid inputs are TCP and UDP. Default value is UDP. Possible values:<br>• "tcp" ,<br>• "udp" |
| **netgroup-trust-any-ns-switch-no-match** | | boolean optional | If 'true', then the Vserver will consider a no-match from any one of the netgroup ns-switch sources to be authoritative even though other sources could not be consulted. Default value is 'false'. |
| **nfsv4-acl-max-aces** | **[192..1024]** | integer optional | Maximum Number of ACEs allowed in an ACL. Range is 192 to 1024. Default value is 400. |
| **nfsv4-grace-seconds** | **[0..2^32-1]** | integer optional | NFSv4 Grace timeout value in seconds. Default value is 45 seconds. |

| | | | |
|---|---|---|---|
| **nfsv4-id-domain** | | string<br>optional | NFSv4 ID mapping domain. Default value is 'defaultv4iddomain.com'. |
| **nfsv4-lease-seconds** | **[0..2^32-1]** | integer<br>optional | NFSv4 Lease timeout value in seconds. Default value is 30 seconds. |
| **nfsv41-implementation-id-domain** | | string<br>optional | NFSv4.1 Implementation id domain. Default value is 'defaultv41impliddomain.com'. |
| **nfsv41-implementation-id-name** | | string<br>optional | NFSv4.1 Implementation id name. Default value is 'defaultv41implidname'. |
| **nfsv41-implementation-id-time** | | date<br>optional | NFSv4.1 Implementation id time.The number of seconds since January 1, 1970. |
| **nfsv4x-session-num-slots** | **[1..2000]** | integer<br>optional | Number of Slots in the NFSv4.x Session Slot Tables. Default value is 180. |
| **nfsv4x-session-slot-reply-cache-size** | **[512..4096]** | integer<br>optional | Size of the Reply that will be Cached in Each NFSv4.x Session Slot (in bytes). Default value is 640. |
| **nlm-port** | **[0..2^32-1]** | integer<br>optional | Port that network lock manager is listening to. Default value is 4045. |
| **nsm-port** | **[0..2^32-1]** | integer<br>optional | Port that network status monitor is listening to. Default value is 4046. |
| **ntacl-display-permissive-perms** | | boolean<br>optional | This optional parameter controls the permissions that are displayed to NFS clients on a file or directory that has an NT ACL set. If 'true', the displayed permissions are based on the maximum access granted by the NT ACL to any user. When false, the displayed permissions are based on the minimum access granted by the NT ACL to any user. Default value is 'false'. |
| **ntfs-unix-security-ops** | | string<br>optional | Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail','use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. |
| **permitted-enc-types** | | string[]<br>optional | List of permitted encryption types for Kerberos over NFS. Default values are aes-288, aes-256. Valid inputs are des, des-3, aes-128, and aes-256. |
| **rpcsec-ctx-high** | **[0..2^32-1]** | integer<br>optional | High water mark for the RPCSEC_GSS Context Cache. Default value is 0. |
| **rpcsec-ctx-idle** | **[0..2^32-1]** | integer<br>optional | Time in seconds before an idle entry in RPCSEC_GSS context cache is deleted. Default value is 0. |
| **rquotad-port** | **[0..2^32-1]** | integer<br>optional | Port that NFS quota daemon is listening to. Default value is 4049. |
| **showmount** | | boolean<br>optional | If 'true', then the Vserver allows showmount. Default value is 'enabled'. |
| **showmount-rootonly** | | boolean<br>optional | Whether to provide root path as showmount state when -showmount parameter is disabled. The default value is disabled. |
| **skip-root-** | | | If 'true', then permission check will be |

| | | | |
|---|---|---|---|
| **owner-write-perm-check** | | boolean optional | avoided for NFS Write requests from root/owner. For copying read-only files, this must be true. Default value is 'false'. |
| **tcp-max-xfer-size** | **[8192..1048576]** | integer optional | TCP Maximum Transfer Size (bytes). The default value is 65536 |
| **udp-max-xfer-size** | **[8192..57344]** | integer optional | UDP Maximum Transfer Size (bytes). The default value is 32768. |
| **v3-search-unconverted-filename** | | boolean optional | Whether to continue the search as an unconverted name while doing lookup in a directory. Default value is disabled. |
| **v4-inherited-acl-preserve** | | boolean optional | Whether client specified mode bits should be ignored and inherited NFSv4 ACL should be preserved during creation of file or directory. Default value is disabled. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nfs-stats-get-client-stats

[top]

Collects NFS statistics for a specified client

| Input Name | Range | Type | Description |
|---|---|---|---|
| **host** | | string | Hostname or IP address of client |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **client-info** | | string | Hostname or IP address of client |
| **nfs-stats** | | nfs-stats-info | detailed statistics for each NFS operation |
| **rpc-stats** | | rpc-stats-info | detailed statistics for RPC operations |
| **tcp-flowcontrol-stats** | | tcp-flowcontrol-stats-info | detailed statistics for TCP flowcontrol |

| Errno | Description |
|---|---|
| **ENFS_CLIENT_STATS_NOT_ENABLED** | |
| **ENOACTIVECLIENTS** | |
| **EHOSTNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

[top]

# nfs-stats-top-clients-list-iter-end

Terminate NFS client statistics iteration and cleanup any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from a previous nfs-stats-top-clients-list-iter-start |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-stats-top-clients-list-iter-next

[top]

Continues the nfs-stats-top-clients-list-iter-start iteration through the top NFS clients, ordered by total NFS operations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maximum** | | integer | The maximum number of entries to retrieve. Range : [0..2^32-1]. |
| **tag** | | string | Tag from a previous nfs-stats-top-iter-start |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **nfs-top** | | nfs-top-info[] | An array, one entry per nfs top. |
| **records** | | integer | This tells you how many records are being returned from this particular call to nfs-stats-top-client-list-iter-next When this value is 0, you have retrieved everything. Range : [0..2^32-1]. |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-stats-top-clients-list-iter-start

[top]

Starts an iteration through the top NFS clients, ordered by total NFS operations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **maxclients** | | integer optional | Specifies the maximum number of top clients to retrieve (the default is 20) Range : [1..2^32-1]. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | Number which tells you how many items have been saved for future retrieval with nfs-stats-top-clients-list-iter-next Range : [0..2^32-1] |
| **tag** | | string | Tag to be used in subsequent calls to nfs-stats-top-clients-list-iter-next |

| Errno | Description |
|---|---|
| **ENFS_CLIENT_STATS_NOT_ENABLED** | |
| **ECLIENTSTATSVFILER** | |
| **ENOACTIVECLIENTS** | |
| **EAPIERROR** | |
| **EINVALIDINPUTERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-stats-zero-stats

[top]

Set all NFS statistcs to zero

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **nfs** |

# nfs-status

[top]

Returns the status of the NFS server.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-drained** | | boolean | If true, then the NFS server has been disabled and all NFS messages have been drained. In Data ONTAP Cluster-Mode, there is no way of finding out if the NFS messages have been drained. Hence this field will always be false. |
| **is-enabled** | | boolean | True if NFS server is running. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
|---|

**Yes**

**License**
**nfs**

## Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

## Element definition: **export-lookup-protos**

[top]

TCP|UDP Possible values:

- "tcp" ,
- "udp"

[none]

## Element definition: **exports-hostname-info**

[top]

Structure containing information pertaining to a host.

| Name | Range | Type | Description |
|---|---|---|---|
| **all-hosts** | | boolean optional | Default value is false. If true, enables all hosts to have this rule's access rights. A hostname of 'all-hosts' must exist as the only non-negated element in a hostname array. |
| **name** | | string optional | A hostname can be ONE of the following formats. If 'all-hosts' is true, 'name' must not have a value. machine-name: Alphanumeric string based on DNS. netgroup: Alphanumeric string describing a group of machine names ip: An IP address in dotted decimal format AAA.BBB.CCC.DDD subnet: "[network] subnet [netmask] netmask" ip-subnet: IP/numbits. The IP is a subnet number and the numbits specifies the size of the subnet by the number of leading bits of the netmask. dns: A DNS domain. An Alphanumeric starting with a '.' |
| **negate** | | boolean optional | In Data ONTAP 7-Mode, default is false. If true, the rule applies to every host but this one. Used most commonly when adding a group minus a few hosts. In Data ONTAP Cluster-Mode, negations are not supported. An error will be returned if true. |

## Element definition: **exports-rule-info**

[top]

Information necessary to create a new rule in the etc/exports file or for just adding a rule similar to the

exportfs command. ORDER MATTERS for the hostnames in 'read-only' and 'read-write' privileges. Please see documentation for exportfs command or etc/exports file for complete details.

| Name | Range | Type | Description |
|---|---|---|---|
| **actual-pathname** | | string optional | In Data ONTAP 7-Mode, it must be pathname inside of the filer which is being exported. The default for this is value in 'pathname'. In Data ONTAP Cluster-Mode, this value must be an empty string. |
| **anon** | | string optional | All hosts with this user-id or username have root access to this directory. |
| **nosuid** | | boolean optional | If true, causes the server file system to silently ignore any attempt to enable the setuid or setgid mode bits. Default value is false. |
| **pathname** | | string | In Data ONTAP 7-Mode, it must be directory name or file to export. In Data ONTAP Cluster-Mode the pathname for a volume must be specified using the junction path ("/junction"). The pathname for a qtree must be specified as ("/vol/volname/qtreename0") or ("/junction/qtreename0"). |
| **read-only** | | exports-hostname-info[] optional | An array of hostnames which only have read privileges. |
| **read-write** | | exports-hostname-info[] optional | An array of hostnames which have read and write privileges. Any hostname in read-only must not be in read-write also. By default, if no 'read-only' or 'read-write' hosts are given, then 'read-write' contains a hostname of 'all-hosts'. |
| **root** | | exports-hostname-info[] optional | Array of hostnames which have roots with 'read-write' or 'read-only' privileges. |
| **sec-flavor** | | sec-flavor-info[] optional | List of possible security flavors this rule supports. Default security is "sys". Possible values are:<br>• "none"<br>• "sys"<br>• "krb5"<br>• "krb5i"<br>• "krb5p" |

# Element definition: **exports-rule-info-2**

[top]

Information necessary to create a new rule in the etc/exports file or for just adding a rule similar to the exportfs command.

| Name | Range | Type | Description |
|---|---|---|---|
| **actual-pathname** | | string optional | In Data ONTAP 7-Mode, it must be pathname inside of the filer which is being exported. The default for this is value in 'pathname'. In Data ONTAP Cluster-Mode, this value must be an empty string. |
| **pathname** | | string | In Data ONTAP 7-Mode, it must be directory name or file to export. In Data ONTAP Cluster-Mode the pathname for a volume must be specified using the junction path ("/junction"). The pathname for a qtree must be specified as ("/vol/volname/qtreename0") or ("/junction/qtreename0"). |
| **security-rules** | | security-rule-info[] | Access block information for lists of hosts. |

# Element definition: **hostaddr**

[top]

the individual client hosts. could be a hostname or an IP address.

[none]

# Element definition: **nfs-info**

[top]

Information about NFS server configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **allow-idle-connection-timeout** | | boolean optional | Are Idle NFS Connections Supported Attributes: optional-for-create, modifiable |
| **auth-sys-extended-groups** | | boolean optional | If 'true', auxillary groups up to 'extended-groups-limit' are fetched from the name service rather than the RPC header for AUTH_SYS. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **cached-cred-harvest-timeout** | **[60000..604800000]** | integer optional | Harvest timeout (in msecs) for a Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms. Attributes: optional-for-create, modifiable |
| **cached-cred-negative-ttl** | **[60000..604800000]** | integer optional | Time To Live Value (in msecs) of a Negative Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 7200000 ms. Attributes: optional-for-create, modifiable |
| **cached-cred-positive-ttl** | **[60000..604800000]** | integer optional | Time To Live Value (in msecs) of a Positive Cached Credential. The range is 60000 ms to 604800000 ms. The default value is 86400000 ms. Attributes: optional-for-create, modifiable |
| **cached-transient-err-ttl** | **[30000..300000]** | integer optional | Time To Live Value (in msecs) of a Cached Entry for a Transient Error. The range is 30000 ms to 300000 ms. The default is 30000 ms. Attributes: optional-for-create, modifiable |
| | | | Vserver Change Ownership Mode. Possible values are 'ignore', 'fail', |

| | | | |
|---|---|---|---|
| **chown-mode** | | nfschownmode optional | 'use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. Attributes: optional-for-create, modifiable Possible values:<br>• "restricted" ,<br>• "unrestricted" ,<br>• "use_export_policy" |
| **default-windows-group** | | string optional | The default windows group for CIFS access. Attributes: optional-for-create, modifiable |
| **default-windows-user** | | string optional | The default windows user for CIFS access. Attributes: optional-for-create, modifiable |
| **enable-ejukebox** | | boolean optional | If 'true', then the NFS server will send EJUKEBOX error on server delays. Attributes: optional-for-create, modifiable |
| **extended-groups-limit** | **[32..1024]** | integer optional | Maximum auxillary groups supported over AUTH_SYS and RPCSEC_GSS. This value always applies for RPCSEC_GSS and applies to AUTH_SYS only when 'auth-sys-extended-groups' is set to 'enabled'. Range is 32 to 1024. Default value is 32. Attributes: optional-for-create, modifiable |
| **file-session-io-grouping-count** | **[1000..20000]** | integer optional | Number of I/O operations on a file to be grouped and considered as one session for event generation applications, such as FPolicy. The range is 1000 to 20000. The default is 5000. Attributes: optional-for-create, modifiable |
| **file-session-io-grouping-duration** | **[60..600]** | integer optional | The duration for which I/O operations on a file will be grouped and considered as one session for event generation applications, such as FPolicy. The range is 60 seconds to 600 seconds. The default is 120s. Attributes: optional-for-create, modifiable |
| **hadoop-allow-non-root-mount** | | boolean optional | Whether to allow non-root user doing MOUNT operations from hadoop connector though -mount-rootonly option is enabled. The default value is enabled. Attributes: optional-for-create, modifiable |
| **idle-connection-timeout** | **[120..86400]** | integer optional | Idle Connection Timeout Value (in seconds) Attributes: optional-for-create, modifiable |
| **ignore-nt-acl-for-root** | | boolean optional | If 'true', then the Vserver allows the 'root' user to ignore the NT ACLs Check. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-checksum-enabled-for-replay-cache** | | boolean optional | Use Checksum for Replay-Cache, in order to identify invalid retransmitted requests. Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **is-mount-rootonly-enabled** | | boolean optional | If 'true', then the vserver allows MOUNT protocol calls only from privileged ports (port numbers less than 1024). Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-netgroup-dns-domain-search** | | boolean optional | If 'true', then the Vserver allows for searching various DNS domains during netgroup lookup. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfs-access-enabled** | | boolean optional | If 'true',then NFS server access is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfs-rootonly-enabled** | | boolean optional | If 'true', then the vserver allows NFS protocol calls only from privileged ports (port numbers less than 1024). Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv2-enabled** | | boolean optional | Starting Data ONTAP 8.2, NFS v2 is no longer supported. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv3-64bit-identifiers-enabled** | | boolean optional | If 'true', then NFSv3 clients see 64-bit values for FSID and File Identifiers. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv3-connection-drop-enabled** | | boolean optional | If 'true', then connection is dropped when an NFSv3 request is dropped. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfsv3-enabled** | | boolean optional | If 'true', then NFS version 3 is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfsv3-fsid-change-enabled** | | boolean optional | If 'true', then NFSv3 clients see change in FSID as they traverse filesystems. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfsv4-64bit-identifiers-enabled** | | boolean optional | If 'true', then NFSv4.x clients see 64-bit values for FSID and File Identifiers. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfsv4-fsid-change-enabled** | | boolean optional | If 'true', then clients see change in FSID as NFSv4 clients traverse filesystems. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfsv4-numeric-ids-enabled** | | boolean optional | If 'true', then NFSv4 support for Numeric Owner IDs is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfsv40-acl-enabled** | | boolean optional | If 'true', then NFSv4.0 ACL feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv40-enabled** | | boolean optional | If 'true', then NFS version 4.0 is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **is-nfsv40-migration-enabled** | | boolean optional | If 'true', then NFSv4.0 Migration feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv40-read-delegation-enabled** | | boolean optional | If 'true', NFSv4.0 read delegation feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv40-referrals-enabled** | | boolean optional | If 'true', then NFSv4.0 Referrals feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv40-req-open-confirm-enabled** | | boolean optional | If 'true', then the server will require an OPEN_CONFIRM operation for all NFSv4.0 clients. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv40-write-delegation-enabled** | | boolean optional | If 'true', NFSv4.0 write delegation feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv41-acl-enabled** | | boolean optional | If 'true', then NFSv4.1 ACL feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv41-acl-preserve-enabled** | | boolean optional | If 'true', the NFSv4 server will preserve and modify ACL when chmod is done. Default value is 'true'. This is applicable to all NFSv4.x instances. Attributes: optional-for-create, modifiable |
| **is-nfsv41-enabled** | | boolean optional | If 'true', then NFS version 4.1 is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv41-migration-enabled** | | boolean optional | If 'true', then NFSv4.1 Migration feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv41-pnfs-enabled** | | boolean optional | If 'true', then Parallel NFS support for NFS version 4.1 is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfsv41-read-delegation-enabled** | | boolean optional | If 'true', NFSv4.1 read delegation feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv41-referrals-enabled** | | boolean optional | If 'true', then NFSv4.1 Referrals feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv41-state-protection-enabled** | | boolean optional | If 'true', then NFSv4.1 State Protection is enabled. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-nfsv41-trunking-enabled** | | boolean optional | If 'true', then NFS version 4.1 Trunking feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |

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|---|---|---|---|
| **is-nfsv41-write-delegation-enabled** | | boolean optional | If 'true', NFSv4.1 write delegation feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv42-seclabel-enabled** | | boolean optional | If 'true', then NFS version 4.2 Security label feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv42-sparsefile-ops-enabled** | | boolean optional | If 'true', then NFS version 4.2 Sparse file ops Allocate, Deallocate and Seek are supported. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-nfsv42-xattrs-enabled** | | boolean optional | If 'true', then NFS version 4.2 Extended attributes feature is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-qtree-export-enabled** | | boolean optional | If 'true', then the Vserver allows qtree exports (read-only). Default value is 'false'. Attributes: non-creatable, non-modifiable |
| **is-qtree-qos-enabled** | | boolean optional | If 'true', then the Vserver allows qtree QoS (read-only). Default value is 'false'. Attributes: non-creatable, non-modifiable |
| **is-rdma-enabled** | | boolean optional | If 'true', then enable NFS access over RDMA. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-restrict-chmod-acl** | | nfsrestrictchmodacl optional | If 'restricted', then the Vserver restricts setting modebits and Acls for non-susperuser. Default value is 'unrestricted'. Attributes: optional-for-create, modifiable Possible values:<br>• "unrestricted" ,<br>• "restricted" |
| **is-rquota-enabled** | | boolean optional | If 'true', then rquota is enabled. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-tcp-enabled** | | boolean optional | If 'true', then enable NFS access over TCP. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-udp-enabled** | | boolean optional | If 'true', then enable NFS access over UDP. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-v3-hide-snapshot** | | boolean optional | Hide .snapshot directory under NFSv3 mount point. Default value is disabled. Attributes: optional-for-create, modifiable |
| **is-v3-ms-dos-client-enabled** | | boolean optional | If 'true', then the Vserver allows NFSv3 access for Windows clients. Default value is 'true'. Attributes: optional-for-create, modifiable |
| **is-validate-qtree-export-enabled** | | boolean optional | If 'true', then the Vserver performs additional validation for qtree. Default value is 'true'. Attributes: optional-for- |

| | | | |
|---|---|---|---|
| | | | create, modifiable |
| **is-vstorage-enabled** | | boolean optional | If 'true', then enables the usage of vStorage protocol for server side copies, which is mostly used in hypervisors. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **map-unknown-uid-to-default-windows-user** | | boolean optional | Map Unknown UID to Default Windows User Attributes: optional-for-create, modifiable |
| **mountd-port** | **[0..2^32-1]** | integer optional | Port that NFS mount daemon is listening to. Default value is 635. Attributes: optional-for-create, modifiable |
| **name-service-lookup-protocol** | | export-lookup-protos optional | Set the protocol used for name service lookups for exports. Valid inputs are TCP and UDP. Default value is UDP. Attributes: optional-for-create, modifiable Possible values:<br>• "tcp" ,<br>• "udp" |
| **netgroup-trust-any-ns-switch-no-match** | | boolean optional | If 'true', then the Vserver will consider a no-match from any one of the netgroup ns-switch sources to be authoritative even though other sources could not be consulted. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **nfsv4-acl-max-aces** | **[192..1024]** | integer optional | Maximum Number of ACEs allowed in an ACL. Range is 192 to 1024. Default value is 400. Attributes: optional-for-create, modifiable |
| **nfsv4-grace-seconds** | **[0..2^32-1]** | integer optional | NFSv4 Grace timeout value in seconds. Default value is 45 seconds. Attributes: optional-for-create, modifiable |
| **nfsv4-id-domain** | | string optional | NFSv4 ID mapping domain. Default value is 'defaultv4iddomain.com'. Attributes: optional-for-create, modifiable |
| **nfsv4-lease-seconds** | **[0..2^32-1]** | integer optional | NFSv4 Lease timeout value in seconds. Default value is 30 seconds. Attributes: optional-for-create, modifiable |
| **nfsv41-implementation-id-domain** | | string optional | NFSv4.1 Implementation id domain. Default value is 'defaultv41impliddomain.com'. Attributes: optional-for-create, modifiable |
| **nfsv41-implementation-id-name** | | string optional | NFSv4.1 Implementation id name. Default value is 'defaultv41implidname'. Attributes: optional-for-create, modifiable |
| **nfsv41-implementation-id-time** | | date optional | NFSv4.1 Implementation id time.The number of seconds since January 1, 1970. Attributes: optional-for-create, modifiable |
| **nfsv4x-session-num-slots** | **[1..2000]** | integer optional | Number of Slots in the NFSv4.x Session Slot Tables. Default value is 180. Attributes: optional-for-create, |

| | | | |
|---|---|---|---|
| | | | modifiable |
| **nfsv4x-session-slot-reply-cache-size** | **[512..4096]** | integer optional | Size of the Reply that will be Cached in Each NFSv4.x Session Slot (in bytes). Default value is 640. Attributes: optional-for-create, modifiable |
| **nlm-port** | **[0..2^32-1]** | integer optional | Port that network lock manager is listening to. Default value is 4045. Attributes: optional-for-create, modifiable |
| **nsm-port** | **[0..2^32-1]** | integer optional | Port that network status monitor is listening to. Default value is 4046. Attributes: optional-for-create, modifiable |
| **ntacl-display-permissive-perms** | | boolean optional | This optional parameter controls the permissions that are displayed to NFS clients on a file or directory that has an NT ACL set. If 'true', the displayed permissions are based on the maximum access granted by the NT ACL to any user. When false, the displayed permissions are based on the minimum access granted by the NT ACL to any user. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **ntfs-unix-security-ops** | | string optional | Ignore/Fail unix security operations on NTFS volumes. Possible values are 'ignore', 'fail','use_export_policy'. If 'use_export_policy' is set, export policy option is used. Default value is 'use_export_policy'. Attributes: optional-for-create, modifiable |
| **permitted-enc-types** | | string[] optional | List of permitted encryption types for Kerberos over NFS. Default values are aes-288, aes-256. Valid inputs are des, des-3, aes-128, and aes-256. Attributes: optional-for-create, modifiable |
| **rpcsec-ctx-high** | **[0..2^32-1]** | integer optional | High water mark for the RPCSEC_GSS Context Cache. Default value is 0. Attributes: optional-for-create, modifiable |
| **rpcsec-ctx-idle** | **[0..2^32-1]** | integer optional | Time in seconds before an idle entry in RPCSEC_GSS context cache is deleted. Default value is 0. Attributes: optional-for-create, modifiable |
| **rquotad-port** | **[0..2^32-1]** | integer optional | Port that NFS quota daemon is listening to. Default value is 4049. Attributes: optional-for-create, modifiable |
| **showmount** | | boolean optional | If 'true', then the Vserver allows showmount. Default value is 'enabled'. Attributes: optional-for-create, modifiable |
| **showmount-rootonly** | | boolean optional | Whether to provide root path as showmount state when -showmount parameter is disabled. The default value is disabled. Attributes: optional-for-create, modifiable |
| | | | timestamp to indicate whether we want |

| | | | |
|---|---|---|---|
| **showmount-timestamp** | **[0..2^31-1]** | integer optional | to update exports data file or not Attributes: non-creatable, non-modifiable |
| **skip-root-owner-write-perm-check** | | boolean optional | If 'true', then permission check will be avoided for NFS Write requests from root/owner. For copying read-only files, this must be true. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **tcp-max-xfer-size** | **[8192..1048576]** | integer optional | TCP Maximum Transfer Size (bytes). The default value is 65536 Attributes: optional-for-create, modifiable |
| **udp-max-xfer-size** | **[8192..57344]** | integer optional | UDP Maximum Transfer Size (bytes). The default value is 32768. Attributes: optional-for-create, modifiable |
| **v3-search-unconverted-filename** | | boolean optional | Whether to continue the search as an unconverted name while doing lookup in a directory. Default value is disabled. Attributes: optional-for-create, modifiable |
| **v4-inherited-acl-preserve** | | boolean optional | Whether client specified mode bits should be ignored and inherited NFSv4 ACL should be preserved during creation of file or directory. Default value is disabled. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver name Attributes: key, non-creatable, non-modifiable |

# Element definition: **nfs-stats-info**

[top]

structure containing statistics for each NFS version

| Name | Range | Type | Description |
|---|---|---|---|
| **badcalls-total** | | integer | total bad NFS calls Range : [0..2^32-1]. |
| **calls-total** | | integer | total NFS calls Range : [0..2^64-1]. |
| **nfsv2-client-stats** | | nfsv2-client-stats-info | detailed statistics for NFSv2 operations |
| **nfsv3-client-stats** | | nfsv3-client-stats-info | detailed statistics for NFSv3 operations |
| **nfsv4-client-stats** | | nfsv4-client-stats-info | detailed statistics for NFSv4 operations |

# Element definition: **nfs-top-info**

[top]

Information about a single nfs top.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-info** | | string | Client IP address |
| **create-ops** | | integer | The number of nfs CREATE operations Range : [0..2^64-1]. |
| **getattr-ops** | | integer | The number of nfs GETATTR operations Range : [0..2^64-1]. |
| | | | |

| | | | |
|---|---|---|---|
| **lookup-ops** | | integer | The number of nfs LOOKUP operations Range : [0..2^64-1]. |
| **read-ops** | | integer | The number of nfs READ operations Range : [0..2^64-1]. |
| **readdir-ops** | | integer | The number of nfs READDIR and READIDRPLUS operations Range : [0..2^64-1]. |
| **readlink-ops** | | integer | The number of nfs READLINK operations Range : [0..2^64-1]. |
| **remove-ops** | | integer | The number of nfs REMOVE operations Range : [0..2^64-1]. |
| **total-ops** | | integer | The number of nfs operations Range : [0..2^64-1]. |
| **write-ops** | | integer | The number of nfs WRITE operations Range : [0..2^64-1]. |

# Element definition: **nfschownmode**

[top]

restricted|unrestricted|use-export-policy Possible values:

- "restricted" ,
- "unrestricted" ,
- "use_export_policy"

[none]

# Element definition: **nfsrestrictchmodacl**

[top]

unrestricted|restricted Possible values:

- "unrestricted" ,
- "restricted"

[none]

# Element definition: **owner-info**

[top]

Information about the client host and the owner process on the client host whose locks have to be removed.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-host** | | string | client host on which the locks have to be removed. |
| **client-host-pid** | | string | process owner on the above client host whose locks have to be removed. |

# Element definition: **pathname-info**

[top]

Information about a pathname.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | In Data ONTAP 7-Mode, it must be the name of the path, such as "/vol/vol0". In Data ONTAP Cluster-Mode the pathname for a volume must be specified using the junction path ("/junction"). The pathname for a qtree must be specified as ("/vol/volname/qtreename0") or ("/junction/qtreename0"). |

# Element definition: **rpc-stats-info**

[top]

structure containing statistics for RPC operations

| Name | Range | Type | Description |
|---|---|---|---|
| **tcp-info** | | rpc-data-info | detailed statistics for RPC over TCP operations |
| **udp-info** | | rpc-data-info | detailed statistics for RPC over UDP operations |

# Element definition: **sec-flavor-info**

[top]

Sec flavor info

| Name | Range | Type | Description |
|---|---|---|---|
| **flavor** | | string optional | Security_Flavor Attributes: key, non-creatable, non-modifiable |

# Element definition: **tcp-flowcontrol-stats-info**

[top]

structure containing statistics for tcp flowcontrol

| Name | Range | Type | Description |
|---|---|---|---|
| **receive-out-total** | | integer | total number of times output was flow controlled on receive Range : [0..2^32-1]. |
| **receive-total** | | integer | total number of times input was flow controlled on receive Range : [0..2^32-1]. |
| **transmit-out-total** | | integer | total number of times output was flow controlled on transmit Range : [0..2^32-1]. |
| **transmit-total** | | integer | total number of times input was flow controlled on transmit Range : [0..2^32-1]. |

# Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

# Element definition: **export-lookup-protos**

[top]

TCP|UDP Possible values:

- "tcp" ,
- "udp"

[none]

# Element definition: **exports-hostname-info**

[top]

Structure containing information pertaining to a host.

| Name | Range | Type | Description |
|---|---|---|---|
| **all-hosts** | | boolean optional | Default value is false. If true, enables all hosts to have this rule's access rights. A hostname of 'all-hosts' must exist as the only non-negated element in a hostname array. |
| **name** | | string optional | A hostname can be ONE of the following formats. If 'all-hosts' is true, 'name' must not have a value. machine-name: Alphanumeric string based on DNS. netgroup: Alphanumeric string describing a group of machine names ip: An IP address in dotted decimal format AAA.BBB.CCC.DDD subnet: "[network] subnet [netmask] netmask" ip-subnet: IP/numbits. The IP is a subnet number and the numbits specifies the size of the subnet by the number of leading bits of the netmask. dns: A DNS domain. An Alphanumeric starting with a '.' |
| **negate** | | boolean optional | In Data ONTAP 7-Mode, default is false. If true, the rule applies to every host but this one. Used most commonly when adding a group minus a few hosts. In Data ONTAP Cluster-Mode, negations are not supported. An error will be returned if true. |

# Element definition: **nfsv2-client-stats-info**

[top]

structure containing statistics for NFSv2 operations

| Name | Range | Type | Description |
|---|---|---|---|
| **create-ops** | | integer | total 'create' NFSv2 operations Range : [0..2^64-1]. |
| **getattr-ops** | | integer | total 'getattr' NFSv2 operation Range : [0..2^64-1]. |
| **link-ops** | | integer | total 'link' NFSv2 operations Range : [0..2^64-1]. |
| **lookup-ops** | | integer | total 'lookup' NFSv2 operations Range : [0..2^64-1]. |
| **mkdir-ops** | | integer | total 'mkdir' NFSv2 operations Range : [0..2^64-1]. |
| **null-ops** | | integer | total 'null' NFSv2 operations Range : [0..2^64-1]. |
| **read-ops** | | integer | total 'read' NFSv2 operations Range : [0..2^64-1]. |
| **readdir-ops** | | integer | total 'readdir' NFSv2 operations Range : [0..2^64-1]. |
| **readlink-ops** | | integer | total 'readlink' NFSv2 operations Range : [0..2^64-1]. |

| | | | |
|---|---|---|---|
| **remove-ops** | | integer | total 'remove' NFSv2 operations Range : [0..2^64-1]. |
| **rename-ops** | | integer | total 'rename' NFSv2 operations Range : [0..2^64-1]. |
| **rmdir-ops** | | integer | total 'rmdir' NFSv2 operations Range : [0..2^64-1]. |
| **root-ops** | | integer | total 'root' NFSv2 operations Range : [0..2^64-1]. |
| **setattr-ops** | | integer | total 'setattr' NFSv2 operations Range : [0..2^64-1]. |
| **statfs-ops** | | integer | total 'statfs' NFSv2 operations Range : [0..2^64-1]. |
| **symlink-ops** | | integer | total 'symlink' NFSv2 operations Range : [0..2^64-1]. |
| **wrcache-ops** | | integer | total 'wrcache' NFSv2 operations Range : [0..2^64-1]. |
| **write-ops** | | integer | total 'write' NFSv2 operations Range : [0..2^64-1]. |

# Element definition: **nfsv3-client-stats-info**

[top]

structure containing statistics for NFSv3 operations

| Name | Range | Type | Description |
|---|---|---|---|
| **access-ops** | | integer | total 'access' NFSv3 operations Range : [0..2^64-1]. |
| **commit-ops** | | integer | total 'commit' NFSv3 operations Range : [0..2^64-1]. |
| **create-ops** | | integer | total 'create' NFSv3 operations Range : [0..2^64-1]. |
| **fsinfo-ops** | | integer | total 'fsinfo' NFSv3 operations Range : [0..2^64-1]. |
| **fsstat-ops** | | integer | total 'fsstat' NFSv3 operations Range : [0..2^64-1]. |
| **getattr-ops** | | integer | total 'getattr' NFSv3 operations Range : [0..2^64-1]. |
| **link-ops** | | integer | total 'link' NFSv3 operations Range : [0..2^64-1]. |
| **lookup-ops** | | integer | total 'lookup' NFSv3 operations Range : [0..2^64-1]. |
| **mkdir-ops** | | integer | total 'mkdir' NFSv3 operations Range : [0..2^64-1]. |
| **mknod-ops** | | integer | total 'mknod' NFSv3 operations Range : [0..2^64-1]. |
| **null-ops** | | integer | total 'null' NFSv3 operations Range : [0..2^64-1]. |
| **pathconf-ops** | | integer | total 'pathconf' NFSv3 operations Range : [0..2^64-1]. |
| **read-ops** | | integer | total 'read' NFSv3 operations Range : [0..2^64-1]. |
| **readdir-ops** | | integer | total 'readdir' NFSv3 operations Range : [0..2^64-1]. |
| **readdirplus-ops** | | integer | total 'readdirplus' NFSv3 operations Range : [0..2^64-1]. |
| **readlink-ops** | | integer | total 'readlink' NFSv3 operations Range : [0..2^64-1]. |
| **remove-ops** | | integer | total 'remove' NFSv3 operations Range : [0..2^64-1]. |
| **rename-ops** | | integer | total 'rename' NFSv3 operations Range : [0..2^64-1]. |
| **rmdir-ops** | | integer | total 'rmdir' NFSv3 operations Range : [0..2^64-1]. |
| **setattr-ops** | | integer | total 'setattr' NFSv3 operations Range : [0..2^64-1]. |
| **symlink-ops** | | integer | total 'symlink' NFSv3 operations Range : [0..2^64-1]. |
| **write-ops** | | integer | total 'write' NFSv3 operations Range : [0..2^64-1]. |

# Element definition: **nfsv4-client-stats-info**

[top]

structure containing statistics for NFSv4 operations

| Name | Range | Type | Description |
|---|---|---|---|
| | | integer | |

| | | | |
|---|---|---|---|
| **access-ops** | | optional | total 'access' NFSv4 operations Range : [0..2^64-1]. |
| **acls-set-total** | | integer optional | number of ACLs set on files Range : [0..2^32-1]. |
| **badproc2-ops** | | integer optional | total 'badproc2' NFSv4 operations Range : [0..2^64-1]. |
| **close-ops** | | integer optional | total 'close' NFSv4 operations Range : [0..2^64-1]. |
| **commit-ops** | | integer optional | total 'commit' NFSv4 operations Range : [0..2^64-1]. |
| **compound-ops** | | integer optional | total 'compound' NFSv4 operations Range : [0..2^64-1]. |
| **create-ops** | | integer optional | total 'create' NFSv4 operations Range : [0..2^64-1]. |
| **delegpurge** | | integer optional | total 'delegpurge' NFSv4 operations Range : [0..2^64-1]. |
| **delegret-ops** | | integer optional | total 'delegret' NFSv4 operations Range : [0..2^64-1]. |
| **getattr-ops** | | integer optional | total 'getattr' NFSv4 operations Range : [0..2^64-1]. |
| **getfh-ops** | | integer optional | total 'getfh' NFSv4 operations Range : [0..2^64-1]. |
| **link-ops** | | integer optional | total 'link' NFSv4 operations Range : [0..2^64-1]. |
| **lock-ops** | | integer optional | total 'lock' NFSv4 operations Range : [0..2^64-1]. |
| **lockt-ops** | | integer optional | total 'lockt' NFSv4 operations Range : [0..2^64-1]. |
| **locku-ops** | | integer optional | total 'locku' NFSv4 operations Range : [0..2^64-1]. |
| **lookup-ops** | | integer optional | total 'lookup' NFSv4 operations Range : [0..2^64-1]. |
| **lookupp-ops** | | integer optional | total 'lookupp' NFSv4 operations Range : [0..2^64-1]. |
| **no-delegation-total** | | integer optional | total calls where a delegation could not be granted Range : [0..2^32-1]. |
| **null-ops** | | integer optional | total 'null' NFSv4 operations Range : [0..2^64-1]. |
| **nverify-ops** | | integer optional | total 'nverify' NFSv4 operations Range : [0..2^64-1]. |
| **open-confirm-ops** | | integer optional | total 'open_confirm' NFSv4 operations Range : [0..2^64-1]. |
| **open-downgrade-ops** | | integer optional | total 'open_downgrade' NFSv4 operations Range : [0..2^64-1]. |
| **open-ops** | | integer optional | total 'open' NFSv4 operations Range : [0..2^64-1]. |
| **openattr-ops** | | integer optional | total 'openattr' NFSv4 operations Range : [0..2^64-1]. |
| **putfh-ops** | | integer optional | total 'putfh' NFSv4 operations Range : [0..2^64-1]. |
| **putpubfh-ops** | | integer optional | total 'putpubfh' NFSv4 operations Range : [0..2^64-1]. |
| **putrootfh-ops** | | integer optional | total 'putrootfh' NFSv4 operations Range : [0..2^64-1]. |

| | | | |
|---|---|---|---|
| **read-delegation-total** | | integer optional | total calls where a read delegation was granted Range : [0..2^32-1]. |
| **read-ops** | | integer optional | total 'read' NFSv4 operations Range : [0..2^64-1]. |
| **readdir-ops** | | integer optional | total 'readdir' NFSv4 operations Range : [0..2^64-1]. |
| **readlink-ops** | | integer optional | total 'readlink' NFSv4 operations Range : [0..2^64-1]. |
| **remove-ops** | | integer optional | total 'remove' NFSv4 operations Range : [0..2^64-1]. |
| **rename-ops** | | integer optional | total 'rename' NFSv4 operations Range : [0..2^64-1]. |
| **renew-ops** | | integer optional | total 'renew' NFSv4 operations Range : [0..2^64-1]. |
| **restorefh-ops** | | integer optional | total 'restorefh' NFSv4 operations Range : [0..2^64-1]. |
| **rlsowner-ops** | | integer optional | total 'rlsowner' NFSv4 operations Range : [0..2^64-1]. |
| **savefh-ops** | | integer optional | total 'savefh' NFSv4 operations Range : [0..2^64-1]. |
| **secinfo-ops** | | integer optional | total 'secinfo' NFSv4 operations Range : [0..2^64-1]. |
| **setattr-ops** | | integer optional | total 'setattr' NFSv4 operations Range : [0..2^64-1]. |
| **setclntid-cfm-ops** | | integer optional | total 'setclntid_cfm' NFSv4 operations Range : [0..2^64-1]. |
| **setclntid-ops** | | integer optional | total 'setclntid' NFSv4 operations Range : [0..2^64-1]. |
| **verify-ops** | | integer optional | total 'verify' NFSv4 operations Range : [0..2^64-1]. |
| **write-delegation-total** | | integer optional | total calls where a write delegation was granted Range : [0..2^32-1]. |
| **write-ops** | | integer optional | total 'write' NFSv4 operations Range : [0..2^64-1]. |

# Element definition: **rpc-data-info**

[top]

structure containing statisticcs for RPC operations

| Name | Range | Type | Description |
|---|---|---|---|
| **badcalls-total** | | integer | total bad RPC calls Range : [0..2^32-1]. |
| **badlen-total** | | integer | total badlen RPC calls Range : [0..2^32-1]. |
| **calls-total** | | integer | total RPC calls Range : [0..2^64-1]. |
| **nullrecv-total** | | integer | total nullrecv RPC calls Range : [0..2^32-1]. |
| **xdrcall-total** | | integer | total badhdr RPC calls Range : [0..2^32-1]. |

# Element definition: **security-rule-info**

[top]

Information on hostnames and security availability for the hosts. ORDER MATTERS for the hostnames in 'read-only' and 'read-write' privileges. Please see documentation for exportfs command or etc/exports file for complete details.

| Name | Range | Type | Description |
|---|---|---|---|
| **anon** | | string optional | All hosts with this user-id or username have root access to this directory. |
| **nosuid** | | boolean optional | If true, causes the server file system to silently ignore any attempt to enable the setuid or setgid mode bits. Default value is false. |
| **read-only** | | exports-hostname-info[] optional | An array of hostnames which only have read privileges for all the security flavors found in the sec-flavor list. |
| **read-write** | | exports-hostname-info[] optional | An array of hostnames which have read and write privileges for all the security flavors found in the 'sec-flavor list'. Any hostname in 'read-only' must not be in 'read-write' also. By default, if no 'read-only' or 'read-write' hosts are given, then 'read-write' contains a hostname of 'all-hosts'. |
| **root** | | exports-hostname-info[] optional | Array of hostnames which have roots with 'read-write' or 'read-only' privileges. |
| **sec-flavor** | | sec-flavor-info[] optional | List of possible security flavors this rule supports. Default security is "sys". Possible values are:<br>• "none"<br>• "sys"<br>• "krb5"<br>• "krb5i"<br>• "krb5p" |

# Element definition: **exports-hostname-info**

[top]

Structure containing information pertaining to a host.

| Name | Range | Type | Description |
|---|---|---|---|
| **all-hosts** | | boolean optional | Default value is false. If true, enables all hosts to have this rule's access rights. A hostname of 'all-hosts' must exist as the only non-negated element in a hostname array. |
| **name** | | string optional | A hostname can be ONE of the following formats. If 'all-hosts' is true, 'name' must not have a value. machine-name: Alphanumeric string based on DNS. netgroup: Alphanumeric string describing a group of machine names ip: An IP address in dotted decimal format AAA.BBB.CCC.DDD subnet: "[network] subnet [netmask] netmask" ip-subnet: IP/numbits. The IP is a subnet number and the numbits specifies the size of the subnet by the number of leading bits of the netmask. dns: A DNS domain. An Alphanumeric starting with a '.' |
| **negate** | | boolean optional | In Data ONTAP 7-Mode, default is false. If true, the rule applies to every host but this one. Used most commonly when adding a group minus a few hosts. In Data ONTAP Cluster-Mode, negations are not supported. An error will be returned if true. |

# Element definition: **sec-flavor-info**

[top]

Sec flavor info

| Name | Range | Type | Description |
|---|---|---|---|
| **flavor** | | string optional | Security_Flavor Attributes: key, non-creatable, non-modifiable |

# APIs in Category: **nis**


nis-create
nis-destroy
nis-get
nis-get-iter
nis-modify


## nis-create

[top]

Create an NIS domain configuration. Multiple NIS domains can be configured on a single Vserver, but only one NIS domain can be active at any given time.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-active** | | boolean optional | (DEPRECATED)-Specifies whether the NIS domain configuration is active or inactive. |
| **nis-domain** | | string | Specifies the NIS domain. For example: 'example.com' |
| **nis-fqdn** | | string[] optional | Specifies the hostname/IP address of one or more NIS servers in the domain. |
| **nis-servers** | | ip-address[] optional | (DEPRECATED)-Specifies the IP address of one or more NIS servers in the domain. |
| **return-record** | | boolean optional | If set to true, returns the NIS domain configuration on successful creation. Default: false |
| **skip-config-validation** | | boolean optional | If true, validation of the the corresponding NIS configuration will be skipped. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | nis-domain-config-info optional | The NIS domain configuration created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **E_NIS_CONFIGURATION_EXISTS** | |
| **E_NIS_ACTIVE_FALSE_NOT_SUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

## nis-destroy

[top]

Destroy an existing NIS configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **nis-domain** | | string | Specifies the NIS domain. For example: 'example.com' |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nis-get

[top]

Get NIS domain configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nis-domain-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **nis-domain** | | string | Specifies the NIS domain. For example: 'example.com' |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | nis-domain-config-info | The attributes of the NIS domain configuration. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINTERNALERROR** | |

# nis-get-iter

[top]

Iterate over a list of NIS configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nis-domain-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | nis-domain-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NIS domain configuration object. All NIS domain configuration objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nis-domain-config-info[] optional | The list of attributes of NIS domain configuration objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more NIS domain configuration objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNTFOUND** | |

# nis-modify

[top]

Modify the attributes of NIS configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-active** | | boolean optional | (DEPRECATED)-Specifies whether the NIS domain configuration is active or inactive. |
| **nis-domain** | | string | Specifies the NIS domain. For example: 'example.com' |
| **nis-fqdn** | | string[] optional | Specifies the hostname/IP address of one or more NIS servers in the domain. |
| **nis-servers** | | ip-address[] optional | (DEPRECATED)-Specifies the IP address of one or more NIS servers in the domain. |
| **skip-config-validation** | | boolean optional | If true, validation of the the corresponding NIS configuration will be skipped. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **E_NIS_ACTIVE_FALSE_NOT_SUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **nis-domain-config-info**

[top]

NIS domain configuration information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-active** | | boolean optional | (DEPRECATED)-Specifies whether the NIS domain configuration is active or inactive. Attributes: optional-for-create, modifiable |
| **nis-domain** | | string optional | Specifies the NIS domain. For example: 'example.com' Attributes: key, required-for-create, non-modifiable |
| **nis-fqdn** | | string[] optional | Specifies the hostname/IP address of one or more NIS servers in the domain. Attributes: optional-for-create, modifiable |
| **nis-servers** | | ip-address[] optional | (DEPRECATED)-Specifies the IP address of one or more NIS servers in the domain. Attributes: optional-for-create, modifiable |
| **skip-config-validation** | | boolean optional | If true, validation of the the corresponding NIS configuration will be skipped. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Specifies the Vserver for the NIS domain configuration. Attributes: key, non-creatable, non-modifiable |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# APIs in Category: **ntp-server**


ntp-server-create
ntp-server-delete
ntp-server-get
ntp-server-get-iter
ntp-server-key-create
ntp-server-key-delete
ntp-server-key-get-iter
ntp-server-key-modify
ntp-server-modify
ntp-server-reset
ntp-server-security-get
ntp-server-security-set
ntp-server-status-get
ntp-server-status-get-iter
ntp-server-validate


This is an auto generated category.

## ntp-server-create

[top]

Creates a configuration for an external time server to be used by NTP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-preferred** | | boolean optional | Specifies whether the server is preferred as a time source. By default, this value is false. Only one NTP server may be preferred. All other servers will have preferred set to false when this is set. |
| **key-id** | **[1..65535]** | integer optional | Specifies the symmetric authentication key ID being used for this time server. |
| **return-record** | | boolean optional | If set to true, returns the ntp server configuration on successful creation. Default: false |
| **server-name** | | string | Host name, IPv4 address or IPv6 address for the external NTP time server |
| **version** | | string optional | NTP protocol version which can be '3', '4' or 'auto'. The 'auto' value uses Data ONTAP's best practice value. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | ntp-server-info optional | The ntp server configuration created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAPIPRIVILEGE** | |
| **EOBJECTNOTFOUND** | |
| **EDUPLICATEENTRY** | |

| | |
|---|---|
| **ENTP_USE_NODE_SCOPE** | |
| **ENTP_INVALID_SERVER_NAME** | |
| **ENTP_INVALID_IPV4_ADDR** | |
| **ENTP_INVALID_IPV6_ADDR** | |
| **ENTP_SERVER_NAME_NOTFOUND** | |
| **ENTP_SERVER_NAME_ADDRS** | |
| **ENTP_NO_CONNECT** | |
| **ENTP_NO_QUICKREPLY** | |
| **ENTP_REPLY_NO_SYNC** | |
| **ENTP_REPLY_NO_ACCES** | |
| **ENTP_REPLY_NO_CRYPTO** | |
| **ENTP_REPLY_PROTOCOL** | |
| **ENTP_REPLY_ROOT_DIST** | |
| **ENTP_REPLY_ROOT_DISP** | |
| **ENTP_REPLY_PEER_DIST** | |
| **ENTP_REPLY_PEER_DISP** | |
| **ENTP_REPLY_PEER_STRATUM** | |
| **ENTP_NEEDS_9_5_0** | |
| **ENTP_INVALID_FIELD_AUTH_ENABLED** | |
| **ENTP_AUTH_NOT_IN_CLUSTER** | |
| **ENTP_AUTH_UNKNOWN_KEY** | |
| **ENTP_AUTH_FAILED** | |

# ntp-server-delete

[top]

Remove a configuration for an external time server used by NTP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **server-name** | | string | Host name, IPv4 address or IPv6 address for the external NTP time server |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAPIPRIVILEGE** | |
| **EOBJECTNOTFOUND** | |
| **ENTP_USE_NODE_SCOPE** | |

# ntp-server-get

[top]

Get the configuration of an external time server used by NTP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ntp-server-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be |

| | | | |
|---|---|---|---|
| | | optional | returned. |
| **server-name** | | string | Host name, IPv4 address or IPv6 address for the external NTP time server |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ntp-server-info | The attributes of the ntp server configuration. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAPIPRIVILEGE** | |
| **EOBJECTNOTFOUND** | |
| **ENTP_USE_NODE_SCOPE** | |

# ntp-server-get-iter

[top]

Get the configuration of all the external time servers used by NTP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ntp-server-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ntp-server-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ntp server configuration object. All ntp server configuration objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ntp-server-info[] optional | The list of attributes of ntp server configuration objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ntp server configuration objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAPIPRIVILEGE** | |
| **EOBJECTNOTFOUND** | |

| Errno | Description |
|---|---|
| **ENTP_USE_NODE_SCOPE** | |

## ntp-server-key-create

[top]

Create an NTP symmetric authentication key.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **id** | **[1..65535]** | integer | NTP symmetric authentication key ID. The ID must be in the range 1-65535. |
| **return-record** | | boolean optional | If set to true, returns the ntp authentication key on successful creation. Default: false |
| **type** | | ntp-key-type | NTP symmetric authentication key type. Only SHA1 currently supported. Possible values:<br>• "sha1" |
| **value** | | string | NTP symmetric authentication key value. The value must be exactly 40 hexadecimal digits for SHA1 keys. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | ntp-key-info optional | The ntp authentication key created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **ENTP_INVALID_SHA1_KEY** | |
| **ENTP_TOO_MANY_KEYS** | |

## ntp-server-key-delete

[top]

Remove an NTP symmetric authentication key.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **id** | **[1..65535]** | integer | NTP symmetric authentication key ID. The ID must be in the range 1-65535. |

| Errno | Description |
|---|---|
| **ENTP_KEY_IN_USE** | |

## ntp-server-key-get-iter

[top]

Get the configuration of all NTP symmetric authentication keys.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **desired-attributes** | | ntp-key-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ntp-key-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ntp authentication key object. All ntp authentication key objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ntp-key-info[] optional | The list of attributes of ntp authentication key objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ntp authentication key objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# ntp-server-key-modify

[top]

Modify an NTP symmetric authentication key.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **id** | **[1..65535]** | integer | NTP symmetric authentication key ID. The ID must be in the range 1-65535. |
| **type** | | ntp-key-type optional | NTP symmetric authentication key type. Only SHA1 currently supported. Possible values:<br>• "sha1" |
| **value** | | string optional | NTP symmetric authentication key value. The value must be exactly 40 hexadecimal digits for SHA1 keys. |

| Errno | Description |
|---|---|
| **ENTP_INVALID_SHA1_KEY** | |

# ntp-server-modify

[top]

Modify a configuration for an external time server used by NTP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-authentication-enabled** | | boolean optional | Specifies if symmetric key authentication is in use for this time server. |
| **is-preferred** | | boolean optional | Specifies whether the server is preferred as a time source. By default, this value is false. Only one NTP server may be preferred. All other servers will have preferred set to false when this is set. |
| **key-id** | **[1..65535]** | integer optional | Specifies the symmetric authentication key ID being used for this time server. |
| **server-name** | | string | Host name, IPv4 address or IPv6 address for the external NTP time server |
| **version** | | string optional | NTP protocol version which can be '3', '4' or 'auto'. The 'auto' value uses Data ONTAP's best practice value. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAPIPRIVILEGE** | |
| **EOBJECTNOTFOUND** | |
| **ENTP_USE_NODE_SCOPE** | |
| **ENTP_NEEDS_9_5_0** | |
| **ENTP_INVALID_FIELD_AUTH_ENABLED** | |
| **ENTP_AUTH_NOT_IN_CLUSTER** | |
| **ENTP_AUTH_UNKNOWN_KEY** | |
| **ENTP_AUTH_FAILED** | |

# ntp-server-reset

[top]

Reset the external NTP server list to the desired default values. The table is emptied and then populated to the desired default values.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **use-public** | | boolean optional | Reset server list to public identified defaults |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAPIPRIVILEGE** | |
| **ENTP_USE_NODE_SCOPE** | |
| **ENTP_NO_RESET_SELECTED** | |

# ntp-server-security-get

[top]

Get the NTP security settings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ntp-server-security-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | ntp-server-security-info | The attributes of the ntp-server. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ntp-server-security-set

[top]

Set the NTP security settings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-query-enabled** | | boolean optional | Is Querying of NTP Server Enabled? |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# ntp-server-status-get

[top]

Get the status of the selection of an external time server.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ntp-server-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |
| **server** | | string | Host name, IPv4 address or IPv6 address for the external NTP time server |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | ntp-server- | |

| | | | |
|---|---|---|---|
| **attributes** | | status-info | The attributes of the ntp-server. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## ntp-server-status-get-iter

[top]

Get the status of the selection of all configured external time servers.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | ntp-server-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | ntp-server-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ntp-server object. All ntp-server objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | ntp-server-status-info[] optional | The list of attributes of ntp-server objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more ntp-server objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## ntp-server-validate

[top]

Validate an existing NTP external time server and report any validation problems

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **server-name** | | string | Host name, IPv4 address or IPv6 address for the NTP external time server |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAPIPRIVILEGE** | |
| **EOBJECTNOTFOUND** | |
| **EDUPLICATEENTRY** | |
| **ENTP_USE_NODE_SCOPE** | |
| **ENTP_INVALID_SERVER_NAME** | |
| **ENTP_INVALID_IPV4_ADDR** | |
| **ENTP_INVALID_IPV6_ADDR** | |
| **ENTP_SERVER_NAME_NOTFOUND** | |
| **ENTP_SERVER_NAME_ADDRS** | |
| **ENTP_NO_CONNECT** | |
| **ENTP_NO_QUICKREPLY** | |
| **ENTP_REPLY_NO_SYNC** | |
| **ENTP_REPLY_NO_ACCES** | |
| **ENTP_REPLY_NO_CRYPTO** | |
| **ENTP_REPLY_PROTOCOL** | |
| **ENTP_REPLY_ROOT_DIST** | |
| **ENTP_REPLY_ROOT_DISP** | |
| **ENTP_REPLY_PEER_DIST** | |
| **ENTP_REPLY_PEER_DISP** | |
| **ENTP_REPLY_PEER_STRATUM** | |
| **ENTP_AUTH_FAILED** | |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **ntp-key-info**

[top]

Network Time Protocol (NTP) Key When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| | | | |
|---|---|---|---|

| Name | Range | Type | Description |
|---|---|---|---|
| **id** | **[1..65535]** | integer optional | NTP symmetric authentication key ID. The ID must be in the range 1-65535. Attributes: key, required-for-create, non-modifiable |
| **type** | | ntp-key-type optional | NTP symmetric authentication key type. Only SHA1 currently supported. Attributes: required-for-create, modifiable Possible values:<br>• "sha1" |
| **value** | | string optional | NTP symmetric authentication key value. The value must be exactly 40 hexadecimal digits for SHA1 keys. Attributes: required-for-create, modifiable |

# Element definition: **ntp-key-type**

[top]

sha1 Possible values:

- "sha1"

[none]

# Element definition: **ntp-server-info**

[top]

Network Time Protocol (NTP) Server Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-authentication-enabled** | | boolean optional | Specifies if symmetric key authentication is in use for this time server. Attributes: non-creatable, modifiable |
| **is-preferred** | | boolean optional | Specifies whether the server is preferred as a time source. By default, this value is false. Only one NTP server may be preferred. All other servers will have preferred set to false when this is set. Attributes: optional-for-create, modifiable |
| **is-public-default** | | boolean optional | Specifies if the time server was provided as a default public NTP server by Data ONTAP. Attributes: non-creatable, non-modifiable |
| **key-id** | **[1..65535]** | integer optional | Specifies the symmetric authentication key ID being used for this time server. Attributes: optional-for-create, modifiable |
| **server-name** | | string optional | Host name, IPv4 address or IPv6 address for the external NTP time server Attributes: key, required-for-create, non-modifiable |
| **version** | | string optional | NTP protocol version which can be '3', '4' or 'auto'. The 'auto' value uses Data ONTAP's best practice value. Attributes: optional-for-create, modifiable |

# Element definition: **ntp-server-security-info**

[top]

NTP Server Security Settings When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-query-enabled** | | boolean optional | Is Querying of NTP Server Enabled? Attributes: non-creatable, modifiable |

# Element definition: **ntp-server-status-info**

[top]

NTP Server Status Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-peer-reachable** | | boolean optional | Is Peer Reachable and Responding to Polls? Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **offset** | | double-hundredths optional | Offset from Server Time (ms) Attributes: non-creatable, non-modifiable |
| **selection-state** | | string optional | Description of Server Selection State Attributes: non-creatable, non-modifiable |
| **server** | | string optional | Host name, IPv4 address or IPv6 address for the external NTP time server Attributes: key, non-creatable, non-modifiable |

# Element definition: **double-hundredths**

[top]

Floating point number rounded to two decimals

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

# APIs in Category: **nvme**


nvme-create
nvme-delete
nvme-feature-get
nvme-get-iter
nvme-interface-get-iter
nvme-modify
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nvme-subsystem-host-remove
nvme-subsystem-map-add
nvme-subsystem-map-get-iter
nvme-subsystem-map-remove
nvme-subsystem-modify
nvme-subsystem-os-type-list


Provides mechanisms to manage access to NVMe targets within Data ONTAP.

## nvme-create

[top]

Create a new NVMe target service.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-available** | | boolean optional | Is Available |
| **return-record** | | boolean optional | If set to true, returns the NVMe target service on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | nvme-target-service-info | The NVMe target service created (keys or the entire object if requested) |

| | | | |
|---|---|---|---|
| | | optional | |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EONTAPI_EEXIST** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVERNOTRUNNING** | |
| **E_NVMF_EXCLUSIVE_VSERVER** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nvme-delete

[top]

Delete an existing NVMe target service object.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EONTAPI_EEXIST** | |
| **EVSERVERNOTFOUND** | |
| **E_NVMF_EXCLUSIVE_VSERVER** | |
| **E_NVMF_SERVICE_IN_USE** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nvme-feature-get

[top]

Get the enabled NVMe over Fabrics features

| Output Name | Range | Type | Description |
|---|---|---|---|
| **features** | | nvme-feature[]<br>optional | Enabled NVMe over Fabrics features |
| **max-anagrpid** | | integer<br>optional | Maximum supported ANAGRPID |
| **max-namespace-size** | | size<br>optional | Maximum supported namespace size |
| **max-nsid** | | integer<br>optional | Maximum supported NSID |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# nvme-get-iter

[top]

Iterate over a list of NVMe target service objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nvme-target-service-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nvme-target-service-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe target service object. All NVMe target service objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nvme-target-service-info[] optional | The list of attributes of NVMe target service objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more NVMe target service objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# nvme-interface-get-iter

[top]

Iterate over a list of NVMe Interface objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nvme-interface-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nvme-interface-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe Interface object. All NVMe Interface objects matching this query up to 'max-records' will be returned. |
| | | | Specify the tag from the last call. It is usually not specified for the |

| | | | |
|---|---|---|---|
| **tag** | | string optional | first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nvme-interface-info[] optional | The list of attributes of NVMe Interface objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more NVMe Interface objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# nvme-modify

[top]

Modify the attributes of NVMe target service object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-available** | | boolean optional | Is Available |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nvme-namespace-create

[top]

Create a new NVMe target namespace.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string optional | Application |
| **block-size** | | vdisk-block-size optional | Size in bytes of a logical block. Possible values: 512 (Data ONTAP 9.6 and later), 4096. The default value is 4096. |
| **comment** | | string optional | Comment |
| | | nvme- | OS Type Possible values:<br>• "vmware" - The namespace contains VMware file system data,<br>• "hyper_v" - The namespace contains Windows Hyper-V file |

| | | | |
|---|---|---|---|
| **ostype** | | namespace-os | system data,<br>• "windows" - The namespace contains Windows file system data,<br>• "linux" - The namespace contains Linux file system data,<br>• "xen" - The namespace contains Xen file system data,<br>• "aix" - The namespace contains AIX file system data |
| **path** | | lun-path | Namespace Path |
| **return-record** | | boolean optional | If set to true, returns the NVMe target namespace on successful creation. Default: false |
| **size** | | size | Size |
| **uuid** | | uuid optional | Namespace UUID |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | nvme-namespace-info optional | The NVMe target namespace created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINVALIDINPUTERROR** | |
| **EOP_DISALLOWED_VSERVER_ROOT** | |
| **EVDISK_ERROR_FLEXGROUP** | |
| **EVDISK_ERROR_LUN_TOO_LARGE** | |
| **EVDISK_ERROR_NO_SUCH_VOLUME** | |
| **EVDISK_ERROR_SIZE_TOO_SMALL** | |
| **EVDISK_ERROR_VDISK_EXISTS** | |
| **EVDISK_SNAPSHOT_PATH_DISALLOWED** | |
| **EVDISK_VOLUME_UNSUPPORTED** | |
| **EVOLUMEDOESNOTEXIST** | |
| **E_NVMF_NS_TOO_LARGE** | |
| **E_NVMF_NS_TOO_SMALL** | |

# nvme-namespace-delete

[top]

Delete the namespace

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destroy-application-namespace** | | boolean optional | Delete a Namespace Belonging to an Application |
| **path** | | lun-path | Namespace Path |
| **skip-mapped-check** | | boolean optional | Skip Mapped Check |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINVALIDINPUTERROR** | |

| | |
|---|---|
| **E_NVMF_NS_IN_USE** | |
| **EVDISK_SNAPSHOT_PATH_DISALLOWED** | |

# nvme-namespace-get-iter

[top]

Iterate over a list of NVMe target namespace objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nvme-namespace-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nvme-namespace-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe target namespace object. All NVMe target namespace objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nvme-namespace-info[] optional | The list of attributes of NVMe target namespace objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more NVMe target namespace objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |
| **volume-errors** | | volume-error[] optional | List of errors encountered while retrieving namespace inventory |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# nvme-namespace-modify

[top]

Modify the attributes of NVMe target namespace object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string | Comment |
| **path** | | lun-path | Namespace Path |

| Errno | Description |
|---|---|
| | |

| | |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINVALIDINPUTERROR** | |
| **EVDISK_SNAPSHOT_PATH_DISALLOWED** | |
| **E_NVMF_NS_TOO_LARGE** | |
| **E_NVMF_NS_TOO_SMALL** | |

# nvme-namespace-os-type-list

[top]

Displays the supported values and descriptions for nvme-namespace-os.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **ostypes** | | system-api-enum-value-info[] optional | Enumeration type name/value pair |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# nvme-subsystem-controller-get-iter

[top]

Iterate over a list of NVMe subsystem controllers objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nvme-target-subsystem-controller-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nvme-target-subsystem-controller-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe subsystem controllers object. All NVMe subsystem controllers objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nvme-target-subsystem-controller-info[] optional | The list of attributes of NVMe subsystem controllers objects. |
| **next-tag** | | string | Tag for the next call. Not present when there are no more NVMe |

| | | | |
|---|---|---|---|
| | | optional | subsystem controllers objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# nvme-subsystem-create

[top]

Create a new NVMe target subsystem.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | Comment |
| **delete-on-unmap** | | boolean optional | Delete on Unmap |
| **ostype** | | nvme-subsystem-os | OS Type Possible values:<br>• "windows" - The initiators belong to a Windows host,<br>• "aix" - The initiators belong to an AIX host,<br>• "linux" - The initiators belong to a Linux host,<br>• "vmware" - The initiators belong to a VMware ESX host,<br>• "xen" - The initiators belong to a Xen hypervisor host,<br>• "hyper_v" - The initiators belong to a Hyper-V parent host |
| **return-record** | | boolean optional | If set to true, returns the NVMe target subsystem on successful creation. Default: false |
| **subsystem** | | string | Subsystem |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | nvme-subsystem-info optional | The NVMe target subsystem created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINVALIDINPUTERROR** | |
| **EONTAPI_EEXIST** | |
| **EVSERVERNOTFOUND** | |
| **E_NVMF_EXCLUSIVE_VSERVER** | |
| **E_NVMF_SERVICE_REQUIRED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nvme-subsystem-delete

[top]

Delete the subsystem

| Input Name | Range | Type | Description |
|---|---|---|---|
| **skip-host-check** | | boolean optional | Skip Host Check |
| **skip-mapped-check** | | boolean optional | Skip Mapped Namespace Check |
| **subsystem** | | string | Subsystem |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **E_NVMF_SUBSYSTEM_IN_USE** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nvme-subsystem-get-iter

[top]

Iterate over a list of NVMe target subsystem objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nvme-subsystem-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nvme-subsystem-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe target subsystem object. All NVMe target subsystem objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nvme-subsystem-info[] optional | The list of attributes of NVMe target subsystem objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more NVMe target subsystem objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# nvme-subsystem-host-add

[top]

Add a host to the subsystem

| Input Name | Range | Type | Description |
|---|---|---|---|
| **host-nqn** | | string | Host NQN |
| **subsystem** | | string | Subsystem |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **EONTAPI_EEXIST** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nvme-subsystem-host-get-iter

[top]

Iterate over a list of NVMe subsystem hosts objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nvme-target-subsystem-host-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nvme-target-subsystem-host-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe subsystem hosts object. All NVMe subsystem hosts objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nvme-target-subsystem-host-info[] optional | The list of attributes of NVMe subsystem hosts objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more NVMe subsystem hosts objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# nvme-subsystem-host-remove

[top]

Remove a host from the subsystem

| Input Name | Range | Type | Description |
|---|---|---|---|
| **host-nqn** | | string | Host NQN |
| **subsystem** | | string | Subsystem |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **EONTAPI_EEXIST** | |
| **EVSERVERNOTFOUND** | |

# nvme-subsystem-map-add

[top]

Add a namespace map

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | lun-path | Namespace Path |
| **subsystem** | | string | Subsystem |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **namespace-uuid** | | uuid | Namespace UUID |
| **nsid** | **[0..2^32-1]** | integer | NSID |

| Errno | Description |
|---|---|
| **EVDISK_SNAPSHOT_PATH_DISALLOWED** | |
| **E_NVMF_NS_IN_USE** | |
| **E_NVMF_LIF_REQUIRED** | |
| **E_NVMF_SUBSYSTEM_MAP_LIMIT** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# nvme-subsystem-map-get-iter

[top]

Iterate over a list of NVMe attached namespace objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | nvme-target-subsystem-map-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | nvme-target-subsystem-map-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the NVMe attached namespace object. All NVMe attached namespace objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | nvme-target-subsystem-map-info[] optional | The list of attributes of NVMe attached namespace objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more NVMe attached namespace objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# nvme-subsystem-map-remove

[top]

Remove a namespace map

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | lun-path | Namespace Path |
| **subsystem** | | string | Subsystem |

| Errno | Description |
|---|---|
| **EVDISK_SNAPSHOT_PATH_DISALLOWED** | |
| **E_NVMF_NS_NOT_MAPPED** | |

# nvme-subsystem-modify

[top]

Modify the attributes of NVMe target subsystem object.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **comment** | | string optional | Comment |
| **delete-on-unmap** | | boolean optional | Delete on Unmap |
| **subsystem** | | string | Subsystem |

| Errno | Description |
|---|---|
| **EAPIUNSUPPORTEDVERSION** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

## nvme-subsystem-os-type-list

[top]

Displays the supported values and descriptions for nvme-subsystem-os.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **ostypes** | | system-api-enum-value-info[] optional | Enumeration type name/value pair |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## Element definition: **lun-path**

[top]

LUN Path

[none]

## Element definition: **nvme-feature**

[top]

nvmf|fc-nvme|multi-path|multi-node|multi-protocol|volume-move|block-size-512|nvme-roce|nvme-tcp|subsystem-vendor-uuids|namespace-resize|namespace-transition|mcc-fc-nvme|inband-authentication|nodes-per-vserver-12 Possible values:

- "nvmf" - NVMe over Fabrics Base Feature,
- "fc_nvme" - NVMe/FC Transport,
- "multi_path" - Multi-Path,
- "multi_node" - Multi-Node,
- "multi_protocol" - Multi-Protocol Vserver,
- "no_node_lif_limit" - Allow More Than 2 LIFs per Node,
- "volume_move" - Volume Move of Mapped Namespaces,
- "block_size_512" - 512-byte Block Size Namespaces,

"large_namespace" - Large Namespaces,
- "nvme_roce" - NVMe/RoCE Transport,
- "nvme_tcp" - NVMe/TCP Transport,
- "subsystem_vendor_uuids" - Vendor-Specific UUIDs in Subsystems,
- "aix" - AIX host support,
- "namespace_resize" - Namespace resize support,
- "lun_to_namespace_transition" - Transition from LUN to Namespace support,
- "nsid_1024" - Support 1024 Namespaces per Subsystem,
- "unique_discovery_nqn" - Unique Discovery Subsystem NQN,
- "mcc_fc_nvme" - FC NVMe on MCC,
- "inband_authentication" - In-band Authentication,
- "nodes_per_vserver_12" - Allow 12 Nodes with LIFs in a Vserver

[none]

# Element definition: **nvme-interface-info**

[top]

NVMe target interface configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | Comment Attributes: non-creatable, non-modifiable |
| **fc-wwnn** | | string optional | FC WWNN Attributes: non-creatable, non-modifiable |
| **fc-wwpn** | | string optional | FC WWPN Attributes: non-creatable, non-modifiable |
| **home-node** | | filer-id optional | Home Node Attributes: non-creatable, non-modifiable |
| **home-port** | | lif-bindable optional | Home Port Attributes: non-creatable, non-modifiable |
| **lif** | | lif-name optional | Logical Interface Attributes: key, non-creatable, non-modifiable |
| **lif-uuid** | | uuid optional | LIF UUID Attributes: non-creatable, non-modifiable |
| **physical-protocol** | | nvme-physical-protocol optional | Physical Protocol Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "fibre_channel" ,<br>• "ethernet" |
| **status-admin** | | vif-status optional | Status Admin Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "up" ,<br>• "down" |

| | | | |
|---|---|---|---|
| **transport-address** | | string optional | Transport Address Attributes: non-creatable, non-modifiable |
| **transport-protocols** | | nvme-transport[] optional | Transport Protocol Attributes: non-creatable, non-modifiable Possible values:<br>• "fc_nvme" - NVMe/FC,<br>• "nvme_roce" - NVMe/RoCE,<br>• "nvme_tcp" - NVMe/TCP |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |
| **vserver-uuid** | | uuid optional | Vserver UUID Attributes: non-creatable, non-modifiable |

# Element definition: **nvme-namespace-info**

[top]

NVMe target namespace When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **anagrpid** | **[0..2^32-1]** | integer optional | ANA Group ID Attributes: non-creatable, non-modifiable |
| **application** | | string optional | Application Attributes: optional-for-create, non-modifiable |
| **application-uuid** | | uuid optional | Application UUID Attributes: non-creatable, non-modifiable |
| **block-size** | | vdisk-block-size optional | Size in bytes of a logical block. Possible values: 512 (Data ONTAP 9.6 and later), 4096. The default value is 4096. Attributes: optional-for-create, non-modifiable |
| **comment** | | string optional | Comment Attributes: optional-for-create, modifiable |
| **creation-timestamp** | | datetime optional | Creation Time Attributes: non-creatable, non-modifiable |
| **is-read-only** | | boolean optional | Is Read Only Attributes: non-creatable, non-modifiable |
| **node** | | filer-id optional | Node Hosting the Namespace Attributes: non-creatable, non-modifiable |
| **nsid** | **[0..2^32-1]** | integer optional | Namespace ID Attributes: non-creatable, non-modifiable |
| | | nvme- | OS Type Attributes: required-for-create, non-modifiable Possible values:<br>• "vmware" - The namespace contains VMware file system data,<br>• "hyper_v" - The namespace contains Windows Hyper-V file |

| | | | |
|---|---|---|---|
| **ostype** | | namespace-os optional | system data,<br>• "windows" - The namespace contains Windows file system data,<br>• "linux" - The namespace contains Linux file system data,<br>• "xen" - The namespace contains Xen file system data,<br>• "aix" - The namespace contains AIX file system data |
| **path** | | lun-path optional | Namespace Path Attributes: key, required-for-create, non-modifiable |
| **qtree** | | qtree-name optional | Qtree Name Attributes: non-creatable, non-modifiable |
| **restore-inaccessible** | | boolean optional | Restore Inaccessible Attributes: non-creatable, non-modifiable |
| **size** | | size optional | Size Attributes: required-for-create, modifiable |
| **size-used** | | size optional | Size Used Attributes: non-creatable, non-modifiable |
| **state** | | nvme-namespace-state optional | State Attributes: non-creatable, modifiable Possible values:<br>• "online" - Namespace is administratively online,<br>• "offline" - Namespace is adminitratively offline or the reason is unknown,<br>• "nvfail" - Namespace was automatically taken offline due to NVRAM failure,<br>• "space_error" - Namespace was automatically taken offline due to insufficient space |
| **subsystem** | | string optional | Mapped Subsystem Attributes: non-creatable, non-modifiable |
| **uuid** | | uuid optional | Namespace UUID Attributes: optional-for-create, non-modifiable |
| **volume** | | volume-name optional | Volume Name Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |
| **vserver-uuid** | | uuid optional | Vserver UUID Attributes: non-creatable, non-modifiable |

# Element definition: **nvme-namespace-os**

[top]

aix|linux|vmware|windows Possible values:

- "vmware" - The namespace contains VMware file system data,
- "hyper_v" - The namespace contains Windows Hyper-V file system data,
- "windows" - The namespace contains Windows file system data,
- "linux" - The namespace contains Linux file system data,
- "xen" - The namespace contains Xen file system data,
- "aix" - The namespace contains AIX file system data

[none]

# Element definition: **nvme-subsystem-info**

[top]

NVMe target subsystem configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | Comment Attributes: optional-for-create, modifiable |
| **default-io-queue-count** | **[1..15]** | integer optional | Default Number of Host I/O Queue Pairs Attributes: optional-for-create, modifiable |
| **default-io-queue-depth** | **[16..128]** | integer optional | Default Host I/O Queue Depth Attributes: optional-for-create, modifiable |
| **delete-on-unmap** | | boolean optional | Delete on Unmap Attributes: optional-for-create, modifiable |
| **ostype** | | nvme-subsystem-os optional | OS Type Attributes: required-for-create, non-modifiable Possible values:<br>• "windows" - The initiators belong to a Windows host,<br>• "aix" - The initiators belong to an AIX host,<br>• "linux" - The initiators belong to a Linux host,<br>• "vmware" - The initiators belong to a VMware ESX host,<br>• "xen" - The initiators belong to a Xen hypervisor host,<br>• "hyper_v" - The initiators belong to a Hyper-V parent host |
| **serial-number** | | string optional | Serial Number Attributes: non-creatable, non-modifiable |
| **subsystem** | | string optional | Subsystem Attributes: key, required-for-create, non-modifiable |
| **target-nqn** | | string optional | Target NQN Attributes: non-creatable, non-modifiable |
| **uuid** | | uuid optional | UUID Attributes: optional-for-create, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |
| **vserver-uuid** | | uuid optional | Vserver UUID Attributes: non-creatable, non-modifiable |

# Element definition: **nvme-subsystem-os**

[top]

aix|linux|vmware|windows Possible values:

- "windows" - The initiators belong to a Windows host,
- "aix" - The initiators belong to an AIX host,
- "linux" - The initiators belong to a Linux host,
- "vmware" - The initiators belong to a VMware ESX host,
- "xen" - The initiators belong to a Xen hypervisor host,
- "hyper_v" - The initiators belong to a Hyper-V parent host

[none]

# Element definition: **nvme-target-service-info**

[top]

NVMe target service configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-available** | | boolean optional | Is Available Attributes: optional-for-create, modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |
| **vserver-uuid** | | uuid optional | Vserver UUID Attributes: non-creatable, non-modifiable |

# Element definition: **nvme-target-subsystem-controller-info**

[top]

NVMe subsystem controller When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **admin-queue-depth** | **[0..2^32-1]** | integer optional | Admin Queue Depth Attributes: non-creatable, non-modifiable |
| **controller-id** | **[0..2^16-1]** | integer optional | Controller ID Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **data-digest-enabled** | | boolean optional | Data Digest Enabled Attributes: non-creatable, non-modifiable |
| **header-digest-enabled** | | boolean optional | Header Digest Enabled Attributes: non-creatable, non-modifiable |
| **host-nqn** | | string optional | Host NQN Attributes: non-creatable, non-modifiable |
| **initiator-transport-address** | | string optional | Initiator Transport Address Attributes: non-creatable, non-modifiable |
| **io-queue-count** | **[0..65535]** | integer optional | Number of I/O Queues Attributes: non-creatable, non-modifiable |
| **io-queue-depth** | **[0..65535]** | integer[] optional | I/O Queue Depths Attributes: non-creatable, non-modifiable |
| **kato** | **[0..2^32-1]** | integer optional | Keep Alive Time Out(msec) Attributes: non-creatable, non-modifiable |
| **lif** | | string optional | Logical Interface Attributes: non-creatable, non-modifiable |
| **lif-uuid** | | uuid optional | Logical Interface UUID Attributes: non-creatable, non-modifiable |
| **max-io-size** | **[0..2^32-1]** | integer optional | Max IO Size in Bytes Attributes: non-creatable, non-modifiable |
| **node** | | filer-id optional | Node Attributes: non-creatable, non-modifiable |
| **subsystem** | | string optional | Subsystem Attributes: key, non-creatable, non-modifiable |
| **subsystem-uuid** | | uuid optional | Subsystem UUID Attributes: non-creatable, non-modifiable |
| **transport-protocol** | | nvme-transport optional | Transport Protocol Attributes: non-creatable, non-modifiable Possible values:<br>• "fc_nvme" - NVMe/FC,<br>• "nvme_roce" - NVMe/RoCE,<br>• "nvme_tcp" - NVMe/TCP |
| **trsvcid** | | string optional | Transport Service Identifier Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |
| **vserver-uuid** | | uuid optional | Vserver UUID Attributes: non-creatable, non-modifiable |

# Element definition: **nvme-target-subsystem-host-info**

[top]

NVMe subsystem host When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **host-nqn** | | string optional | Host NQN Attributes: key, non-creatable, non-modifiable |
| **io-queue-count** | **[1..15]** | integer optional | Number of I/O Queue Pairs Attributes: non-creatable, non-modifiable |
| **io-queue-depth** | **[16..128]** | integer optional | I/O Queue Depth Attributes: non-creatable, non-modifiable |
| **subsystem** | | string optional | Subsystem Attributes: key, non-creatable, non-modifiable |
| **subsystem-uuid** | | uuid optional | Subsystem UUID Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |
| **vserver-uuid** | | uuid optional | Vserver UUID Attributes: non-creatable, non-modifiable |

# Element definition: **nvme-target-subsystem-map-info**

[top]

NVMe attached namespace When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **anagrpid** | **[0..2^32-1]** | integer optional | ANA Group ID Attributes: non-creatable, non-modifiable |
| **namespace-uuid** | | uuid optional | Namespace UUID Attributes: non-creatable, non-modifiable |
| **nsid** | **[0..2^32-1]** | integer optional | NSID Attributes: key, non-creatable, non-modifiable |
| **path** | | lun-path optional | Namespace Path Attributes: non-creatable, non-modifiable |
| **subsystem** | | string optional | Subsystem Attributes: key, non-creatable, non-modifiable |
| **subsystem-uuid** | | uuid optional | Subsystem UUID Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |
| **vserver-uuid** | | uuid optional | Vserver UUID Attributes: non-creatable, non-modifiable |

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **system-api-enum-value-info**

[top]

Enumeration type name/value pair When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | Description of the enumeration value Attributes: non-creatable, non-modifiable |
| **value** | | string optional | Name of the enumeration value Attributes: key, non-creatable, non-modifiable |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **vdisk-block-size**

[top]

The size in bytes of a logical block. Possible values: 512, 4096.

[none]

# Element definition: **volume-error**

[top]

The error code of a given volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **errno** | | integer optional | The error code of the snapshot operation for a given volume. It is returned only when an error is found. |
| **name** | | volume-name | Name of a volume. |
| **reason** | | string optional | Description of the error. It is returned only when an error is found. |
| **vserver** | | string optional | Virtual server containing the volume. |

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **filer-id**

[top]

Filer UUID

[none]

# Element definition: **lif-bindable**

[top]

|

[none]

# Element definition: **lif-name**

[top]

Logical Interface Id

[none]

# Element definition: **lun-path**

[top]

LUN Path

[none]

## Element definition: **nvme-namespace-state** [top]

online|offline|nvfail|space-error Possible values:

- "online" - Namespace is administratively online,
- "offline" - Namespace is adminitratively offline or the reason is unknown,
- "nvfail" - Namespace was automatically taken offline due to NVRAM failure,
- "space_error" - Namespace was automatically taken offline due to insufficient space

[none]

## Element definition: **nvme-physical-protocol** [top]

fibre-channel|ethernet Possible values:

- "fibre_channel" ,
- "ethernet"

[none]

## Element definition: **nvme-transport** [top]

fc-nvme|nvme-tcp Possible values:

- "fc_nvme" - NVMe/FC,
- "nvme_roce" - NVMe/RoCE,
- "nvme_tcp" - NVMe/TCP

[none]

## Element definition: **qtree-name** [top]

Qtree Name

[none]

## Element definition: **vif-status** [top]

up|down Possible values:

- "up" ,
- "down"

[none]

## Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **options**


options-get
options-get-iter
options-list-info
options-modify-iter
options-set


## options-get

[top]

Get the value of a single option.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the option. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **cluster-constraint** | | string | Indicates the cluster-specific constraints of option.<br>• "none" - no constraint.<br>• "same_preferred" - same value should be used on both nodes of a HA pair.<br>• "same_required" - same value must be used on both nodes of a HA pair.<br>• "only_one" - value is used for both nodes of a HA pair, when in takeover mode.<br>• "unknown" - value is not valid.<br>In Data ONTAP Cluster-Mode, this field will always be "none". |
| **value** | | string | Value of the option. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

## options-get-iter

[top]

Iterate over a list of options objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | option-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available |

| | | | |
|---|---|---|---|
| | | optional | will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | option-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the options object. All options objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | option-info[] optional | The list of attributes of options objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more options objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# options-list-info

[top]

Get a list of all options

| Output Name | Range | Type | Description |
|---|---|---|---|
| **options** | | option-info[] optional | |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# options-modify-iter

[top]

Modify the attributes of options or a group of options objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | option-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-** | | boolean | This input element is useful when multiple options objects match a given query. If set to true, the API will continue modifying the next |

| | | | |
|---|---|---|---|
| **failure** | | optional | matching options even when modification of a previous options fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching options even when the modification of a previous matching options fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | option-info | If modifying a specific options, this input element must specify all keys. If modifying options objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of options objects (just keys) that were not modified due to some error. If set to false, the list of options objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of options objects (just keys) that were successfully updated. If set to false, the list of options objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | options-modify-iter-info[] optional | Information about options objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching options objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of options objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of options objects that matched the query and were successfully updated. |
| **success-list** | | options-modify-iter-info[] optional | The options objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# options-set

[top]

Set the value of a single option. For complete list of names and values of options, please refer to

options man pages.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the option. |
| **value** | | string | Value of the option. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **cluster-constraint** | | string | Cluster-specific constraint of the option.<br><br>• "none" - no constraint.<br>• "same_preferred" - same value should be used on both nodes of a HA pair.<br>• "same_required" - same value must be used on both nodes of a HA pair.<br>• "only_one" - value is used for both nodes of a HA pair, when in takeover mode.<br>• "unknown" - value is not valid.<br><br>In Data ONTAP Cluster-Mode, this field will always be "none". |
| **message** | | string optional | Informative message that was issued as a result of setting (or trying to set) the option. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EVSERVERNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# Element definition: **option-info**

[top]

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster-constraint** | | string optional | Indicates the cluster-specific constraints of option.<br><br>• "none" - no constraint.<br>• "same_preferred" - same value should be used on both nodes of a HA pair.<br>• "same_required" - same value must be used on both nodes of a HA pair.<br>• "only_one" - value is used for both nodes of a HA pair, when in takeover mode.<br>• "unknown" - value is not valid.<br><br>In Data ONTAP Cluster-Mode, this field will always be "none". This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode. |
| **data-type** | | string optional | Data type of the option 'name'. Possible values are:<br><br>• "bool" - A boolean true / false value,<br>• "integer" - A decimal integer value,<br>• "unsigned" - A non-negative decimal integer value,<br>• "string" - A UTF-8 character string. |

| | | | |
|---|---|---|---|
| **default-value** | | string optional | Default initial value of this option. The field 'value' contains the current set value and could be different from this. |
| **description** | | string optional | Brief description of this option. |
| **name** | | string optional | Name of the option. This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode. |
| **priv-level** | | string optional | The privilege level of this option. Possible values are:<br>• admin<br>• advanced<br>• diagnostic<br>• test |
| **value** | | string optional | Value of the option. This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode. |
| **vserver** | | string optional | The name of the vserver to which this option belongs to. |

# Element definition: **options-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against options object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **options-key** | | option-info | The keys for the options object to which the modify operation applies. |

# Element definition: **option-info**

[top]

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster-constraint** | | string optional | Indicates the cluster-specific constraints of option.<br>• "none" - no constraint.<br>• "same_preferred" - same value should be used on both nodes of a HA pair.<br>• "same_required" - same value must be used on both nodes of a HA pair.<br>• "only_one" - value is used for both nodes of a HA pair, when in takeover mode.<br>• "unknown" - value is not valid.<br><br>In Data ONTAP Cluster-Mode, this field will always be "none". This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode. |
| | | | Data type of the option 'name'. Possible values are:<br>• "bool" - A boolean true / false value, |

| | | | |
|---|---|---|---|
| **data-type** | | string optional | • "integer" - A decimal integer value,<br>• "unsigned" - A non-negative decimal integer value,<br>• "string" - A UTF-8 character string. |
| **default-value** | | string optional | Default initial value of this option. The field 'value' contains the current set value and could be different from this. |
| **description** | | string optional | Brief description of this option. |
| **name** | | string optional | Name of the option. This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode. |
| **priv-level** | | string optional | The privilege level of this option. Possible values are:<br>• admin<br>• advanced<br>• diagnostic<br>• test |
| **value** | | string optional | Value of the option. This field is optional in Data ONTAP Cluster-Mode, but required in Data ONTAP 7-Mode. |
| **vserver** | | string optional | The name of the vserver to which this option belongs to. |

# APIs in Category: **perf**


perf-archive-config-get
perf-archive-config-modify
perf-archive-datastore-get-iter
perf-awa-start
perf-awa-stop
perf-object-counter-list-info
perf-object-get-instances
perf-object-instance-list-info-iter
perf-object-list-info
perf-object-start
perf-object-stop
perf-preset-create
perf-preset-delete
perf-preset-detail-get
perf-preset-get-iter
perf-preset-modify
perf-samples-delete
perf-samples-get-iter


The perf APIs enable monitoring of system performance. They provide a single interface to performance data across various subsystems in the appliance. Data are organized hierarchically, with objects, instances, and counters. An object generally represents a subsystem, an instance represents a single physical or logical entity within the subsystem, and a counter is a datum specific to the instance.

An example of the object-instance-counter hierarchy is processor:processor0:processor_busy. Each CPU in the system is an instance of the 'processor' object. The processor_busy counter of the processor0 instance reports the time during which this processor has been active since an arbitrary point in the past. A second counter, processor_elapsed_time, reports the total time, so the change in processor_busy divided by the change in processor_elapsed_time over an interval can be used to compute the average utilization of the processor. Processor_elapsed_time is referred to as the 'base counter' of processor_busy since it is needed to compute a useful value from processor_busy.

A typical user of these APIs will initially request a list of objects using the perf-object-list-info call. The user may then request a list of counters available for instances of an object by calling perf-object-counter-list-info for each interesting object. The sets of objects and counters are static, so these calls will not need to be made again.

The core perf API call is perf-object-get-instances. This API returns the names and raw counter values of instances of an object at the time of the call. Unlike objects and counters, the set of instances is not always fixed, and the values of counters will vary across calls. Typically this API must be called at least twice over some interval in order to evaluate subsystem performance during that interval. Depending on counter properties, the user may need to perform additional computation on the raw value in order to correctly interpret it.

Each counter has a property which indicates how it's raw value should be interpreted. This property is available as part of the static counter metadata returned by a call to perf-object-counter-list-info. Possible properties are 'raw', 'rate', 'delta', 'average', 'percent', 'string', and 'no-display'. String counters report textual information, such as volume or disk identifiers. No-display counters are not intended for direct use, and this property is typically assigned to base counters. The other properties are interpreted as follows:

- raw: single counter value is used
- delta: change in counter value between two samples is used
- rate: delta divided by the time in seconds between samples is used
- average: delta divided by the delta of a base counter is used
- percent: 100*average is used

For 'average' and 'percent' counters, the 'base-counter' element will be set to the name of the base counter. Some counters are multidimensional, and for these the counter description includes a list of labels of the counter subelements, and a 'type' element indicating the counter is an array.

For example, again consider the processor::processor_busy counter. The description and properties of this counter state that it is a percentage, but a call to perf-object-get-instances will return a raw number which must be further processed by the user. Because the counter is a percentage, the user must note the value of its base counter, (processor::processor_elapsed_time) and then make a second call to perf-object-get-instances and again note the raw value of the counter and base counter. Suppose the user made the calls at time T1 and later at time T2, and these raw values were returned (the object and instance name are not shown):

- (T1) processor_busy=2000000, processor_elapsed_time=3000000
- (T2) processor_busy=2400000 ,processor_elapsed_time=4000000

The user must then perform the following computation to determine processor utilization: 100*(2400000-2000000)/(4000000-3000000) = 40%

The perf-object-instance-list-info-iter API may be used to list the names of current instances of an object. It does not return any counter values.

# perf-archive-config-get

[top]

Display Cluster-Wide Performance Archive Configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | archive-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | archive-config-info | The attributes of the perf-archive-config. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# perf-archive-config-modify

[top]

Modify Cluster-Wide Performance Archive Configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **asup-file-rotation** | **[1..1440]** | integer optional | Minutes Between ASUP Data File Rotations |
| **asup-max-retention** | **[1..365]** | integer optional | Days to Retain ASUP Archive Data |
| **datastore-file-rotation** | **[1..120]** | integer optional | Minutes Between Performance Archive Data File Rotations |
| **datastore-max-percent** | **[0..100]** | integer optional | Maximum Percentage of Root Volume Used for Performance Archive Data |
| **datastore-max-retention** | **[1..365]** | integer optional | Days to Retain Performance Archive Data |
| **is-enabled** | | boolean optional | Is the Performance Archive Enabled? |
| **opm-file-rotation** | **[1..120]** | integer optional | Minutes Between OPM Data File Rotations |
| **perfstat-duration** | **[0..168]** | integer optional | Minutes after Which Perfstat Collection Is Stopped |
| **perfstat-sampling-period** | **[0..60]** | integer optional | Minutes Between Perfstat Collections |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# perf-archive-datastore-get-iter

[top]

API retrieves information about all the performance archive datastores in the cluster and their datafiles.

Each performance archive-enabled process in the Data ONTAP cluster will have one or more datastores in which the archive datafiles are stored. These datastores encapsulate the archived performance data in groupings specified by the Data ONTAP cluster's performance preset configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **age-filter** | | perf-archive-datafile-age-filter optional | Filters the retrieved information to only include specific datafiles. By default, all datafiles within each datastore are retrieved. |
| **desired-attributes** | | perf-archive-datastore-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **is-partial-shown** | | boolean optional | Specifies whether or not to include partial datafiles. By default, all datafiles within each datastore are retrieved. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | perf- | A query that specifies which objects to return. A query could be |

| | | | |
|---|---|---|---|
| **query** | | archive-datastore-info optional | specified on any number of attributes in the perf-archive-datastore object. All perf-archive-datastore objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | perf-archive-datastore-info[] optional | The list of attributes of perf-archive-datastore objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more perf-archive-datastore objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# perf-awa-start

[top]

Starting AWA

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | aggr-name optional | Aggregate |
| **debug-level** | | integer optional | Debug Level |
| **flash-cache** | | boolean optional | Flash Cache Node-wide Modeling |
| **interval-length** | | integer optional | Interval Length (secs) |
| **node** | | string | Node Name |
| **num-intervals** | | integer optional | Number of Intervals |
| **pcache-size** | | integer optional | Pseudo Cache Size (MB) |
| **sampling-factor** | | integer optional | Sampling Factor |
| **size-limit** | | integer optional | Size-limit (Mega-Blocks) |
| **sync** | | boolean optional | Perf Run Sync |
| **working-set-size** | | boolean optional | Working Set Size |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

| Errno | Description |
| --- | --- |
| **EINTERNALERROR** | |

# perf-awa-stop

[top]

Stoping AWA

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **aggregate** | | aggr-name optional | Aggregate |
| **flash-cache** | | boolean optional | Flash cache node-wide modeling |
| **node** | | string | Node Name |

| Errno | Description |
| --- | --- |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# perf-object-counter-list-info

[top]

Get information about the counters of an object. This information is static and independent of any particular instance of the object. It includes counter names and descriptions, as well as properties which are necessary to to interpret counter values.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **filter-data** | | filter-data optional | Allows selecting counters from a particular node. An example filter is "node_name=hostname".<br><br>This element is **deprecated** in Data ONTAP 8.2 and later, as filtering by node is no longer necessary. Each node contains the same set of counter definitions, so filtering by node yields the same results as not filtering at all. |
| **objectname** | | string | Name of the object to get information for. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **counters** | | counter-info[] | List of counters available for instances of this object. |

# perf-object-get-instances

[top]

Get a list of current counter values of instances of an object. This will return the values of all specified counters and instances of the specified object with one call.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |

| | | | |
|---|---|---|---|
| **counters** | | counter[]<br>optional | List of counters whose values will be retrieved. This element can be used to limit data collection to a specified subset of the counters of instances of the object. If this element is absent, values of all counters will be retrieved. |
| **filter-data** | | filter-data<br>optional | Filter to apply to the performance data. |
| **instance-uuids** | | instance-uuid[]<br>optional | List of instance UUIDs for which to get counter values. This element can be used to limit data collection to a specified subset of the instances of the object. Either instances or instance-uuids input must be provided. The API errors out if both of these inputs are provided or neither of these inputs is provided, or if more than 500 instances are requested. |
| **instances** | | instance[]<br>optional | List of instance names for which to get counter values. This element can be used to limit data collection to a specified subset of the instances of the object.<br><br>Either instances or instance-uuids input must be provided. The API errors out if both of these inputs are provided or neither of these inputs is provided, or if more than 500 instances are requested. |
| **max** | **[0..499]** | integer<br>optional | Maximum number of instances. |
| **objectname** | | string | Name of the object to get counter values for. |
| **privilege-level** | | string<br>optional | Name of the privilege level. Possible values: "basic", "admin", "advanced", "diag" If the element is absent, the default privilege of the object will be used. |
| **sample-id** | | string<br>optional | Name of the sample. |
| **sort-key** | | string<br>optional | Counter used for sorting instances. |
| **sort-order** | | string<br>optional | Sort order. Possible values are 'ascending' and 'descending'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **instances** | | instance-data[] | List of instances of the object. Each element of this list |
| **timestamp** | | string | Timestamp in seconds since January 1, 1970. |

# perf-object-instance-list-info-iter

[top]

Gets the list of names and UUIDs of current instances of an object. This iterative API will return names and UUIDs of the current instances of the specified object; the number of records returned is specified by the max-records input element.

To retrieve all the instances of the specified object, the value of the next-tag output element should be passed in as the value of the tag input element on the subsequent API call.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | instance-info<br>optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| | | | |

| | | | |
|---|---|---|---|
| **filter-data** | | string optional | Filter to apply to instance list; see filter-data type for details. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 1000 |
| **objectname** | | string | Name of the object for which to get instance information. |
| **query** | | instance-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the perf object. All perf objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | instance-info[] optional | The list of attributes of perf objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more perf objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# perf-object-list-info

[top]

Get list of performance objects in the system.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **filter-data** | | filter-data optional | Allows selecting objects from a particular node. An example filter is "node_name=hostname".<br><br>This element is **deprecated** in Data ONTAP 8.2 and later as filtering by node is no longer necessary. Each node contains the same set of object definitions, so filtering by node yields the same results as not filtering at all. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **objects** | | object-info[] | List of performance objects. |

# perf-object-start

[top]

| Input Name | Range | Type | Description |
|---|---|---|---|
| **counter** | | string optional | Counter |

| | | | |
|---|---|---|---|
| **duration** | | integer optional | Sample Duration in Minutes |
| **filter** | | string optional | Filter |
| **instance** | | string optional | Instance |
| **max** | | integer optional | Tracker Size |
| **object** | | string optional | Object |
| **preset** | | string optional | Preset |
| **sample-id** | | string | Sample Identifier |
| **sample-type** | | sample-type optional | Sample Type |
| **sort-key** | | string optional | Counter Used For Sorting |
| **sort-order** | | sort-order optional | Sort Order |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# perf-object-stop

[top]

| Input Name | Range | Type | Description |
|---|---|---|---|
| **sample-id** | | string | Sample Identifier |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# perf-preset-create

[top]

Create a single Performance Preset configuration and all of its details

| Input Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | Preset Description |
| **expiration-length** | **[5..1440]** | integer optional validate | Default expiration length (in minutes) until the Performance Preset will be automatically disabled. |
| **is-archive-enabled** | | boolean optional | Is Preset Enabled? |
| **preset** | | string | Preset Name |

| | | | |
|---|---|---|---|
| **preset-detail-infos** | | preset-detail-info[] optional | Details of the Performance Preset |
| **privilege** | | string optional | Privilege level<br>Possible Values: admin, advanced, diagnostic |

# perf-preset-delete

[top]

Delete a Performance Preset and all of its Preset Details

| Input Name | Range | Type | Description |
|---|---|---|---|
| **preset** | | string | Preset Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# perf-preset-detail-get

[top]

Get detailed information about a single Performance Preset configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **preset** | | string | Preset Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | Preset Description |
| **expiration-end-date** | **[0..2^32-1]** | integer optional | Date when the Preset will be automatically disabled, represented as the number of seconds since January 1, 1970. |
| **expiration-length** | **[5..1440]** | integer optional | Default expiration length (in minutes) until the Performance Preset will be automatically disabled. |
| **generation-id** | **[0..2^32-1]** | integer | Preset Generation ID |
| **is-archive-enabled** | | boolean | Is Preset Archive-Enabled? |
| **is-read-only** | | boolean | Is Preset Read-Only? |
| **preset** | | string | Preset Name |
| **preset-detail-infos** | | preset-detail-info[] | The details of the Performance Preset configuration |
| **privilege** | | string optional | Preset Privilege Level<br>Possible Values: admin, advanced, diagnostic |
| **uuid** | | uuid | Preset UUID |

# perf-preset-get-iter

[top]

Iteratively get information about Performance Presets

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | preset-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | preset-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the perf-preset object. All perf-preset objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | preset-info[] optional | The list of attributes of perf-preset objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more perf-preset objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# perf-preset-modify

[top]

Modify a Performance Preset

| Input Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | Preset Description |
| **expiration-length** | **[0..1440]** | integer optional | Default Expiration Length (Minutes) |
| **is-archive-enabled** | | boolean optional | Is Preset Archive-Enabled? |
| **new-name** | | string optional | New Preset Name |
| **preset** | | string | Preset Name |
| **privilege** | | privilege-level optional | Preset Privilege Level |

| Errno | Description |
|---|---|

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# perf-samples-delete

[top]

| Input Name | Range | Type | Description |
|---|---|---|---|
| force | | boolean optional | Force Delete |
| sample-id | | string | Sample Identifier |
| vserver | | vserver-name | Vserver |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# perf-samples-get-iter

[top]

Returns list of samples

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | sample-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | sample-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the perf object. All perf objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | sample-info[] optional | The list of attributes of perf objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more perf objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **archive-config-info**

[top]

Performance Archive Configuration Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **asup-file-rotation** | **[1..1440]** | integer optional | Minutes Between ASUP Data File Rotations Attributes: non-creatable, modifiable |
| **asup-max-retention** | **[1..365]** | integer optional | Days to Retain ASUP Archive Data Attributes: non-creatable, modifiable |
| **datastore-file-rotation** | **[1..120]** | integer optional | Minutes Between Performance Archive Data File Rotations Attributes: non-creatable, modifiable |
| **datastore-max-percent** | **[0..100]** | integer optional | Maximum Percentage of Root Volume Used for Performance Archive Data Attributes: non-creatable, modifiable |
| **datastore-max-retention** | **[1..365]** | integer optional | Days to Retain Performance Archive Data Attributes: non-creatable, modifiable |
| **datastore-path** | | string optional | Base Path of Performance Archive Datastore Attributes: non-creatable, non-modifiable |
| **enabled-presets** | | enabled-preset[] optional | Archive-Enabled Performance Preset Info |
| **is-enabled** | | boolean optional | Is the Performance Archive Enabled? Attributes: non-creatable, modifiable |
| **opm-file-rotation** | **[1..120]** | integer optional | Minutes Between OPM Data File Rotations Attributes: non-creatable, modifiable |
| **perfstat-duration** | **[0..168]** | integer optional | Minutes after Which Perfstat Collection Is Stopped Attributes: non-creatable, modifiable |
| **perfstat-end-date** | | datetime optional | Date Perfstat Collection Will Be Turned off Attributes: non-creatable, non-modifiable |
| **perfstat-sampling-period** | **[0..60]** | integer optional | Minutes Between Perfstat Collections Attributes: non-creatable, modifiable |
| **sw-image-client** | | string optional | Software Client of Installed Image Attributes: non-creatable, non-modifiable |
| **version** | | string | This field is deprecated in ONTAP 9.8.0 and later. Please use sw- |

| | | | |
|---|---|---|---|
| | | optional | image-client instead. Attributes: non-creatable, non-modifiable |

# Element definition: **counter**

[top]

Counter Name

[none]

# Element definition: **counter-info**

[top]

Information about a single counter.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregation-style** | | string optional | For counters that can be aggregated, this element decribes the style. If the element is absent, no aggregation is available for this counter. Valid values include: [ strict, permissive ]. "strict" aggregation requires all items of a set to perform aggregation. If any item is missing, the aggregation will be rejected. "permissive" aggregation is a best effort aggregation. All available items of a set will be aggregated.<br><br>Aggregation-style is **deprecated** in Data ONTAP 8.2 and later. This field has never been used. |
| **base-counter** | | string optional | Name of the counter used as the denominator to calculate values of counters involving averages and percentages. |
| **desc** | | string | Description of the counter |
| **is-deprecated** | | boolean optional | True if the counter is deprecated. |
| **is-key** | | boolean optional | True if the counter is a key counter. A set of key counters for an object can be used to uniquely identify instances of an object. |
| **labels** | | label-info[] optional | List of labels of an array type counter. |
| **name** | | string | Name of the counter. |
| **privilege-level** | | string | Privilege level of the counter. Any counter with a privilege level of "diag" is not guaranteed to work, to exist in future releases, or to remain unchanged.<br>Possible values: basic, admin, advanced or diag. |
| **properties** | | string optional | Comma separated list of properties of the counter. The counter properties determine how raw counter values should be interpreted. Possible values: raw, rate, delta, percent, string, no-display and no-zero-values. |
| **replaced-by** | | string optional | Replacement counter if this counter is deprecated. |
| **translation-input-counter** | | string optional | Name of counter that is used as input for translation. Translation is needed for some counters because the precise value is unknown at the moment of sampling, and must be determined from another counter at a later time. Note that the time frame is still within a single request and response from the ZAPI client's point of view.<br><br>Translation-input-counter is **deprecated** in Data ONTAP 8.2 and later. |

| | | | |
|---|---|---|---|
| | | | This field does not convey necessary information for about counters. It was previously used for diagnostic purposes, but it is no longer needed. |
| **type** | | string optional | Indicator for whether counter is a scalar or array. If this element is absent,the counter is a scalar.<br>Possible values: array |
| **unit** | | string optional | Unit of the counter<br>Possible values: per_sec, b_per_sec (bytes/s), kb_per_sec (Kbytes/s), mb_per_sec (Mbytes/s), percent, millisec, microsec, nanosec, sec, or none |

# Element definition: **filter-data**

[top]

A string, representing filter data, in the format of key=value pairs. Multiple pairs can be specified via comma (",") or pipe ("|") separation. The applied filter is a combination of ANDing and ORing the key-value pairs.

A comma indicates ANDing, a pipe indicates ORing, and the order of precedence is AND and then OR. For example, "`instance_name=volA,vserver_name=vs1|vserver_name=vs2`" equates to "`(instance_name=volA && vserver_name=vs1) | (vserver_name=vs2)`". This would return instances on Vserver `vs1` with name `volA` and all instances on Vserver `vs2`.

[none]

# Element definition: **instance**

[top]

Instance name.

[none]

# Element definition: **instance-data**

[top]

Instance name and counter values.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregation** | | aggregation-data optional | Information related to aggregation that was done. If element is absent, no aggregation was performed on this instance. |
| **counters** | | counter-data[] | List of counter values of this instance. Each element of this list contains the value of a single counter. |
| **name** | | string | Name of the instance |
| **sort-id** | | integer | Sort ID of the instance |
| **uuid** | | string | UUID of the instance |

[top]

# Element definition: **instance-info**

Information about an object's instance When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | Name of the instance Attributes: key, non-creatable, non-modifiable |
| **uuid** | | string optional | UUID of the instance Attributes: key, non-creatable, non-modifiable |

# Element definition: **instance-uuid**

[top]

Instance UUID.

[none]

# Element definition: **object-info**

[top]

Description of a performance object.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | Description of the object |
| **get-instances-preferred-counter** | | string optional | Name of the counter, either instance_name or instance_uuid, which should be used for perf-object-get-instances ZAPI for optimal performance. If this element is absent for an object, the value of this element defaults to instance_name counter. This element is a performance hint for getting optimal performance for the perf-object-get-instances ZAPI. If the value of this element is set to instance UUID counter of an object, using the instance UUID counter in the perf-object-get-instances query will return the counter information faster than using instance name counter. Otherwise, instance_name will yield faster results. |
| **is-deprecated** | | boolean optional | True if the object is deprecated. |
| **name** | | string | Name of the object |
| **privilege-level** | | string | The object privilege level. Any object with a privilege level of "diag" is not guaranteed to work, to exist in future releases, or to remain unchanged. Possible values: basic, admin, advanced or diag. |
| **replaced-by** | | string optional | Replacement object if this object is deprecated. |

# Element definition: **perf-archive-datafile-age-filter**

[top]

The filter limits output such that all datafiles, only the newest datafile, or only the oldest datafile is returned. Possible values:

- "all" - no filter--return all datafiles,
- "newest" - only return newest datafile,
- "oldest" - only return oldest datafile

[none]

# Element definition: **perf-archive-datastore-info**

[top]

Information about a single performance archive datastore in the Data ONTAP cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **datastore** | | string optional | Name of the datastore. Attributes: key, non-creatable, non-modifiable |
| **is-enabled** | | boolean optional | Is the datastore currently collecting data? Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Name of Data ONTAP node owning the datastore. Attributes: key, non-creatable, non-modifiable |
| **oldest-timestamp** | | datetime optional | Timestamp of the oldest datafile in the datastore (UTC). Attributes: non-creatable, non-modifiable |
| **path** | | string optional | Path to the datastore directory on the owning node's root volume. For example: /mroot/etc/log/stats/ccma/kernel/ Attributes: non-creatable, non-modifiable |
| **perf-archive-datafile-infos** | | perf-archive-datafile-info[] optional | Information about a single performance archive datafile within a datastore. |
| **process** | | string optional | Name of Data ONTAP system process owning the datastore. Attributes: key, non-creatable, non-modifiable |
| **size** | | size optional | Total size of the datastore (bytes). Attributes: non-creatable, non-modifiable |

# Element definition: **preset-detail-info**

[top]

Performance Preset Detail information, including specific objects, counter sets, instance filters, and associated sample period information for the Performance Archive.

| Name | Range | Type | Description |
|---|---|---|---|
| **counter-set** | | counter[] | Counter Name Set |
| **generation-id** | **[0..2^32-1]** | integer optional | Preset Detail Generation ID<br>As input, this field must not be specified; as output, this field is always present. |
| **instance-filters** | | filter[] optional | Instance Filters |
| **object** | | string | Performance Object |
| **sample-period** | | string optional | Performance Archive Sample Period<br>As input, this field is optional; as output, this field is always present.<br>Possible Values: none, 1s, 5s, 10s, 30s, 1m, 5m, 10m, 30m, 1h, 6h, 12h, 1d, 1w, config<br>Default: none |

# Element definition: **preset-info**

[top]

Performance Preset information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | Preset Description Attributes: optional-for-create, modifiable |
| **expiration-end-date** | | datetime optional | Date/Time Preset Expires Attributes: non-creatable, non-modifiable |
| **expiration-length** | **[0..1440]** | integer optional | Default Expiration Length (Minutes) Attributes: optional-for-create, modifiable |
| **generation-id** | **[0..2^32-1]** | integer optional | Preset Generation ID Attributes: non-creatable, non-modifiable |
| **is-archive-enabled** | | boolean optional | Is Preset Archive-Enabled? Attributes: non-creatable, modifiable |
| **is-read-only** | | boolean optional | Is Preset Read-Only? Attributes: non-creatable, non-modifiable |
| **new-name** | | string optional | New Preset Name Attributes: non-creatable, modifiable |
| **preset** | | string optional | Preset Name Attributes: key, required-for-create, non-modifiable |
| **privilege** | | privilege-level | Preset Privilege Level Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| | | optional | |
| **uuid** | | uuid optional | Preset UUID Attributes: non-creatable, non-modifiable |

# Element definition: **privilege-level**

[top]

Level of Privilege

[none]

# Element definition: **sample-info**

[top]

Sample Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **counter** | | string[] optional | List of Counters Attributes: non-creatable, non-modifiable |
| **duration** | **[0..2^32-1]** | integer optional | Sample Duration in Minutes Attributes: non-creatable, non-modifiable |
| **error-description** | | string optional | Error in Sample Collection Attributes: non-creatable, non-modifiable |
| **filter** | | string optional | Filter Data Attributes: non-creatable, non-modifiable |
| **instance** | | string[] optional | List of Instances Attributes: non-creatable, non-modifiable |
| **max** | **[0..2^32-1]** | integer optional | Maximum Number of Instances Attributes: non-creatable, non-modifiable |
| **object** | | string[] optional | List of Objects Attributes: non-creatable, non-modifiable |
| **privilege** | | privilege-level optional | Privilege Level Attributes: non-creatable, non-modifiable |
| **sample-id** | | string optional | Sample Identifier Attributes: key, non-creatable, non-modifiable |
| **sample-status** | | sample-status optional | Sample Collection Status Attributes: non-creatable, non-modifiable Possible values:<br>• "ready" ,<br>• "processing" ,<br>• "error" ,<br>• "deleting" |

| | | | |
|---|---|---|---|
| **sample-type** | | sample-type optional | Sample Type Attributes: non-creatable, non-modifiable Possible values:<br>• "user" ,<br>• "system" |
| **sort-key** | | string optional | Counter Used For Sorting Attributes: non-creatable, non-modifiable |
| **sort-order** | | sort-order optional | Sort Order Attributes: non-creatable, non-modifiable Possible values:<br>• "ascending" - Ascending,<br>• "descending" - Descending |
| **start-time** | **[0..2^31-1]** | integer optional | Sample Start Time Attributes: non-creatable, non-modifiable |
| **stop-time** | **[0..2^31-1]** | integer optional | Sample Stop Time Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **sample-type**

[top]

User|System Possible values:

- "user" ,
- "system"

[none]

# Element definition: **sort-order**

[top]

ascending|descending Possible values:

- "ascending" - Ascending,
- "descending" - Descending

[none]

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex

characters. Note that a leading '0x' is not used.

[none]

## Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

## Element definition: **aggregation-data** [top]

Information related to aggregation that was done.

| Name | Range | Type | Description |
|---|---|---|---|
| **constituent-count** | **[0..2^32-1]** | integer optional | Number of constituents used to aggregate this instance. |
| **result** | | string optional | Each counter for an instance can be part of an aggregation set. Each counter can either have a strict or permissive aggregation. (Basically whether an aggregation with missing data samples in the aggregation set can be considered valid.)<br>Possible values: "complete_aggregation", "partial_aggregation"<br>• If aggregation is 'strict', and we have all of the data samples, we return: complete_aggregation<br>• If aggregation is 'strict' and we DON'T have all of the data samples, we return: partial_aggregation<br>• If aggregation is 'strict' and we only have one instance (such as a flex vole) we return: complete_aggregation<br>• If aggregation is 'permissive', we always return: complete_aggregation (since the results are always valid)<br>NOTE: Since a given node DOES NOT have enough information to determine all of the members of the set, we have to assume if we can't contact a given node/process that may contain a piece to be aggregated, the aggregation is incomplete. (For example, if we're trying to aggregate 'volume' stats, and we can't contact the local dblade or a remote node, we'll mark it as incomplete.) |

## Element definition: **counter** [top]

Counter Name

[none]

# Element definition: **counter-data**

[top]

Value of a single counter of an instance of an object at the time of the call.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the counter |
| **value** | | string | Value of the counter. If the counter type is array, this is a comma separated list of values. The counter properties and units must be known in order to interpret this value. Refer to the perf API discussion for details on how raw counter values are interpreted. |

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **enabled-preset**

[top]

Archive-Enabled Performance Preset Info

| Name | Range | Type | Description |
|---|---|---|---|
| **preset** | | string optional | Enabled Performance Preset Names Attributes: non-creatable, non-modifiable |

# Element definition: **filter**

[top]

Instance filter specified as a comma-seperated list of "counter=value" pairs.

[none]

# Element definition: **label-info**

[top]

Comma separated list of labels of an array type counter.

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **perf-archive-datafile-info**

[top]

Information about a single performance archive datafile within a datastore.

| Name | Range | Type | Description |
|---|---|---|---|
| **duration** | **[0..2^32-1]** | integer optional | Length of time between the first and last record stored in the datafile (ms). Attributes: non-creatable, non-modifiable |
| **filenames** | | filename[] optional | Names of the individual files which comprise the datafile. Attributes: non-creatable, non-modifiable |
| **index** | **[0..2^32-1]** | integer optional | Internal quota management index of the datafile. Attributes: non-creatable, non-modifiable |
| **max-period** | | perf-archive-sample-period optional | Longest performance archive sample period stored in the datafile--all shorter periods will also be in the datafile. Attributes: non-creatable, non-modifiable |
| **size** | | size optional | Size of the datafile (bytes). Attributes: non-creatable, non-modifiable |
| **state** | | ccma-datafile-state optional | State of the datafile. Attributes: non-creatable, non-modifiable Possible values:<br>• "partial" - datafile is incomplete,<br>• "unlocked" - datafile is complete but may be deleted,<br>• "locked" - datafile is complete and protected from deletion |
| **timestamp** | | datetime optional | Timestamp of when the datafile was written to disk (UTC). Attributes: non-creatable, non-modifiable |

## Element definition: **privilege-level**

[top]

Level of Privilege

[none]

## Element definition: **sample-status**

[top]

Ready|Processing|Error|Deleting Possible values:

- "ready" ,
- "processing" ,
- "error" ,
- "deleting"

[none]

## Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **ccma-datafile-state** [top]

Performance Archive Datafile State Possible values:

- "partial" - datafile is incomplete,
- "unlocked" - datafile is complete but may be deleted,
- "locked" - datafile is complete and protected from deletion

[none]

## Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

## Element definition: **filename** [top]

File Name (including extension)

[none]

## Element definition: **perf-archive-sample-period** [top]

The performance archive sample period is the amount of time between data samples in the performance archive.

[none]

# APIs in Category: **platform-cap**

| | |
|---|---|
| platform-cap-get-iter | This interface is used to access information about the Controllers capabilities in the system. |

## platform-cap-get-iter

[top]

Iterate over a list of Platform Capability Support objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | platform-cap-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | platform-cap-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Platform Capability Support object. All Platform Capability Support objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | platform-cap-info[] optional | The list of attributes of Platform Capability Support objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Platform Capability Support objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **platform-cap-info**

[top]

Platform Capability Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **capability-id** | **[0..2^32-1]** | integer optional | Capability ID Attributes: key, non-creatable, non-modifiable |
| **name** | | string optional | Capability Name Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **supported** | | string optional | Supported? Attributes: non-creatable, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# APIs in Category: **portset**


portset-add
portset-create
portset-destroy
portset-get-iter
portset-list-info
portset-remove


Portsets are associated with igroups. If an igroup is not associated with a portset then an initiator that belongs to that igroup can see its target luns on all ports. If a portset is bound to an igroup then the initiator that belongs to that igroup can only see its target luns on the ports that belong to the portset.

## portset-add

[top]

Add a port to an existing portset

| Input Name | Range | Type | Description |
|---|---|---|---|
| **portset-name** | | string | Name of portset. |
| **portset-port-name** | | string | This is the name of the port that is to be added to the portset. In Data ONTAP 7-Mode, it can be input in two styles. The filername:slotletter format will add the port from a specific filer. For example: "buxton:4a" The slotletter format will add the port from both the local and partner filers. For example: "4a" In Data ONTAP Cluster-Mode, the port name is the name of either an FCP data lif or an iSCSI target portal group. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_PORTSET_NO_SUCH_SET** | |
| **EVDISK_ERROR_PORTSET_HAS_PORT** | |
| **EVDISK_ERROR_PORTSET_TOO_MANY_PORTS** | |
| **EVDISK_ERROR_PORTSET_INVALID_PORT_NAME** | |
| **EVDISK_ERROR_PORTSET_THROTTLE_EXCEEDED** | |
| **EVDISK_ERROR_PORTSET_INVALID_PARTNER_PORT_NAME** | |
| **EVDISK_ERROR_PORTSET_BOTH_INVALID_PORT_NAMES** | |
| **EVDISK_ERROR_PORTSET_TOO_FEW_PORTS** | |
| **EVDISK_ERROR_PORTSET_WRONG_TYPE** | |
| **E_SAN_NOT_READY** | |

## portset-create

[top]

Create a portset

| Input Name | Range | Type | Description |
|---|---|---|---|
| **portset-name** | | string | Name of the portset to create. |
| **portset-** | | string | Protocols accepted for this portset. Possible values: "fcp", "iscsi", "mixed". |

| | | | |
|---|---|---|---|
| **type** | | | "iscsi" and "mixed" are available in Data ONTAP Cluster-Mode only. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_PORTSET_ALREADY_EXIST** | |
| **EVDISK_ERROR_PORTSET_INVALID_TYPE** | |
| **EVDISK_ERROR_PORTSET_IC_DOWN** | |
| **EVDISK_ERROR_PORTSET_NO_SUCH_PORT** | |
| **EVDISK_ERROR_PORTSET_WRONG_TYPE** | |
| **EVDISK_ERROR_PORTSET_INVALID_PARTNER_PORT_NAME** | |
| **EVDISK_ERROR_PORTSET_BOTH_INVALID_PORT_NAMES** | |
| **EVDISK_ERROR_PORTSET_TOO_FEW_PORTS** | |
| **E_SAN_NOT_READY** | |

# portset-destroy

[top]

Destroys an existing portset. By default a set cannot be destroyed if there are existing igroup associated with that portset.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | If 'false' or not specified, the request will fail if there are any igroups bound to this portset. If 'true', forcibly destroy the portset, even if there are existing igroup bindings. Best practice is to unbind all the associated igroups before destroying the igroup. |
| **portset-name** | | string | Name of the portset to destroy. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_PORTSET_NO_SUCH_GROUP** | |
| **EVDISK_ERROR_PORTSET_CANT_DESTROY_BOUND_PORTSET** | |
| **EVDISK_ERROR_PORTSET_THROTTLE_EXCEEDED** | |
| **EVDISK_ERROR_PORTSET_TOO_FEW_PORTS** | |
| **E_SAN_NOT_READY** | |

# portset-get-iter

[top]

Iterate over a list of portset objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | portset-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | portset-info | A query that specifies which objects to return. A query could be specified on any number of attributes in the portset object. All portset objects matching this query up to 'max-records' will be |

| | | | |
|---|---|---|---|
| | | optional | returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | portset-info[] optional | The list of attributes of portset objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more portset objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# portset-list-info

[top]

Get information for portset(s).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **portset-name** | | string optional | Name of portset. If specified, only information for that set is returned. If not specified, information for all portsets are returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **portset-sets** | | portset-info[] | List of portsets. |

| Errno | Description |
|---|---|
| **EVDISK_ERROR_PORTSET_NO_SUCH_GROUP** | |
| **EVDISK_ERROR_PORTSET_TOO_FEW_PORTS** | |

# portset-remove

[top]

Removes a port from a portset.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **portset-name** | | string | Name of the portset. |
| **portset-port-name** | | string | This is the name of the port that is to be removed from the portset. In Data ONTAP 7-Mode, it can be input in two styles. The filername:slotletter format will remove the port from a specific filer. For example: "buxton:4a" The slotletter format will remove the port from both the local and partner filers. For example: "4a" In Data ONTAP Cluster-Mode, the port name is the name of either an FCP data lif or an iSCSI target portal group. |

| Errno | Description |
|---|---|
| EVDISK_ERROR_PORTSET_INVALID_PORT_NAME | |
| EVDISK_ERROR_PORTSET_NO_SUCH_GROUP | |
| EVDISK_ERROR_PORTSET_NO_SUCH_PORT | |
| EVDISK_ERROR_PORTSET_TOO_FEW_PORTS | |
| EVDISK_ERROR_INITGROUP_ALREADY_BOUND | |
| E_SAN_NOT_READY | |

# Element definition: **portset-info**

[top]

Information about a portset.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-group-info** | | initiator-group-name[] optional | Information about the initiator group(s) that are bound to the portset. |
| **portset-name** | | string | Name of this portset. |
| **portset-port-info** | | portset-port-name[] optional | Information about the ports belonging to the set. |
| **portset-port-total** | **[0..1024]** | integer | Total number of ports in the portset. |
| **portset-type** | | string | Possible values: "fcp", "iscsi", "mixed". |
| **portset-uuid** | | uuid optional | The Universally Unique Identifier of the portset. This field is available in Data ONTAP 8.3.0 and later. |
| **vserver** | | string | Vserver containing this portset. |

# Element definition: **initiator-group-name**

[top]

The name of an initiator group

[none]

# Element definition: **portset-port-name**

[top]

String representing a member of a portset. In Data ONTAP 7-Mode, the port name is of the format "filer:slotletter" or "slotletter". In Data ONTAP Cluster-Mode, the port name is the name of an FCP data lif or iSCSI target portal group.

[none]

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# APIs in Category: **qos**


cache-policy-get
cache-policy-get-iter
cache-policy-modify
cache-policy-modify-iter
qos-adaptive-policy-group-create
qos-adaptive-policy-group-delete
qos-adaptive-policy-group-delete-iter
qos-adaptive-policy-group-get
qos-adaptive-policy-group-get-iter
qos-adaptive-policy-group-modify
qos-adaptive-policy-group-modify-iter
qos-adaptive-policy-group-rename
qos-policy-group-create
qos-policy-group-delete
qos-policy-group-delete-iter
qos-policy-group-get
qos-policy-group-get-iter
qos-policy-group-modify
qos-policy-group-modify-iter
qos-policy-group-rename
qos-settings-read-ahead-create
qos-settings-read-ahead-destroy
qos-settings-read-ahead-destroy-iter
qos-settings-read-ahead-get
qos-settings-read-ahead-get-iter
qos-settings-read-ahead-modify
qos-settings-read-ahead-modify-iter
qos-workload-delete
qos-workload-delete-iter
qos-workload-get
qos-workload-get-iter
qos-workload-modify
qos-workload-modify-iter
qos-workload-policy-


These APIs enable management of Quality of Service (QoS) workloads and policy groups. QoS allows users to use a policy group to control a set of storage objects known as workloads - LUNs, volumes, files, or Vservers. Policy groups define measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. A typical user of these APIs will first create a policy group with the qos-policy-group-create API. The caller must specify a unique name for the new policy group. The UUID of the newly create policy group is returned by this API, and should be used to identify the policy group in all subsequent operations. After a policy group is created, one can use a storage object API to apply the policy group to the storage object. For example, the vserver-create API or the vserver-modify API can be used to apply the policy group to the Vserver when the qos-policy-group parameter is given.

count-get

# cache-policy-get

[top]

Get the attributes of an Cache policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cache-policy-name** | | string | Name of the QoS Cache policy |
| **desired-attributes** | | cache-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cache-info | The attributes of the qos-settings-cache. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cache-policy-get-iter

[top]

Iterate over the list of available Cache policies.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cache-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cache-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-settings-cache object. All qos-settings-cache objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cache-info[] optional | The list of attributes of qos-settings-cache objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more qos-settings-cache objects to return. |

| | | | |
|---|---|---|---|
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# cache-policy-modify

[top]

Modify an existing Cache policy. Only default field in the row is modifiable

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cache-policy-name** | | string | Name of the QoS Cache policy |
| **is-default** | | boolean optional | Identifies the default Cache policy. If this field is true then QoS workloads with the special value 'default' in the cache field will use this cache policy. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# cache-policy-modify-iter

[top]

Modify multiple Cache settings

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cache-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple qos-settings-cache objects match a given query. If set to true, the API will continue modifying the next matching qos-settings-cache even when modification of a previous qos-settings-cache fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-settings-cache even when the modification of a previous matching qos-settings-cache fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | cache-info | If modifying a specific qos-settings-cache, this input element must specify all keys. If modifying qos-settings-cache objects based on query, this input element must specify a query. |
| | | | If set to true, the API will return the list of qos-settings-cache |

| | | | |
|---|---|---|---|
| **return-failure-list** | | boolean optional | objects (just keys) that were not modified due to some error. If set to false, the list of qos-settings-cache objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of qos-settings-cache objects (just keys) that were successfully updated. If set to false, the list of qos-settings-cache objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | cache-policy-modify-iter-info[] optional | Information about qos-settings-cache objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching qos-settings-cache objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of qos-settings-cache objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of qos-settings-cache objects that matched the query and were successfully updated. |
| **success-list** | | cache-policy-modify-iter-info[] optional | The qos-settings-cache objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-adaptive-policy-group-create

[top]

Create an adaptive policy group. A unique name must be provided for the new adaptive policy group. A QoS adaptive policy group defines measurable Service Level Objectives (SLOs) that apply to the storage object with which the adaptive policy group is associated.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **absolute-min-iops** | | qos-tput optional | Absolute Minimum IOPS. Specifies the absolute minimum IOPS which is used as an override when the expected_iops is less than this value. The default value is computed as follows: if expected-iops >= 6144/TB, then absolute-min-iops = 1000; if expected-iops >= 2048/TB and expected-iops < 6144/TB, then absolute-min-iops = 500; if expected-iops >= 1/MB and expected-iops < 2048/TB, then absolute-min-iops = 75. |
| | | | Specifies the I/O block size for the QoS adaptive policy group. The default value is 'any'. When block-size of 'any' is specified, then control is by IOPS. When block-size other than 'any' is specified, then control is by IOPS and bytes per second(bps). bps is the product of IOPS and block-size. Possible values: |

| | | | |
|---|---|---|---|
| **block-size** | | qos-block-size optional | • "any" ,<br>• "4k" ,<br>• "8k" ,<br>• "16k" ,<br>• "32k" ,<br>• "64k" ,<br>• "128k" |
| **expected-iops** | | qos-tput-capacity | Expected IOPS. Specifies the minimum expected IOPS per TB\|GB allocated based on the storage object allocated size. |
| **expected-iops-allocation** | | qos-expected-iops-allocation optional | Expected IOPS Allocation. Specifies the expected-iops allocation policy. The allocation policy is either allocated-space or used-space. When the expected-iops-allocation policy is set to allocated-space, the expected-iops is calculated based on the size of the storage object. When the expected-iops-allocation policy is set to used-space, the expected-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is allocated-space. Possible values:<br>• "used_space" ,<br>• "allocated_space" |
| **peak-iops** | | qos-tput-capacity | Peak IOPS. Specifies the maximum possible IOPS per TB\|GB allocated based on the storage object allocated size or the storage object used size. |
| **peak-iops-allocation** | | qos-peak-iops-allocation optional | Peak IOPS Allocation. Specifies the peak-iops allocation policy. The allocation policy is either allocated-space or used-space. When the peak-iops-allocation policy is set to allocated-space, the peak-iops is calculated based on the size of the storage object. When the peak-iops-allocation policy is set to used-space, the peak-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is used-space. Possible values:<br>• "allocated_space" ,<br>• "used_space" |
| **policy-group** | | string | Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. |
| **return-record** | | boolean optional | If set to true, returns the qos-adaptive-policy-group on successful creation. Default: false |
| **vserver** | | vserver-name | The Data Vserver to which the adaptive policy group belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | qos-adaptive-policy-group-info optional | The qos-adaptive-policy-group created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **E_QOS_INVALID_PG_NAME** | |
| **E_QOS_NON_DATA_VSERVER_FOR_FLEX_PROHIBITED** | |

# qos-adaptive-policy-group-delete

[top]

Delete single adaptive policy group. The default adaptive policy group may not be deleted. An error will be returned if the policy group is attached to any workloads unless 'force' is set to true.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Setting to 'true' forces the deletion of the workloads associated with the adaptive policy group along with the adaptive policy group. The default is 'false'. |
| **policy-group** | | string | Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **E_QOS_PG_DEL_ERROR_WKLOADS_EXIST** | |

# qos-adaptive-policy-group-delete-iter

[top]

Delete multiple policy groups

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple qos-adaptive-policy-group objects match a given query. If set to true, the API will continue with the next matching qos-adaptive-policy-group even when the operation fails for the qos-adaptive-policy-group. If set to false, the API will return on the first failure. Default: false |
| **force** | | boolean optional | Setting to 'true' forces the deletion of the workloads associated with the adaptive policy group along with the adaptive policy group. The default is 'false'. |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching qos-adaptive-policy-group even when the operation on a previous matching qos-adaptive-policy-group fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of qos-adaptive-policy-group objects to be operated in this call. Default: 20 |
| **query** | | qos-adaptive-policy-group-info | If operating on a specific qos-adaptive-policy-group, this input element must specify all keys. If operating on qos-adaptive-policy-group objects based on query, this input element must specify a query. |
| **return-** | | boolean | If set to true, the API will return the list of qos-adaptive-policy-group objects (just keys) that were not operated on due to some |

| | | | |
|---|---|---|---|
| **failure-list** | | optional | error. If set to false, the list of qos-adaptive-policy-group objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of qos-adaptive-policy-group objects (just keys) that were successfully operated on. If set to false, the list of qos-adaptive-policy-group objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | qos-adaptive-policy-group-delete-iter-info[] optional | Information about qos-adaptive-policy-group objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching qos-adaptive-policy-group objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of qos-adaptive-policy-group objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of qos-adaptive-policy-group objects that matched the query and were successfully processed. |
| **success-list** | | qos-adaptive-policy-group-delete-iter-info[] optional | The qos-adaptive-policy-group objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **E_QOS_PG_DEL_ERROR_WKLOADS_EXIST** | |

# qos-adaptive-policy-group-get

[top]

Get the attributes of an adaptive policy group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qos-adaptive-policy-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy-group** | | string | Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) |

| | | | |
|---|---|---|---|
| | | | or '-'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | qos-adaptive-policy-group-info | The attributes of the qos-adaptive-policy-group. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# qos-adaptive-policy-group-get-iter

[top]

Iterate over list of adaptive policy groups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qos-adaptive-policy-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | qos-adaptive-policy-group-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-adaptive-policy-group object. All qos-adaptive-policy-group objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | qos-adaptive-policy-group-info[] optional | The list of attributes of qos-adaptive-policy-group objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more qos-adaptive-policy-group objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-adaptive-policy-group-modify

[top]

Modify an adaptive policy group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **absolute-min-iops** | | qos-tput optional | Absolute Minimum IOPS. Specifies the absolute minimum IOPS which is used as an override when the expected_iops is less than this value. The default value is computed as follows: if expected-iops >= 6144/TB, then absolute-min-iops = 1000; if expected-iops >= 2048/TB and expected-iops < 6144/TB, then absolute-min-iops = 500; if expected-iops >= 1/MB and expected-iops < 2048/TB, then absolute-min-iops = 75. |
| **block-size** | | qos-block-size optional | Specifies the I/O block size for the QoS adaptive policy group. The default value is 'any'. When block-size of 'any' is specified, then control is by IOPS. When block-size other than 'any' is specified, then control is by IOPS and bytes per second(bps). bps is the product of IOPS and block-size. Possible values:<br>• "any" ,<br>• "4k" ,<br>• "8k" ,<br>• "16k" ,<br>• "32k" ,<br>• "64k" ,<br>• "128k" |
| **expected-iops** | | qos-tput-capacity optional | Expected IOPS. Specifies the minimum expected IOPS per TB\|GB allocated based on the storage object allocated size. |
| **expected-iops-allocation** | | qos-expected-iops-allocation optional | Expected IOPS Allocation. Specifies the expected-iops allocation policy. The allocation policy is either allocated-space or used-space. When the expected-iops-allocation policy is set to allocated-space, the expected-iops is calculated based on the size of the storage object. When the expected-iops-allocation policy is set to used-space, the expected-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is allocated-space. Possible values:<br>• "used_space" ,<br>• "allocated_space" |
| **peak-iops** | | qos-tput-capacity optional | Peak IOPS. Specifies the maximum possible IOPS per TB\|GB allocated based on the storage object allocated size or the storage object used size. |
| **peak-iops-allocation** | | qos-peak-iops-allocation optional | Peak IOPS Allocation. Specifies the peak-iops allocation policy. The allocation policy is either allocated-space or used-space. When the peak-iops-allocation policy is set to allocated-space, the peak-iops is calculated based on the size of the storage object. When the peak-iops-allocation policy is set to used-space, the peak-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is used-space. Possible values:<br>• "allocated_space" ,<br>• "used_space" |
| **policy-** | | | Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and |

| | | | |
|---|---|---|---|
| **group** | | string | '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

# qos-adaptive-policy-group-modify-iter

[top]

Modify multiple adaptive policy groups

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | qos-adaptive-policy-group-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple qos-adaptive-policy-group objects match a given query. If set to true, the API will continue modifying the next matching qos-adaptive-policy-group even when modification of a previous qos-adaptive-policy-group fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-adaptive-policy-group even when the modification of a previous matching qos-adaptive-policy-group fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | qos-adaptive-policy-group-info | If modifying a specific qos-adaptive-policy-group, this input element must specify all keys. If modifying qos-adaptive-policy-group objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of qos-adaptive-policy-group objects (just keys) that were not modified due to some error. If set to false, the list of qos-adaptive-policy-group objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of qos-adaptive-policy-group objects (just keys) that were successfully updated. If set to false, the list of qos-adaptive-policy-group objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **failure-list** | | qos-adaptive-policy-group-modify-iter-info[] optional | Information about qos-adaptive-policy-group objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching qos-adaptive-policy-group objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of qos-adaptive-policy-group objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of qos-adaptive-policy-group objects that matched the query and were successfully updated. |
| **success-list** | | qos-adaptive-policy-group-modify-iter-info[] optional | The qos-adaptive-policy-group objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

# qos-adaptive-policy-group-rename

[top]

Rename a QoS adaptive policy group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-name** | | string | New adaptive policy group name |
| **policy-group-name** | | string | Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. |

| Errno | Description |
|---|---|
| **E_QOS_INVALID_PG_NAME** | |
| **E_QOS_PG_ALREADY_EXISTS** | |

# qos-policy-group-create

[top]

Create a policy group. A unique name must be provided for the new policy group. A QoS Policy group defines measurable Service Level Objectives (SLOs) that apply to the storage object with which the policy group is associated.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-shared** | | boolean optional | Policy group shared state. Default: true. |

| | | | |
|---|---|---|---|
| **max-throughput** | | qos-tput optional | Maximum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s, and the range is zero to infinity. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for max-throughput is infinity. The default unit is IOPS. Two reserved keywords, 'none' and 'INF', are available for the situation that requires removal of a value, and the situation that needs to specify the maximum available value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. |
| **min-throughput** | | qos-tput optional | Minimum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for min-throughput is 0. The default unit is IOPS. One reserved keywords, 'none' is available for the situation that requires removal of a value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. |
| **policy-group** | | string | Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. |
| **return-record** | | boolean optional | If set to true, returns the qos-policy-group on successful creation. Default: false |
| **vserver** | | vserver-name | The Data Vserver to which the policy group belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | qos-policy-group-info optional | The qos-policy-group created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **E_QOS_INVALID_PG_NAME** | |
| **E_QOS_NON_DATA_VSERVER_FOR_FLEX_PROHIBITED** | |

# qos-policy-group-delete

[top]

Delete single policy group. The default policy group may not be deleted. An error will be returned if the policy group is attached to any workloads unless 'force' is set to true. Only user defined policy groups may be deleted.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Setting to 'true' forces the deletion of the workloads associated with the policy group along with the policy group. The default is 'false'. |
| **policy-group** | | string | Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| E_QOS_PG_DEL_ERROR_WKLOADS_EXIST | |

# qos-policy-group-delete-iter

[top]

Delete multiple policy groups

| Input Name | Range | Type | Description |
|---|---|---|---|
| continue-on-failure | | boolean optional | This input element is useful when multiple qos-policy-group objects match a given query. If set to true, the API will continue with the next matching qos-policy-group even when the operation fails for the qos-policy-group. If set to false, the API will return on the first failure. Default: false |
| force | | boolean optional | Setting to 'true' forces the deletion of the workloads associated with the policy group along with the policy group. The default is 'false'. |
| max-failure-count | [1..2^32-1] | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching qos-policy-group even when the operation on a previous matching qos-policy-group fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| max-records | [1..2^32-1] | integer optional | The maximum number of qos-policy-group objects to be operated in this call. Default: 20 |
| query | | qos-policy-group-info | If operating on a specific qos-policy-group, this input element must specify all keys. If operating on qos-policy-group objects based on query, this input element must specify a query. |
| return-failure-list | | boolean optional | If set to true, the API will return the list of qos-policy-group objects (just keys) that were not operated on due to some error. If set to false, the list of qos-policy-group objects not operated on will not be returned. Default: true |
| return-success-list | | boolean optional | If set to true, the API will return the list of qos-policy-group objects (just keys) that were successfully operated on. If set to false, the list of qos-policy-group objects operated on will not be returned. Default: true |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| failure-list | | qos-policy-group-delete-iter-info[] optional | Information about qos-policy-group objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more matching qos-policy-group objects to be operated on. |

| | | | |
|---|---|---|---|
| **num-failed** | **[0..2^32-1]** | integer optional | The number of qos-policy-group objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of qos-policy-group objects that matched the query and were successfully processed. |
| **success-list** | | qos-policy-group-delete-iter-info[] optional | The qos-policy-group objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **E_QOS_PG_DEL_ERROR_WKLOADS_EXIST** | |

# qos-policy-group-get

[top]

Get the attributes of a policy group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qos-policy-group-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy-group** | | string | Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | qos-policy-group-info | The attributes of the qos-policy-group. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# qos-policy-group-get-iter

[top]

Iterate over list of policy groups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qos-policy-group- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available |

| | | | |
|---|---|---|---|
| | | info optional | will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | qos-policy-group-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-policy-group object. All qos-policy-group objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | qos-policy-group-info[] optional | The list of attributes of qos-policy-group objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more qos-policy-group objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-policy-group-modify

[top]

Modify an existing policy group.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **max-throughput** | | qos-tput optional | Maximum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s, and the range is zero to infinity. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for max-throughput is infinity. The default unit is IOPS. Two reserved keywords, 'none' and 'INF', are available for the situation that requires removal of a value, and the situation that needs to specify the maximum available value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. |
| **min-throughput** | | qos-tput optional | Minimum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for min-throughput is 0. The default unit is IOPS. One reserved keywords, 'none' is available for the situation that requires removal of a value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. |
| | | | Name of the policy group. Policy group names must be unique and are |

| | | | |
|---|---|---|---|
| **policy-group** | | string | restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

# qos-policy-group-modify-iter

[top]

Modify multiple policy groups

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | qos-policy-group-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple qos-policy-group objects match a given query. If set to true, the API will continue modifying the next matching qos-policy-group even when modification of a previous qos-policy-group fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-policy-group even when the modification of a previous matching qos-policy-group fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | qos-policy-group-info | If modifying a specific qos-policy-group, this input element must specify all keys. If modifying qos-policy-group objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of qos-policy-group objects (just keys) that were not modified due to some error. If set to false, the list of qos-policy-group objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of qos-policy-group objects (just keys) that were successfully updated. If set to false, the list of qos-policy-group objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | qos-policy-group-modify-iter- | Information about qos-policy-group objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |

| | | | |
|---|---|---|---|
| | | info[] optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching qos-policy-group objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of qos-policy-group objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of qos-policy-group objects that matched the query and were successfully updated. |
| **success-list** | | qos-policy-group-modify-iter-info[] optional | The qos-policy-group objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

# qos-policy-group-rename

[top]

Rename a QoS Policy Group

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-name** | | string | New Policy Group Name |
| **policy-group-name** | | string | Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. |

| Errno | Description |
|---|---|
| **E_QOS_INVALID_PG_NAME** | |
| **E_QOS_PG_ALREADY_EXISTS** | |

# qos-settings-read-ahead-create

[top]

Create a new read-ahead setting. A unique name must be provided for the new read-ahead setting. If the 'default' field is set to true, these become the default read-ahead settings for settings that don't otherwise name read-ahead settings. Unless creating a new default, creating read-ahead settings should usually be assigned to an existing QoS setting.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **align-blocks** | **[8..256]** | integer optional | Block alignment |
| **default** | | boolean optional | Specifies whether this is the default readahead setting |
| **disk-response-factor** | **[1..10]** | integer optional | Disk response time factor |
| **disk-response-** | **[0..100]** | integer | Weight for disk response time aging (%) |

| | | | |
|---|---|---|---|
| **weight** | | optional | |
| **early-count** | **[0..1024]** | integer<br>optional | Number of IO operations cautiously predicted |
| **force-dump** | | boolean<br>optional | Force DUMP-style readahead |
| **force-full** | | boolean<br>optional | Force full-file readahead |
| **force-none** | | boolean<br>optional | Disable readahead |
| **interarrival-weight** | **[0..100]** | integer<br>optional | Weight for interarrival time aging (%) |
| **jitter** | **[0..100]** | integer<br>optional | Threshold for detecting jitter (%) |
| **max-blocks** | **[64..1024]** | integer<br>optional | Maximum blocks to speculate |
| **max-deadline** | **[100000..5000000]** | integer<br>optional | Maximum deadline Offset (ms) |
| **max-disk-response-time** | **[100..50000]** | integer<br>optional | Maximum disk response time (ms) |
| **max-gap** | **[512..4096]** | integer<br>optional | Maximum speculative blocks outstanding |
| **max-range** | **[1024..40960]** | integer<br>optional | Maximum range used when aging streams (Blocks) |
| **max-retire-time** | **[10000..10000000]** | integer<br>optional | Maximum Time Before a Stream is Retired (us) |
| **metadata-blocks** | **[0..2048]** | integer<br>optional | Minimum blocks for which metadata is predicted |
| **min-blocks** | **[64..1024]** | integer<br>optional | Minimum blocks to speculate |
| **min-disk-response-time** | **[100..50000]** | integer<br>optional | Minimum disk response time (ms) |
| **min-file-histogram** | **[8192..33554432]** | integer<br>optional | Minimum filesize for Histogram-based predictions (blocks) |
| **min-range** | **[1024..40960]** | integer<br>optional | Minimum range used when aging streams (Blocks) |
| **min-retire-time** | **[10000..10000000]** | integer<br>optional | Minimum Time Before a Stream is Retired (us) |
| **overshoot** | **[0..500]** | integer<br>optional | Allowable overshoot (%) |
| **read-ahead-class** | | qos-class<br>optional | Readahead setting class Possible values:<br>• "undefined" ,<br>• "preset" ,<br>• "user_defined" ,<br>• "system_defined" ,<br>• "autovolume" ,<br>• "load_control" |
| **read-ahead-setting-name** | | string | Name of QoS Readahead Setting. |
| **return-record** | | boolean<br>optional | If set to true, returns the qos-settings-read-ahead on successful creation. Default: false |
| **smallfile-blocks** | **[0..128]** | integer<br>optional | Maximum blocks for small-file handling |
| | | boolean | |

| | | | |
|---|---|---|---|
| **use-async** | | optional | Use asynchronous speculation |
| **use-feedback** | | boolean optional | Provide cache-miss feedback |
| **use-histogram** | | boolean optional | Use Histogram-based predictions |
| **use-timing** | | boolean optional | Use timing algorithms |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | qos-settings-read-ahead-info optional | The qos-settings-read-ahead created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-settings-read-ahead-destroy

[top]

Destroy single read-ahead setting. The default setting may not be destroyed. The setting may not be attached to any workloads. Only user defined settings may be destroyed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **read-ahead-setting-name** | | string | Name of QoS Readahead Setting. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# qos-settings-read-ahead-destroy-iter

[top]

Destroy multiple read-ahead settings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple qos-settings-read-ahead objects match a given query. If set to true, the API will continue deleting the next matching qos-settings-read-ahead even when the deletion of a previous qos-settings-read-ahead fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching qos-settings-read-ahead even when the deletion of a previous matching qos-settings-read-ahead fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of qos-settings-read-ahead objects to delete in this call. Default: 20 |
| **query** | | qos-settings-read-ahead-info | If deleting a specific qos-settings-read-ahead, this input element must specify all keys. If deleting multiple qos-settings-read-ahead objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of qos-settings-read-ahead objects (just keys) that were not deleted due to some error. If set to false, the list of qos-settings-read-ahead objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of qos-settings-read-ahead objects (just keys) that were successfully deleted. If set to false, the list of qos-settings-read-ahead objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | qos-settings-read-ahead-destroy-iter-info[] optional | Information about qos-settings-read-ahead objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching qos-settings-read-ahead objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of qos-settings-read-ahead objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of qos-settings-read-ahead objects that matched the query and were successfully deleted. |
| **success-list** | | qos-settings-read-ahead-destroy-iter-info[] optional | The qos-settings-read-ahead objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-settings-read-ahead-get

[top]

Get the attributes of a read-ahead setting.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | qos- | |

| | | | |
|---|---|---|---|
| **desired-attributes** | | settings-read-ahead-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **read-ahead-setting-name** | | string | Name of QoS Readahead Setting. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | qos-settings-read-ahead-info | The attributes of the qos-settings-read-ahead. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# qos-settings-read-ahead-get-iter

[top]

Iterate over list of read-ahead settings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qos-settings-read-ahead-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | qos-settings-read-ahead-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-settings-read-ahead object. All qos-settings-read-ahead objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | qos-settings-read-ahead-info[] optional | The list of attributes of qos-settings-read-ahead objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more qos-settings-read-ahead objects to return. |
| | **[0..2^32-** | | |

| | | | |
|---|---|---|---|
| **num-records** | **1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-settings-read-ahead-modify

[top]

Modify an existing read-ahead setting.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **align-blocks** | **[8..256]** | integer optional | Block alignment |
| **default** | | boolean optional | Specifies whether this is the default readahead setting |
| **disk-response-factor** | **[1..10]** | integer optional | Disk response time factor |
| **disk-response-weight** | **[0..100]** | integer optional | Weight for disk response time aging (%) |
| **early-count** | **[0..1024]** | integer optional | Number of IO operations cautiously predicted |
| **force-dump** | | boolean optional | Force DUMP-style readahead |
| **force-full** | | boolean optional | Force full-file readahead |
| **force-none** | | boolean optional | Disable readahead |
| **interarrival-weight** | **[0..100]** | integer optional | Weight for interarrival time aging (%) |
| **jitter** | **[0..100]** | integer optional | Threshold for detecting jitter (%) |
| **max-blocks** | **[64..1024]** | integer optional | Maximum blocks to speculate |
| **max-deadline** | **[100000..5000000]** | integer optional | Maximum deadline Offset (ms) |
| **max-disk-response-time** | **[100..50000]** | integer optional | Maximum disk response time (ms) |
| **max-gap** | **[512..4096]** | integer optional | Maximum speculative blocks outstanding |
| **max-range** | **[1024..40960]** | integer optional | Maximum range used when aging streams (Blocks) |
| **max-retire-time** | **[10000..10000000]** | integer optional | Maximum Time Before a Stream is Retired (us) |
| **metadata-blocks** | **[0..2048]** | integer optional | Minimum blocks for which metadata is predicted |
| **min-blocks** | **[64..1024]** | integer optional | Minimum blocks to speculate |
| **min-disk-response-time** | **[100..50000]** | integer optional | Minimum disk response time (ms) |
| **min-file-histogram** | **[8192..33554432]** | integer optional | Minimum filesize for Histogram-based predictions (blocks) |

| | | | |
|---|---|---|---|
| **min-range** | **[1024..40960]** | integer optional | Minimum range used when aging streams (Blocks) |
| **min-retire-time** | **[10000..10000000]** | integer optional | Minimum Time Before a Stream is Retired (us) |
| **overshoot** | **[0..500]** | integer optional | Allowable overshoot (%) |
| **read-ahead-setting-name** | | string | Name of QoS Readahead Setting. |
| **smallfile-blocks** | **[0..128]** | integer optional | Maximum blocks for small-file handling |
| **use-async** | | boolean optional | Use asynchronous speculation |
| **use-feedback** | | boolean optional | Provide cache-miss feedback |
| **use-histogram** | | boolean optional | Use Histogram-based predictions |
| **use-timing** | | boolean optional | Use timing algorithms |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# qos-settings-read-ahead-modify-iter

[top]

Modify multiple read-ahead settings

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | qos-settings-read-ahead-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple qos-settings-read-ahead objects match a given query. If set to true, the API will continue modifying the next matching qos-settings-read-ahead even when modification of a previous qos-settings-read-ahead fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-settings-read-ahead even when the modification of a previous matching qos-settings-read-ahead fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| | | qos-settings- | If modifying a specific qos-settings-read-ahead, this input element |

| | | | |
|---|---|---|---|
| **query** | | read-ahead-info | must specify all keys. If modifying qos-settings-read-ahead objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of qos-settings-read-ahead objects (just keys) that were not modified due to some error. If set to false, the list of qos-settings-read-ahead objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of qos-settings-read-ahead objects (just keys) that were successfully updated. If set to false, the list of qos-settings-read-ahead objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | qos-settings-read-ahead-modify-iter-info[] optional | Information about qos-settings-read-ahead objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching qos-settings-read-ahead objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of qos-settings-read-ahead objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of qos-settings-read-ahead objects that matched the query and were successfully updated. |
| **success-list** | | qos-settings-read-ahead-modify-iter-info[] optional | The qos-settings-read-ahead objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-workload-delete

[top]

Delete a single workload. Only user defined workloads may be deleted.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **workload-name** | | string | User visible name of QoS workload. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

| | |
|---|---|
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# qos-workload-delete-iter

[top]

Delete multiple workloads. Only user defined workloads may be deleted.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple qos-workload objects match a given query. If set to true, the API will continue deleting the next matching qos-workload even when the deletion of a previous qos-workload fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching qos-workload even when the deletion of a previous matching qos-workload fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of qos-workload objects to delete in this call. Default: 20 |
| **query** | | qos-workload-info | If deleting a specific qos-workload, this input element must specify all keys. If deleting multiple qos-workload objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of qos-workload objects (just keys) that were not deleted due to some error. If set to false, the list of qos-workload objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of qos-workload objects (just keys) that were successfully deleted. If set to false, the list of qos-workload objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | qos-workload-delete-iter-info[] optional | Information about qos-workload objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching qos-workload objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of qos-workload objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of qos-workload objects that matched the query and were successfully deleted. |
| | | qos-workload- | The qos-workload objects that were successfully deleted. This |

| | | | |
|---|---|---|---|
| **success-list** | | delete-iter-info[] optional | element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-workload-get

[top]

Get the attributes of a workload.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qos-workload-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **workload-name** | | string | User visible name of QoS workload. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | qos-workload-info | The attributes of the qos-workload. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# qos-workload-get-iter

[top]

Iterate over list of workloads.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qos-workload-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | qos-workload-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the qos-workload object. All qos-workload objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **attributes-list** | | qos-workload-info[] optional | The list of attributes of qos-workload objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more qos-workload objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-workload-modify

[top]

Modify an existing workload. This may be used to rename the workload, modify the workload's ID, its class, or its category.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **read-ahead** | | string optional | Name for a read-ahead tunable policy. |
| **workload-name** | | string | User visible name of QoS workload. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# qos-workload-modify-iter

[top]

Modify multiple workloads

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | qos-workload-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple qos-workload objects match a given query. If set to true, the API will continue modifying the next matching qos-workload even when modification of a previous qos-workload fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching qos-workload even when the modification of a previous matching qos-workload fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum |

| | | | |
|---|---|---|---|
| | | | or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | qos-workload-info | If modifying a specific qos-workload, this input element must specify all keys. If modifying qos-workload objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of qos-workload objects (just keys) that were not modified due to some error. If set to false, the list of qos-workload objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of qos-workload objects (just keys) that were successfully updated. If set to false, the list of qos-workload objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | qos-workload-modify-iter-info[] optional | Information about qos-workload objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching qos-workload objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of qos-workload objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of qos-workload objects that matched the query and were successfully updated. |
| **success-list** | | qos-workload-modify-iter-info[] optional | The qos-workload objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qos-workload-policy-count-get

[top]

Get the cluster-wide QoS policy-group and workload count.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qos-workload-policy-count-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | qos-workload-policy-count-info | The attributes of the qos-workload-policy-count. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **cache-info**

[top]

QoS cache policy typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cache-class** | | qos-class optional | Cache Policy Class Attributes: optional-for-create, non-modifiable Possible values:<br>• "undefined" ,<br>• "preset" ,<br>• "user_defined" ,<br>• "system_defined" ,<br>• "autovolume" ,<br>• "load_control" |
| **cache-policy-name** | | string optional | Name of the QoS Cache policy Attributes: key, required-for-create, non-modifiable |
| **is-default** | | boolean optional | Identifies the default Cache policy. If this field is true then QoS workloads with the special value 'default' in the cache field will use this cache policy. Attributes: required-for-create, modifiable |
| **is-lopri-data** | | boolean optional | Cache Lopri Attributes: non-creatable, non-modifiable |
| **is-meta-data** | | boolean optional | Cache Metadata Attributes: non-creatable, non-modifiable |
| **is-normal-data** | | boolean optional | Cache Normal Data Blocks Attributes: non-creatable, non-modifiable |
| **is-randomwrite-data** | | boolean optional | Cache Random Write Blocks Attributes: non-creatable, non-modifiable |
| **is-readahead-data** | | boolean optional | Cache Readahead Blocks Attributes: non-creatable, non-modifiable |

# Element definition: **cache-policy-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-settings-cache object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **qos-settings-cache-key** | | cache-info | The keys for the qos-settings-cache object to which the modify operation applies. |

# Element definition: **qos-adaptive-policy-group-delete-iter-info**

[top]

Information about the operation that was attempted/performed against qos-adaptive-policy-group object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **qos-adaptive-policy-group-key** | | qos-adaptive-policy-group-info | The keys for the qos-adaptive-policy-group object to which the operation applies. |

# Element definition: **qos-adaptive-policy-group-info**

[top]

Information about a QoS adaptive policy group When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **absolute-min-iops** | | qos-tput optional | Absolute Minimum IOPS. Specifies the absolute minimum IOPS which is used as an override when the expected_iops is less than this value. The default value is computed as follows: if expected-iops >= 6144/TB, then absolute-min-iops = 1000; if expected-iops >= 2048/TB and expected-iops < 6144/TB, then absolute-min-iops = 500; if expected-iops >= 1/MB and expected-iops < 2048/TB, then absolute-min-iops = 75. Attributes: optional-for-create, modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **block-size** | | qos-block-size optional | Specifies the I/O block size for the QoS adaptive policy group. The default value is 'any'. When block-size of 'any' is specified, then control is by IOPS. When block-size other than 'any' is specified, then control is by IOPS and bytes per second(bps). bps is the product of IOPS and block-size. Attributes: optional-for-create, modifiable Possible values:<br>• "any" ,<br>• "4k" ,<br>• "8k" ,<br>• "16k" ,<br>• "32k" ,<br>• "64k" ,<br>• "128k" |
| **expected-iops** | | qos-tput-capacity optional | Expected IOPS. Specifies the minimum expected IOPS per TB\|GB allocated based on the storage object allocated size. Attributes: required-for-create, modifiable |
| **expected-iops-allocation** | | qos-expected-iops-allocation optional | Expected IOPS Allocation. Specifies the expected-iops allocation policy. The allocation policy is either allocated-space or used-space. When the expected-iops-allocation policy is set to allocated-space, the expected-iops is calculated based on the size of the storage object. When the expected-iops-allocation policy is set to used-space, the expected-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is allocated-space. Attributes: optional-for-create, modifiable Possible values:<br>• "used_space" ,<br>• "allocated_space" |
| **num-workloads** | **[0..2^32-1]** | integer optional | Number of workloads under this adaptive policy group. Attributes: non-creatable, non-modifiable |
| **peak-iops** | | qos-tput-capacity optional | Peak IOPS. Specifies the maximum possible IOPS per TB\|GB allocated based on the storage object allocated size or the storage object used size. Attributes: required-for-create, modifiable |
| **peak-iops-allocation** | | qos-peak-iops-allocation optional | Peak IOPS Allocation. Specifies the peak-iops allocation policy. The allocation policy is either allocated-space or used-space. When the peak-iops-allocation policy is set to allocated-space, the peak-iops is calculated based on the size of the storage object. When the peak-iops-allocation policy is set to used-space, the peak-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is used-space. Attributes: optional-for-create, modifiable Possible values:<br>• "allocated_space" ,<br>• "used_space" |
| **pgid** | **[0..2^32-1]** | integer optional | The ID used to identify the adaptive policy group. Attributes: non-creatable, non-modifiable |
| **policy-group** | | string optional | Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. Attributes: key, required-for-create, non-modifiable |
| **uuid** | | uuid optional | Universally unique identifier for the adaptive policy group. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | The Data Vserver to which the adaptive policy group belongs. Attributes: required-for-create, non-modifiable |

# Element definition: **qos-adaptive-policy-group-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-adaptive-policy-group object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **qos-adaptive-policy-group-key** | | qos-adaptive-policy-group-info | The keys for the qos-adaptive-policy-group object to which the modify operation applies. |

# Element definition: **qos-block-size**

[top]

ANY|4K|8K|16K|32K|64K|128K Possible values:

- "any" ,
- "4k" ,
- "8k" ,
- "16k" ,
- "32k" ,
- "64k" ,
- "128k"

[none]

# Element definition: **qos-class**

[top]

QoS Configuration Class Possible values:

- "undefined" ,
- "preset" ,
- "user_defined" ,
- "system_defined" ,
- "autovolume" ,
- "load_control"

[none]

# Element definition: **qos-expected-iops-allocation**

[top]

used-space|allocated-space Possible values:

- "used_space" ,
- "allocated_space"

[none]

## Element definition: **qos-peak-iops-allocation** [top]

used-space|allocated-space Possible values:

- "allocated_space" ,
- "used_space"

[none]

## Element definition: **qos-policy-group-delete-iter-info** [top]

Information about the operation that was attempted/performed against qos-policy-group object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **qos-policy-group-key** | | qos-policy-group-info | The keys for the qos-policy-group object to which the operation applies. |

## Element definition: **qos-policy-group-info** [top]

Information about a QoS policy group When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-auto-generated** | | boolean optional | Indicates whether the policy group was automatically generated by ONTAP. Default: false. Attributes: non-creatable, non-modifiable |
| **is-shared** | | boolean optional | Policy group shared state. Default: true. Attributes: optional-for-create, non-modifiable |

| | | | |
|---|---|---|---|
| **max-throughput** | | qos-tput optional | Maximum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s, and the range is zero to infinity. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for max-throughput is infinity. The default unit is IOPS. Two reserved keywords, 'none' and 'INF', are available for the situation that requires removal of a value, and the situation that needs to specify the maximum available value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. Attributes: optional-for-create, modifiable |
| **min-throughput** | | qos-tput optional | Minimum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for min-throughput is 0. The default unit is IOPS. One reserved keywords, 'none' is available for the situation that requires removal of a value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. Attributes: optional-for-create, modifiable |
| **num-workloads** | **[0..2^32-1]** | integer optional | Number of workloads under this policy group. Attributes: non-creatable, non-modifiable |
| **pgid** | **[0..2^32-1]** | integer optional | The ID used to identify the policy group. Attributes: non-creatable, non-modifiable |
| **policy-group** | | string optional | Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. Attributes: key, required-for-create, non-modifiable |
| **policy-group-class** | | qos-class optional | Class for the policy group. Attributes: non-creatable, non-modifiable Possible values:<br>• "undefined" ,<br>• "preset" ,<br>• "user_defined" ,<br>• "system_defined" ,<br>• "autovolume" ,<br>• "load_control" |
| **uuid** | | uuid optional | Universally unique identifier for the QoS policy group. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | The Data Vserver to which the policy group belongs. Attributes: required-for-create, non-modifiable |

# Element definition: **qos-policy-group-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-policy-group object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |

| | | | |
|---|---|---|---|
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **qos-policy-group-key** | | qos-policy-group-info | The keys for the qos-policy-group object to which the modify operation applies. |

# Element definition: **qos-settings-read-ahead-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against qos-settings-read-ahead object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **qos-settings-read-ahead-key** | | qos-settings-read-ahead-info | The keys for the qos-settings-read-ahead object to which the deletion applies. |

# Element definition: **qos-settings-read-ahead-info**

[top]

QoS read-ahead setting typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **align-blocks** | **[8..256]** | integer optional | Block alignment Attributes: optional-for-create, modifiable |
| **default** | | boolean optional | Specifies whether this is the default readahead setting Attributes: optional-for-create, modifiable |
| **disk-response-factor** | **[1..10]** | integer optional | Disk response time factor Attributes: optional-for-create, modifiable |
| **disk-response-weight** | **[0..100]** | integer optional | Weight for disk response time aging (%) Attributes: optional-for-create, modifiable |
| **early-count** | **[0..1024]** | integer optional | Number of IO operations cautiously predicted Attributes: optional-for-create, modifiable |
| **force-dump** | | boolean optional | Force DUMP-style readahead Attributes: optional-for-create, modifiable |
| **force-full** | | boolean optional | Force full-file readahead Attributes: optional-for-create, modifiable |
| **force-none** | | boolean optional | Disable readahead Attributes: optional-for-create, modifiable |
| **interarrival-** | | integer | Weight for interarrival time aging (%) Attributes: |

| | | | |
|---|---|---|---|
| **weight** | **[0..100]** | optional | optional-for-create, modifiable |
| **jitter** | **[0..100]** | integer optional | Threshold for detecting jitter (%) Attributes: optional-for-create, modifiable |
| **max-blocks** | **[64..1024]** | integer optional | Maximum blocks to speculate Attributes: optional-for-create, modifiable |
| **max-deadline** | **[100000..5000000]** | integer optional | Maximum deadline Offset (ms) Attributes: optional-for-create, modifiable |
| **max-disk-response-time** | **[100..50000]** | integer optional | Maximum disk response time (ms) Attributes: optional-for-create, modifiable |
| **max-gap** | **[512..4096]** | integer optional | Maximum speculative blocks outstanding Attributes: optional-for-create, modifiable |
| **max-range** | **[1024..40960]** | integer optional | Maximum range used when aging streams (Blocks) Attributes: optional-for-create, modifiable |
| **max-retire-time** | **[10000..10000000]** | integer optional | Maximum Time Before a Stream is Retired (us) Attributes: optional-for-create, modifiable |
| **metadata-blocks** | **[0..2048]** | integer optional | Minimum blocks for which metadata is predicted Attributes: optional-for-create, modifiable |
| **min-blocks** | **[64..1024]** | integer optional | Minimum blocks to speculate Attributes: optional-for-create, modifiable |
| **min-disk-response-time** | **[100..50000]** | integer optional | Minimum disk response time (ms) Attributes: optional-for-create, modifiable |
| **min-file-histogram** | **[8192..33554432]** | integer optional | Minimum filesize for Histogram-based predictions (blocks) Attributes: optional-for-create, modifiable |
| **min-range** | **[1024..40960]** | integer optional | Minimum range used when aging streams (Blocks) Attributes: optional-for-create, modifiable |
| **min-retire-time** | **[10000..10000000]** | integer optional | Minimum Time Before a Stream is Retired (us) Attributes: optional-for-create, modifiable |
| **overshoot** | **[0..500]** | integer optional | Allowable overshoot (%) Attributes: optional-for-create, modifiable |
| **read-ahead-class** | | qos-class optional | Readahead setting class Attributes: optional-for-create, non-modifiable Possible values:<br>• "undefined" ,<br>• "preset" ,<br>• "user_defined" ,<br>• "system_defined" ,<br>• "autovolume" ,<br>• "load_control" |
| **read-ahead-setting-name** | | string optional | Name of QoS Readahead Setting. Attributes: key, required-for-create, non-modifiable |
| **smallfile-blocks** | **[0..128]** | integer optional | Maximum blocks for small-file handling Attributes: optional-for-create, modifiable |
| **use-async** | | boolean optional | Use asynchronous speculation Attributes: optional-for-create, modifiable |
| **use-feedback** | | boolean optional | Provide cache-miss feedback Attributes: optional-for-create, modifiable |
| **use-histogram** | | boolean optional | Use Histogram-based predictions Attributes: optional-for-create, modifiable |
| **use-timing** | | boolean optional | Use timing algorithms Attributes: optional-for-create, modifiable |

# Element definition: **qos-settings-read-ahead-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-settings-read-ahead object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **qos-settings-read-ahead-key** | | qos-settings-read-ahead-info | The keys for the qos-settings-read-ahead object to which the modify operation applies. |

# Element definition: **qos-tput**

[top]

QoS throughput type

[none]

# Element definition: **qos-tput-capacity**

[top]

QoS throughput per capacity unit type

[none]

# Element definition: **qos-workload-delete-iter-info**

[top]

Information about the deletion operation that was attempted/performed against qos-workload object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **qos-workload-key** | | qos-workload-info | The keys for the qos-workload object to which the deletion applies. |

# Element definition: **qos-workload-info**

[top]

Information about a QoS workload When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **category** | | string optional | Category used to identify the workload. Attributes: non-creatable, non-modifiable |
| **file** | | string optional | Name for a file workload. Attributes: optional-for-create, non-modifiable |
| **is-adaptive** | | boolean optional | Type of policy group the workload belongs to. Attributes: non-creatable, non-modifiable |
| **is-constituent** | | boolean optional | Whether the storage object is a constituent of another volume. Attributes: non-creatable, non-modifiable |
| **lun** | | string optional | Name for a lun workload. Attributes: optional-for-create, non-modifiable |
| **max-throughput** | | qos-tput optional | Maximum throughput for the workload. Attributes: non-creatable, non-modifiable |
| **min-throughput** | | qos-tput optional | Minimum throughput for the workload. Attributes: non-creatable, non-modifiable |
| **policy-group** | | string optional | Name for a QoS policy group. Attributes: non-creatable, non-modifiable |
| **qtree** | | string optional | Name for a qtree workload. Attributes: optional-for-create, non-modifiable |
| **read-ahead** | | string optional | Name for a read-ahead tunable policy. Attributes: optional-for-create, modifiable |
| **volume** | | string optional | Name for a volume workload. Attributes: optional-for-create, non-modifiable |
| **vserver** | | string optional | Name for a vserver workload. Attributes: optional-for-create, non-modifiable |
| **wid** | **[0..2^32-1]** | integer optional | Internal identifier for workload. Attributes: non-creatable, non-modifiable |
| **workload-class** | | qos-class optional | Class for the workload. Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "undefined" ,<br>• "preset" ,<br>• "user_defined" ,<br>• "system_defined" ,<br>• "autovolume" ,<br>• "load_control" |
| **workload-name** | | string optional | User visible name of QoS workload. Attributes: key, required-for-create, non-modifiable |
| **workload-uuid** | | uuid optional | Universally unique identifier for the QoS workload. Attributes: non-creatable, non-modifiable |

# Element definition: **qos-workload-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against qos-workload object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **qos-workload-key** | | qos-workload-info | The keys for the qos-workload object to which the modify operation applies. |

# Element definition: **qos-workload-policy-count-info**

[top]

Information about QoS policy-groups and workloads. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **max-user-policies** | **[0..2^32-1]** | integer optional | Max supported user-defined policy groups Attributes: non-creatable, non-modifiable |
| **max-user-workloads** | **[0..2^32-1]** | integer optional | Max supported user-defined workloads Attributes: non-creatable, non-modifiable |
| **total-user-policies** | **[0..2^32-1]** | integer optional | Total configured user-defined policy groups Attributes: non-creatable, non-modifiable |
| **total-user-workloads** | **[0..2^32-1]** | integer optional | Total configured user-defined workloads Attributes: non-creatable, non-modifiable |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **cache-info**

[top]

QoS cache policy typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cache-class** | | qos-class optional | Cache Policy Class Attributes: optional-for-create, non-modifiable Possible values: • "undefined" , • "preset" , • "user_defined" , • "system_defined" , • "autovolume" , • "load_control" |
| **cache-policy-name** | | string optional | Name of the QoS Cache policy Attributes: key, required-for-create, non-modifiable |
| **is-default** | | boolean optional | Identifies the default Cache policy. If this field is true then QoS workloads with the special value 'default' in the cache field will use this cache policy. Attributes: required-for-create, modifiable |
| **is-lopri-data** | | boolean optional | Cache Lopri Attributes: non-creatable, non-modifiable |
| **is-meta-data** | | boolean optional | Cache Metadata Attributes: non-creatable, non-modifiable |
| **is-normal-data** | | boolean optional | Cache Normal Data Blocks Attributes: non-creatable, non-modifiable |
| **is-randomwrite-data** | | boolean optional | Cache Random Write Blocks Attributes: non-creatable, non-modifiable |
| **is-readahead-data** | | boolean optional | Cache Readahead Blocks Attributes: non-creatable, non-modifiable |

# Element definition: **qos-adaptive-policy-group-info**

[top]

Information about a QoS adaptive policy group When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **absolute-min-iops** | | qos-tput optional | Absolute Minimum IOPS. Specifies the absolute minimum IOPS which is used as an override when the expected_iops is less than this value. The default value is computed as follows: if expected-iops >= 6144/TB, then absolute-min-iops = 1000; if expected-iops >= 2048/TB and expected-iops < 6144/TB, then absolute-min-iops = |

| | | | |
|---|---|---|---|
| | | | 500; if expected-iops >= 1/MB and expected-iops < 2048/TB, then absolute-min-iops = 75. Attributes: optional-for-create, modifiable |
| **block-size** | | qos-block-size optional | Specifies the I/O block size for the QoS adaptive policy group. The default value is 'any'. When block-size of 'any' is specified, then control is by IOPS. When block-size other than 'any' is specified, then control is by IOPS and bytes per second(bps). bps is the product of IOPS and block-size. Attributes: optional-for-create, modifiable Possible values:<br>• "any" ,<br>• "4k" ,<br>• "8k" ,<br>• "16k" ,<br>• "32k" ,<br>• "64k" ,<br>• "128k" |
| **expected-iops** | | qos-tput-capacity optional | Expected IOPS. Specifies the minimum expected IOPS per TB\|GB allocated based on the storage object allocated size. Attributes: required-for-create, modifiable |
| **expected-iops-allocation** | | qos-expected-iops-allocation optional | Expected IOPS Allocation. Specifies the expected-iops allocation policy. The allocation policy is either allocated-space or used-space. When the expected-iops-allocation policy is set to allocated-space, the expected-iops is calculated based on the size of the storage object. When the expected-iops-allocation policy is set to used-space, the expected-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is allocated-space. Attributes: optional-for-create, modifiable Possible values:<br>• "used_space" ,<br>• "allocated_space" |
| **num-workloads** | **[0..2^32-1]** | integer optional | Number of workloads under this adaptive policy group. Attributes: non-creatable, non-modifiable |
| **peak-iops** | | qos-tput-capacity optional | Peak IOPS. Specifies the maximum possible IOPS per TB\|GB allocated based on the storage object allocated size or the storage object used size. Attributes: required-for-create, modifiable |
| **peak-iops-allocation** | | qos-peak-iops-allocation optional | Peak IOPS Allocation. Specifies the peak-iops allocation policy. The allocation policy is either allocated-space or used-space. When the peak-iops-allocation policy is set to allocated-space, the peak-iops is calculated based on the size of the storage object. When the peak-iops-allocation policy is set to used-space, the peak-iops is calculated based on the amount of data stored in the storage object taking into account storage efficiencies. The default value is used-space. Attributes: optional-for-create, modifiable Possible values:<br>• "allocated_space" ,<br>• "used_space" |
| **pgid** | **[0..2^32-1]** | integer optional | The ID used to identify the adaptive policy group. Attributes: non-creatable, non-modifiable |
| **policy-group** | | string optional | Name of the adaptive policy group. Adaptive policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. Attributes: key, required-for-create, non-modifiable |
| **uuid** | | uuid optional | Universally unique identifier for the adaptive policy group. Attributes: non-creatable, non-modifiable |
| | | vserver- | |

| | | | |
|---|---|---|---|
| **vserver** | | name<br>optional | The Data Vserver to which the adaptive policy group belongs.<br>Attributes: required-for-create, non-modifiable |

## Element definition: **qos-block-size**

[top]

ANY|4K|8K|16K|32K|64K|128K Possible values:

- "any" ,
- "4k" ,
- "8k" ,
- "16k" ,
- "32k" ,
- "64k" ,
- "128k"

[none]

## Element definition: **qos-class**

[top]

QoS Configuration Class Possible values:

- "undefined" ,
- "preset" ,
- "user_defined" ,
- "system_defined" ,
- "autovolume" ,
- "load_control"

[none]

## Element definition: **qos-expected-iops-allocation**

[top]

used-space|allocated-space Possible values:

- "used_space" ,
- "allocated_space"

[none]

## Element definition: **qos-peak-iops-allocation**

[top]

used-space|allocated-space Possible values:

- "allocated_space" ,
- "used_space"

[none]

# Element definition: **qos-policy-group-info**

[top]

Information about a QoS policy group When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-auto-generated** | | boolean optional | Indicates whether the policy group was automatically generated by ONTAP. Default: false. Attributes: non-creatable, non-modifiable |
| **is-shared** | | boolean optional | Policy group shared state. Default: true. Attributes: optional-for-create, non-modifiable |
| **max-throughput** | | qos-tput optional | Maximum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s, and the range is zero to infinity. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for max-throughput is infinity. The default unit is IOPS. Two reserved keywords, 'none' and 'INF', are available for the situation that requires removal of a value, and the situation that needs to specify the maximum available value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. Attributes: optional-for-create, modifiable |
| **min-throughput** | | qos-tput optional | Minimum throughput defined by this policy. It is specified in terms of IOPS or MB/s or a combination of comma separated IOPS and MB/s. The values entered here are case-insensitive, and the units are base ten. There should be no space between the number and the units. The default value for min-throughput is 0. The default unit is IOPS. One reserved keywords, 'none' is available for the situation that requires removal of a value. Examples of valid specifications are: 100B/s, 10KB/s, 1gb/s, 500MB/s, 1tb/s, 100iops. Examples of valid specification of combination of iops and throughput are 100iops,400KB/s, and 800KB/s,800iops. Attributes: optional-for-create, modifiable |
| **num-workloads** | **[0..2^32-1]** | integer optional | Number of workloads under this policy group. Attributes: non-creatable, non-modifiable |
| **pgid** | **[0..2^32-1]** | integer optional | The ID used to identify the policy group. Attributes: non-creatable, non-modifiable |
| **policy-group** | | string optional | Name of the policy group. Policy group names must be unique and are restricted to 127 alphanumeric characters, '-', and '_', and must start with an alphanumeric character (a-z, A-Z, or 0-9) or '-'. Attributes: |

| | | | |
|---|---|---|---|
| | | | key, required-for-create, non-modifiable |
| **policy-group-class** | | qos-class optional | Class for the policy group. Attributes: non-creatable, non-modifiable Possible values:<br>• "undefined" ,<br>• "preset" ,<br>• "user_defined" ,<br>• "system_defined" ,<br>• "autovolume" ,<br>• "load_control" |
| **uuid** | | uuid optional | Universally unique identifier for the QoS policy group. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | The Data Vserver to which the policy group belongs. Attributes: required-for-create, non-modifiable |

# Element definition: **qos-settings-read-ahead-info**

[top]

QoS read-ahead setting typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **align-blocks** | **[8..256]** | integer optional | Block alignment Attributes: optional-for-create, modifiable |
| **default** | | boolean optional | Specifies whether this is the default readahead setting Attributes: optional-for-create, modifiable |
| **disk-response-factor** | **[1..10]** | integer optional | Disk response time factor Attributes: optional-for-create, modifiable |
| **disk-response-weight** | **[0..100]** | integer optional | Weight for disk response time aging (%) Attributes: optional-for-create, modifiable |
| **early-count** | **[0..1024]** | integer optional | Number of IO operations cautiously predicted Attributes: optional-for-create, modifiable |
| **force-dump** | | boolean optional | Force DUMP-style readahead Attributes: optional-for-create, modifiable |
| **force-full** | | boolean optional | Force full-file readahead Attributes: optional-for-create, modifiable |
| **force-none** | | boolean optional | Disable readahead Attributes: optional-for-create, modifiable |
| **interarrival-weight** | **[0..100]** | integer optional | Weight for interarrival time aging (%) Attributes: optional-for-create, modifiable |
| **jitter** | **[0..100]** | integer optional | Threshold for detecting jitter (%) Attributes: optional-for-create, modifiable |
| **max-blocks** | **[64..1024]** | integer optional | Maximum blocks to speculate Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **max-deadline** | **[100000..5000000]** | integer optional | Maximum deadline Offset (ms) Attributes: optional-for-create, modifiable |
| **max-disk-response-time** | **[100..50000]** | integer optional | Maximum disk response time (ms) Attributes: optional-for-create, modifiable |
| **max-gap** | **[512..4096]** | integer optional | Maximum speculative blocks outstanding Attributes: optional-for-create, modifiable |
| **max-range** | **[1024..40960]** | integer optional | Maximum range used when aging streams (Blocks) Attributes: optional-for-create, modifiable |
| **max-retire-time** | **[10000..10000000]** | integer optional | Maximum Time Before a Stream is Retired (us) Attributes: optional-for-create, modifiable |
| **metadata-blocks** | **[0..2048]** | integer optional | Minimum blocks for which metadata is predicted Attributes: optional-for-create, modifiable |
| **min-blocks** | **[64..1024]** | integer optional | Minimum blocks to speculate Attributes: optional-for-create, modifiable |
| **min-disk-response-time** | **[100..50000]** | integer optional | Minimum disk response time (ms) Attributes: optional-for-create, modifiable |
| **min-file-histogram** | **[8192..33554432]** | integer optional | Minimum filesize for Histogram-based predictions (blocks) Attributes: optional-for-create, modifiable |
| **min-range** | **[1024..40960]** | integer optional | Minimum range used when aging streams (Blocks) Attributes: optional-for-create, modifiable |
| **min-retire-time** | **[10000..10000000]** | integer optional | Minimum Time Before a Stream is Retired (us) Attributes: optional-for-create, modifiable |
| **overshoot** | **[0..500]** | integer optional | Allowable overshoot (%) Attributes: optional-for-create, modifiable |
| **read-ahead-class** | | qos-class optional | Readahead setting class Attributes: optional-for-create, non-modifiable Possible values:<br>• "undefined" ,<br>• "preset" ,<br>• "user_defined" ,<br>• "system_defined" ,<br>• "autovolume" ,<br>• "load_control" |
| **read-ahead-setting-name** | | string optional | Name of QoS Readahead Setting. Attributes: key, required-for-create, non-modifiable |
| **smallfile-blocks** | **[0..128]** | integer optional | Maximum blocks for small-file handling Attributes: optional-for-create, modifiable |
| **use-async** | | boolean optional | Use asynchronous speculation Attributes: optional-for-create, modifiable |
| **use-feedback** | | boolean optional | Provide cache-miss feedback Attributes: optional-for-create, modifiable |
| **use-histogram** | | boolean optional | Use Histogram-based predictions Attributes: optional-for-create, modifiable |
| **use-timing** | | boolean optional | Use timing algorithms Attributes: optional-for-create, modifiable |

# Element definition: **qos-tput**

[top]

QoS throughput type

[none]

# Element definition: **qos-tput-capacity**

[top]

QoS throughput per capacity unit type

[none]

# Element definition: **qos-workload-info**

[top]

Information about a QoS workload When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **category** | | string optional | Category used to identify the workload. Attributes: non-creatable, non-modifiable |
| **file** | | string optional | Name for a file workload. Attributes: optional-for-create, non-modifiable |
| **is-adaptive** | | boolean optional | Type of policy group the workload belongs to. Attributes: non-creatable, non-modifiable |
| **is-constituent** | | boolean optional | Whether the storage object is a constituent of another volume. Attributes: non-creatable, non-modifiable |
| **lun** | | string optional | Name for a lun workload. Attributes: optional-for-create, non-modifiable |
| **max-throughput** | | qos-tput optional | Maximum throughput for the workload. Attributes: non-creatable, non-modifiable |
| **min-throughput** | | qos-tput optional | Minimum throughput for the workload. Attributes: non-creatable, non-modifiable |
| **policy-group** | | string optional | Name for a QoS policy group. Attributes: non-creatable, non-modifiable |
| **qtree** | | string optional | Name for a qtree workload. Attributes: optional-for-create, non-modifiable |
| **read-ahead** | | string optional | Name for a read-ahead tunable policy. Attributes: optional-for-create, modifiable |
| **volume** | | string optional | Name for a volume workload. Attributes: optional-for-create, non-modifiable |
| **vserver** | | string optional | Name for a vserver workload. Attributes: optional-for-create, non-modifiable |
| **wid** | **[0..2^32-1]** | integer optional | Internal identifier for workload. Attributes: non-creatable, non-modifiable |
| | | | Class for the workload. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **workload-class** | | qos-class optional | Possible values:<br>• "undefined" ,<br>• "preset" ,<br>• "user_defined" ,<br>• "system_defined" ,<br>• "autovolume" ,<br>• "load_control" |
| **workload-name** | | string optional | User visible name of QoS workload. Attributes: key, required-for-create, non-modifiable |
| **workload-uuid** | | uuid optional | Universally unique identifier for the QoS workload. Attributes: non-creatable, non-modifiable |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **qos-class**

[top]

QoS Configuration Class Possible values:

- "undefined" ,
- "preset" ,
- "user_defined" ,
- "system_defined" ,
- "autovolume" ,
- "load_control"

[none]

# Element definition: **qos-tput**

[top]

QoS throughput type

[none]

# APIs in Category: **qtree**


qtree-create
qtree-delete
qtree-delete-async
qtree-list-iter
qtree-modify
qtree-rename


Because of possible large amount of information returned by qtree list, it is highly recommended to use the qtree list iterator APIs. There are three iterator APIs for qtree list: -start, -next, and -end.

## qtree-create

[top]

Create a new qtree.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **css-versioning** | **[0..2]** | integer optional | Versioning state for CSS bucket on the qtree. Possible values:<br>• 0 - disabled<br>• 1 - enabled<br>• 2 - suspended<br><br>Default value is 0. |
| **export-policy** | | string optional | Export policy of the qtree. If this input is not specified, the qtree will inherit the export policy of the parent volume. |
| **mode** | | string optional | The file permission bits of the qtree. Similar to UNIX permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2, and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID (4), set group ID (2), and sticky (1) attributes. The second digit selects permissions for the owner of the file: read (4), write (2), and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group.<br><br>For unclustered volumes, if this argument is missing, use the value specified in the option "wafl.default_qtree_mode".<br><br>For clustered volumes, if this argument is missing, the permissions of the volume is used. |
| **oplocks** | | string optional | Opportunistic locks mode of the qtree. Possible values: "enabled", "disabled". Default value is the oplock mode of the volume. |
| **qos-policy-group** | | string optional | QoS policy group of the qtree. |
| **qtree** | | string | The path of the qtree, relative to the volume. |
| **security-style** | | string optional | Security style of the qtree. Possible values: "unix", "ntfs", or "mixed". Default value is the security style of the volume. |
| **volume** | | string | Name of the volume on which to create the qtree |

| Errno | Description |
|---|---|
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |

| | |
|---|---|
| **EQTREEEXISTS** | |
| **EQTREENOTOWNER** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEREADONLY** | |
| **EONTAPI_EINVAL** | |
| **EVSERVERNOTFOUND** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |
| **EAGGRFAILINGOVER** | |
| **EAGGRRELOCATING** | |
| **EAGGRMISMATCH** | |
| **EQTREEMAX** | |
| **EINVALIDDSID** | |
| **EAMBIGUOUS_DSID** | |
| **EVOL_RESTRICTED** | |
| **EINTERNALERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# qtree-delete

[top]

Delete the specified qtree.

For clustered volumes, all the quota rules that reference this qtree will be automatically deleted.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force the deletion of the qtree even if it not empty. On using "force" option, ZAPI may take a long time to complete because the contents of the entire qtree will have to be deleted before it returns. Default: false<br><br>For clustered volumes, if the qtree has a large number of files, it is recommended that the qtree-delete-async API be used. |
| **qtree** | | string | Path of an existing qtree. The path should be in this format: /vol/< volume name >/< qtree name >. |

| Errno | Description |
|---|---|
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EQTREENOTOWNER** | |
| **EVOLUMEOFFLINE** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EALREADY** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_ENOTEMPTY** | |
| **EVSERVERNOTFOUND** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |

| | |
|---|---|
| **EAGGRFAILINGOVER** | |
| **EAGGRRELOCATING** | |
| **EAGGRMISMATCH** | |
| **EINVALIDDSID** | |
| **EAMBIGUOUS_DSID** | |
| **EVOL_RESTRICTED** | |
| **EINTERNALERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# qtree-delete-async

[top]

Delete the specified qtree by spawning a background job. The jobid will be returned. The progress of the job can be tracked using the job APIs. All the quota rules that reference this qtree will be automatically deleted.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force the deletion of the qtree even if it not empty. Default: false |
| **qtree** | | string | Path of an existing qtree. The path should be in this format: /vol/< volume name >/< qtree name >. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer | The job id of the job that was queued to delete the qtree. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in-progress", "failed". |

| Errno | Description |
|---|---|
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEOFFLINE** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_ENOENT** | |
| **EVSERVERNOTFOUND** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |
| **EAGGRFAILINGOVER** | |
| **EAGGRRELOCATING** | |
| **EAGGRMISMATCH** | |
| **EINVALIDDSID** | |
| **EAMBIGUOUS_DSID** | |
| **EVOL_RESTRICTED** | |

| | |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# qtree-list-iter

[top]

Iterate over the list of qtrees in the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | qtree-info optional | Specify the attributes that should be returned in the qtree-info object. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this response. |
| **query** | | qtree-info optional | A query that specifies which qtrees need to be returned. A query could be specified on any number of attributes in the qtree-info object. All qtree objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the previous iteration. It is usually not specified for the first iteration. For subsequent iterations, copy the value from the 'next-tag' obtained from the previous iteration. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | qtree-info[] optional | The list of attributes of qtree objects. |
| **next-tag** | | string optional | Tag for the next iteration. Not present when there are no more qtree objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this response. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# qtree-modify

[top]

Modify the attributes of a qtree. If values are not provided for any of the fields, then that field will not be modified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **css-versioning** | **[0..2]** | integer optional | Versioning state for CSS bucket on the qtree. Possible values:<br>• 0 - disabled<br>• 1 - enabled<br>• 2 - suspended |
| **export-** | | string | Export policy of the qtree. If empty string, the qtree will inherit the export |

| | | | |
|---|---|---|---|
| **policy** | | optional | policy of the parent volume. |
| **mode** | | string optional | The file permission bits of the qtree. Similar to UNIX permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2, and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID (4), set group ID (2), and sticky (1) attributes. The second digit selects permissions for the owner of the file: read (4), write (2), and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. |
| **oplocks** | | string optional | Opportunistic locks mode of the qtree. Possible values: "enabled", "disabled". |
| **qos-policy-group** | | string optional | QoS policy group of the qtree. |
| **qtree** | | string | Name of the qtree. |
| **security-style** | | string optional | Security style of the qtree. Possible values: "unix", "ntfs", or "mixed". Changing the security style of a qtree will change the visibility of existing Windows security descriptors (i.e. ACLs). This may affect the disk space usage values in the quota database. Turn quotas off and then on to re-compute disk space usage. |
| **volume** | | string | Name of the volume containing the qtree to be modified. |

| Errno | Description |
|---|---|
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEREADONLY** | |
| **EQTREE_DOES_NOT_EXIST** | |
| **EONTAPI_EINVAL** | |
| **EVSERVERNOTFOUND** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |
| **EAGGRFAILINGOVER** | |
| **EAGGRRELOCATING** | |
| **EAGGRMISMATCH** | |
| **EINVALIDDSID** | |
| **EAMBIGUOUS_DSID** | |
| **EVOL_RESTRICTED** | |
| **EINTERNALERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# qtree-rename

[top]

Renames the specified qtree to a new name specified by "new-qtree-name".

For clustered volumes, the qtree name in the quota rules will be automatically updated with the new qtree name.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-qtree-** | | | Path of new qtree. The path should be in this format: /vol/< volume name |

| | | | |
|---|---|---|---|
| **name** | | string | >/< dst qtree name >. |
| **qtree** | | string | Path of an existing qtree. The path should be in this format: /vol/< volume name >/< src qtree name >. |

| Errno | Description |
|---|---|
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EQTREENOTOWNER** | |
| **EVOLUMEOFFLINE** | |
| **EONTAPI_EEXIST** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_ENOENT** | |
| **EVSERVERNOTFOUND** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |
| **EAGGRFAILINGOVER** | |
| **EAGGRRELOCATING** | |
| **EAGGRMISMATCH** | |
| **EINVALIDDSID** | |
| **EAMBIGUOUS_DSID** | |
| **EVOL_RESTRICTED** | |
| **EINTERNALERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# Element definition: **qtree-info**

[top]

Information about a single qtree.

| Name | Range | Type | Description |
|---|---|---|---|
| **css-versioning** | **[0..2]** | integer optional | Indicates versioning state for CSS bucket on the qtree. Possible values:<br>• 0 - disabled<br>• 1 - enabled<br>• 2 - suspended |
| **export-policy** | | string optional | Export policy of the qtree. |
| **id** | **[0..4994]** | integer | Id of the qtree (unique within the volume), which is 0 if qtree is the volume itself. |
| **is-export-policy-inherited** | | boolean optional | If true, this qtree inherits the export policy of the parent volume. |
| **mode** | | string | The file permission bits of the qtree. Similar to UNIX permission bits: 0755 gives read/write/execute permissions to owner and read/execute to group and other users. It consists of 4 octal digits derived by adding up bits 4, 2, and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID (4), set group ID (2), and sticky (1) attributes. |

| | | | |
|---|---|---|---|
| | | optional | The second digit selects permissions for the owner of the file: read (4), write (2), and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. This value is applicable and will be returned only if the security style of qtree is "unix" or "mixed". |
| **oplocks** | | string | Indicates whether opportunistic locks are enabled on the qtree. Possible values: "enabled", "disabled". |
| **qos-policy-group** | | string optional | QoS policy group of the qtree. |
| **qtree** | | string | Name of the qtree, blank if qtree is the volume itself |
| **security-style** | | string | Security style of the qtree. Possible values are "unix", "ntfs", or "mixed". |
| **status** | | string | Status of the qtree. Possible values include: "normal", or "readonly". |
| **volume** | | string | Name of the volume containing the qtree |
| **vserver** | | string optional | The vserver in which the volume belongs |

# APIs in Category: **quota**


quota-add-entry
quota-delete-entry
quota-get-entry
quota-list-entries-iter
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quota-off
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quota-resize
quota-set-entry
quota-status
quota-status-iter


The quota APIs are divided into two groups: management and editing. The management functions are: report, status, turning on, and turning off, while the editing functions are: list, add, delete, modify, and set.

For clustered volumes, the quota rules configured in the quota policies are manipulated by the editing functions; changes to these quota rules in the quota policies will affect the results of the APIs. Multiple quota policies can be defined for each vserver through the CLI. Each vserver can then be assigned a quota policy; the quota rules defined in that quota policy is used for quota on/resize operations for volumes in that vserver.

A quota is uniquely identifed by the type, target, volume, and qtree. There are three types: user, group, and tree. For example: a user quota is specified by type = user, target = zapi, volume = vol0, and qtree = /vol/vol0/lab. A group quota is specified by type = group, target = eng, volume = engvol, and qtree = "". Finally, a qtree quota is specifed by type = tree, target = /vol/engvol/bio, volume = engvol, and qtree = "". Default quotas are specified as an asterisk, "*", for the target. For example, a default user quota is specified by type = user, target = *, volume = vol1, and qtree = /vol/vol1/elvis.

Because of possible large amount of information returned by quota reports and quota lists, it is highly recommended to use the quota report and quota list iterator APIs. For clustered volumes only iterator APIs are available for quota report and quota lists.

## quota-add-entry

[top]

Adds a quota entry. If the type, target, volume, and tree do not exist, a new entry is created. If the type, target, volume, and tree exist, then an error is returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk-limit** | | string optional | This is the amount of disk space that is reserved for the the target. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is unlimited. |
| **file-limit** | | string optional | This is the number of files that the target can have. Set the value to "-" if the limit is to be unlimited. Default is unlimited. |
| **perform-user-mapping** | | boolean optional | If the value is true, quota management will perform user mapping for the user specified in quota-target. Only valid for user quotas when the quota-target refers to a Windows/UNIX user name. Not valid for multiple user targets. Default is false. |
| **policy** | | string optional | Name of the quota policy in which the quota rule should be added. If this field is not provided, then the current policy that has been assigned to the vserver will be used. |
| **qtree** | | string | This is the qtree name that the quota resides on. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field |

| | | | |
|---|---|---|---|
| | | | must be "". |
| **quota-target** | | string | This is the quota target of the type specified. The target can be of the form: <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >" |
| **quota-type** | | string | The type of quota rule. Possible values are "user", "group", or "tree". |
| **soft-disk-limit** | | string optional | This is the amount of disk space the target would have to exceed before a message is logged and an SNMP trap is generated. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is unlimited. |
| **soft-file-limit** | | string optional | This is the number of files the target would have to exceed before a message is logged and an SNMP trap is generated. Set the value to "-" if the limit is to be unlimited. Default is unlimited. |
| **threshold** | | string optional | This is the amount of disk space the target would have to exceed before a message is logged. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is unlimited. |
| **volume** | | string | This is the volume name that the quota resides on. |

| Errno | Description |
|---|---|
| **EQUOTAEXISTS** | |
| **EQUOTAINVALID** | |
| **EQUOTADIRECTIVE** | |
| **EVSERVERNOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EQUOTA_POLICY_NOT_FOUND** | |
| **EINTERNALERROR** | |
| **EVOLUMEREADONLY** | |
| **EVOLUMEOFFLINE** | |
| **EVOL_RESTRICTED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# quota-delete-entry

[top]

Deletes a quota entry specified by type, target, volume, and tree.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | string optional | Name of the quota policy in which the quota rule should be deleted. If this field is not provided, then the current policy that has been assigned to the vserver will be used. |
| **qtree** | | string | Name of the qtree for the quota. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field must be "". |
| **quota-target** | | string | The quota target of the type specified. Possible values are: <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >" |
| **quota-type** | | string | The type of quota rule. Possible values are "user", "group", or "tree". |

| | | | |
|---|---|---|---|
| **volume** | | string | Name of the volume for the quota. |

| Errno | Description |
|---|---|
| **EQUOTAINVALID** | |
| **EQUOTADIRECTIVE** | |
| **EQUOTADOESTEXIST** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# quota-get-entry

[top]

Obtains a quota entry specified by type, target, volume, and tree.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | string optional | Name of the quota policy from which the quota rule should be obtained. If this field is not provided, then the current policy that has been assigned to the vserver will be used. |
| **qtree** | | string | Name of the qtree for the quota. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field must be "". |
| **quota-target** | | string | The quota target of the type specified. Possible values are: <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >" |
| **quota-type** | | string | The type of quota rule. Possible values are "user", "group", or "tree". |
| **volume** | | string | Name of the volume for the quota. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **disk-limit** | | string | The amount of disk space that is reserved for the the target. The value is expressed in kilobytes (1024). The value is "-" if the limit is unlimited. |
| **file-limit** | | string | The number of files that the target can have. The value is "-" if the limit is unlimited. |
| **perform-user-mapping** | | boolean optional | If the value is true, quota management will perform user according to the user mapping configured for the vserver to which the volume belongs. |
| **soft-disk-limit** | | string | The amount of disk space the target would have to exceed before a message is logged and an SNMP trap is generated. The value is expressed in kilobytes (1024). The value is "-" if the limit is unlimited. |
| **soft-file-limit** | | string | The number of files the target would have to exceed before a message is logged and an SNMP trap is generated. The value is "-" if the limit is unlimited. |
| **threshold** | | string | The amount of disk space the target would have to exceed before a message is logged. The value is expressed in kilobytes (1024). The value is "-" if the limit is unlimited. |

| Errno | Description |
|---|---|
| **EQUOTAPARSEERROR** | |
| **EQUOTAINVALID** | |
| **EQUOTADOESNOTEXIST** | |
| **EQUOTADIRECTIVE** | |
| **EINTERNALERROR** | |

# quota-list-entries-iter

[top]

Iterate over the list of quota rules in the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | quota-entry optional | Specify the attributes that should be returned in the quota-entry object. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this response. |
| **query** | | quota-entry optional | A query that specifies which quota rules need to be returned. A query could be specified on any number of attributes in the quota-entry object. All quota entry objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the previous iteration. It is usually not specified for the first iteration. For subsequent iterations, copy the value from the 'next-tag' obtained from the previous iteration. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | quota-entry[] optional | The list of attributes of quota entry objects. |
| **next-tag** | | string optional | Tag for the next iteration. Not present when there are no more quota entry objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this response. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# quota-modify-entry

[top]

Modifys a quota entry. If the type, target, volume, and tree exist, the entry is modified. If the type, target, volume, and tree do not exist, then an error is returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk-limit** | | string optional | This is the amount of disk space that is reserved for the the target. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is the current value. |
| **file-limit** | | string optional | This is the number of files that the target can have. Set the value to "-" if the limit is to be unlimited. Default is the current value. |
| **perform-user-mapping** | | boolean optional | If the value is true, quota management will perform user mapping for the user specified in quota-target. Only valid for user quotas when the quota-target refers to a Windows/UNIX user name. Not valid for multiple user targets. Default is the current value. |
| | | string | Name of the quota policy in which the quota rule should be modified. If |

| | | | |
|---|---|---|---|
| **policy** | | optional | this field is not provided, then the current policy that has been assigned to the vserver will be used. |
| **qtree** | | string | This is the qtree name that the quota resides on. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field must be "". |
| **quota-target** | | string | This is the quota target of the type specified. The target can be of the form: <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >" |
| **quota-type** | | string | The type of quota rule. Possible values are "user", "group", or "tree". |
| **soft-disk-limit** | | string optional | This is the amount of disk space the target would have to exceed before a message is logged and an SNMP trap is generated. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is the current value. |
| **soft-file-limit** | | string optional | This is the number of files the target would have to exceed before a message is logged and an SNMP trap is generated. Set the value to "-" if the limit is to be unlimited. Default is the current value. |
| **threshold** | | string optional | This is the amount of disk space the target would have to exceed before a message is logged. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. Default is the current value. |
| **volume** | | string | This is the volume name that the quota resides on. |

| Errno | Description |
|---|---|
| **EQUOTADOESNOTEXIST** | |
| **EQUOTAINVALID** | |
| **EQUOTADIRECTIVE** | |
| **EVSERVERNOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EQUOTA_POLICY_NOT_FOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# quota-off

[top]

Turns the quota subsystem off for a volume.

For clustered volumes, a jobid will also be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume on which to turn quotas off. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-** | integer | The job id of the job that was queued to turn off quotas. |

| | | | |
|---|---|---|---|
| | 1] | optional | |
| **result-status** | | string optional | The operation status. Possible values: "succeeded", "in-progress", "failed". |

| Errno | Description |
|---|---|
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EAPIERROR** | |
| **EVOLUMEMOUNTING** | |
| **EVOL_RESTRICTED** | |
| **EVOLUMEOFFLINE** | |
| **EVSERVERNOTFOUND** | |
| **EONTAPI_EINVAL** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |
| **EAGGRFAILINGOVER** | |
| **EAGGRRELOCATING** | |
| **EAGGRMISMATCH** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# quota-on

[top]

Starts to turn quotas on for a volume. A successful return from this API does not mean that quotas are on, merely that an attempt to start it has been triggered. Use the quota-status API to check the status.

For clustered volumes, a jobid will also be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume on which to enable quotas. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | error code, if the operation caused an error. |
| **result-error-message** | | string optional | error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | The job id of the job that was queued to turn on quotas. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded", "in-progress", "failed". |

| Errno | Description |
|---|---|
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOL_RESTRICTED** | |
| **EVOLUMEOFFLINE** | |

| | |
|---|---|
| **EAPIERROR** | |
| **EVSERVERNOTFOUND** | |
| **EONTAPI_EINVAL** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |
| **EAGGRFAILINGOVER** | |
| **EAGGRRELOCATING** | |
| **EAGGRMISMATCH** | |
| **EQUOTAS_NO_VALID_RULES** | |
| **EQUOTAS_DEFAULT_RULE_NOT_FOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# quota-policy-copy

[top]

Copy a quota policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-policy-name** | | string | New Policy Name |
| **policy-name** | | string | Policy Name |
| **vserver** | | string | Vserver |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# quota-policy-create

[top]

Creates a quota policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | Policy Name |
| **vserver** | | string | Vserver |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# quota-policy-delete

[top]

Deletes a specified quota policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | Policy Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# quota-policy-delete-iter

[top]

Deletes a list of specified quota policies

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple quota-policy objects match a given query. If set to true, the API will continue deleting the next matching quota-policy even when the deletion of a previous quota-policy fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching quota-policy even when the deletion of a previous matching quota-policy fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of quota-policy objects to delete in this call. Default: 20 |
| **query** | | quota-policy-info | If deleting a specific quota-policy, this input element must specify all keys. If deleting multiple quota-policy objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of quota-policy objects (just keys) that were not deleted due to some error. If set to false, the list of quota-policy objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of quota-policy objects (just keys) that were successfully deleted. If set to false, the list of quota-policy objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | quota-policy-delete-iter- | Information about quota-policy objects that were not deleted due to some error. This element will be returned only if input element |

| | | | |
|---|---|---|---|
| | | info[] optional | 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching quota-policy objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of quota-policy objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of quota-policy objects that matched the query and were successfully deleted. |
| **success-list** | | quota-policy-delete-iter-info[] optional | The quota-policy objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# quota-policy-get-iter

[top]

Return a list of quota policies

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | quota-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | quota-policy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the quota-policy object. All quota-policy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | quota-policy-info[] optional | The list of attributes of quota-policy objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more quota-policy objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# quota-policy-rename

[top]

Rename a quota policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-policy-name** | | string | New Policy Name |
| **policy-name** | | string | Policy Name |
| **vserver** | | string | Vserver |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# quota-policy-rule-count-get

[top]

Get the attributes of the quota-policy-rule-count.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | quota-policy-rule-count-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy** | | string | Policy Name |
| **qtree** | | qtree-name | Qtree Name |
| **quota-type** | | quota-type | Type Possible values:<br>• "tree" ,<br>• "user" ,<br>• "group" |
| **volume** | | volume-name | Volume Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | quota-policy-rule-count-info | The attributes of the quota-policy-rule-count. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# quota-policy-rule-count-get-iter

[top]

Iterate over a list of quota-policy-rule-count objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | quota-policy-rule-count-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | quota-policy-rule-count-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the quota-policy-rule-count object. All quota-policy-rule-count objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | quota-policy-rule-count-info[] optional | The list of attributes of quota-policy-rule-count objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more quota-policy-rule-count objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# quota-report-iter

[top]

Iterate over the quota report in the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | quota optional | Specify the attributes that should be returned in the quota report object. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this response. |

| | | | |
|---|---|---|---|
| **path** | | string optional | A path (including a /vol/ prefix). If specified, the report will contain only quotas that apply to the specified path name. |
| **query** | | quota optional | A query that specifies which quota report needs to be returned. A query could be specified on any number of attributes in the quota report object. All quota report objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the previous iteration. It is usually not specified for the first iteration. For subsequent iterations, copy the value from the 'next-tag' obtained from the previous iteration. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | quota[] optional | The list of attributes of quota report objects. |
| **next-tag** | | string optional | Tag for the next iteration. Not present when there are no more quota report objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this response. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# quota-resize

[top]

Starts an ONTAP operation to resize quotas for a volume. A successful return from this API does not mean that the operation has finished, merely that an attempt to start it been triggered. Use the quota-status API to check the status.

For clustered volumes, a jobid will also be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume on which to resize quotas. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | The job id of the job that was queued to resize quotas. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded", "in-progress", "failed". |

| Errno | Description |
|---|---|
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOL_RESTRICTED** | |
| **EVOLUMEOFFLINE** | |
| **EAPIERROR** | |

| | |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EONTAPI_EINVAL** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |
| **EAGGRFAILINGOVER** | |
| **EAGGRRELOCATING** | |
| **EAGGRMISMATCH** | |
| **EQUOTAS_NO_VALID_RULES** | |
| **EQUOTAS_DEFAULT_RULE_NOT_FOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# quota-set-entry

[top]

Sets a quota entry. If the type, target, volume, and tree do not exist, a new entry is created. If the type, target, volume, and tree exist, then the entry is modified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk-limit** | | string optional | The amount of disk space that is reserved for the the target. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. |
| **file-limit** | | string optional | The number of files that the target can have. Set the value to "-" if the limit is to be unlimited. |
| **perform-user-mapping** | | boolean optional | If the value is true, quota management will perform user mapping for the user specified in quota-target. Only valid for user quotas when the quota-target refers to a Windows/UNIX user name. Not valid for multiple user targets. Default is false. |
| **policy** | | string optional | Name of the quota policy in which the quota rule should be set. If this field is not provided, then the current policy that has been assigned to the vserver will be used. |
| **qtree** | | string | Name of the qtree for the quota. For user or group rules, it can be the qtree name or "" if no qtree. For tree type rules, this field must be "". |
| **quota-target** | | string | The quota target of the type specified. Possible values are <name>, <number>, or <path name>. Multiple targets can be specified by a comma-separated list. Path should be entered in a format that starts with the following "/vol/< volume name >/". For explicit tree rules, the qtree should be specified as "/vol/< volume name >/ < qtree name >" |
| **quota-type** | | string | The type of quota rule. Possible values are "user", "group", or "tree". |
| **soft-disk-limit** | | string optional | The amount of disk space the target would have to exceed before a message is logged and an SNMP trap is generated. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. |
| **soft-file-limit** | | string optional | The number of files the target would have to exceed before a message is logged and an SNMP trap is generated. Set the value to "-" if the limit is to be unlimited. |
| **threshold** | | string optional | The amount of disk space the target would have to exceed before a message is logged. The value is expressed in kilobytes (1024). Set the value to "-" if the limit is to be unlimited. |
| **volume** | | string | Name of the volume for the quota. |

| Errno | Description |
|---|---|
| | |

| | |
|---|---|
| **EQUOTAINVALID** | |
| **EQUOTADIRECTIVE** | |
| **EVSERVERNOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EQUOTA_POLICY_NOT_FOUND** | |
| **EINTERNALERROR** | |
| **EVOLUMEREADONLY** | |
| **EVOLUMEOFFLINE** | |
| **EVOL_RESTRICTED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# quota-status

[top]

Obtains the status of quotas

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume whose quota status should be obtained. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **percent-complete** | | integer optional | The percentage complete for an "on" or "resize" operation. This is present when the status is "upgrading", "resizing" or "initializing". |
| **quota-errors** | | string optional | Collection of quota errors including the value of the reason tag above. Each error will be separated by a newline, '\n'. Since the quota parser does not stop when a parsing error occurs, this tag returns all the errors from the quota parser. |
| **reason** | | string optional | The last quota error message. If not present, there are no errors. |
| **status** | | string | Primary status of quotas on the indicated volume; Possible values:<br>• "corrupt"<br>• "initializing"<br>• "mixed"<br>• "off"<br>• "on"<br>• "resizing"<br>• "reverting"<br>• "unknown"<br>• "upgrading"<br><br>If a FlexGroup's constituents have differing quota statuses, the FlexGroup will return a 'mixed' quota status. If one or more of a FlexGroup's constituents are not online or otherwise cannot be reached, the FlexGroup will return an 'unknown' quota status. |
| | | | Minor quota status on the indicated volume. This status is only valid when primary status is "resizing" or "initializing". Possible values are:<br>• "done"<br>• "etc scanning"<br>• "finishing"<br>• "mixed"<br>• "none" |

| | | | |
|---|---|---|---|
| **substatus** | | string | • "queue scan"<br>• "scanning"<br>• "setup"<br>• "transferring rules"<br>• "unknown"<br>• "upgrading"<br><br>If a FlexGroup's constituents have differing quota substatuses, the FlexGroup will return a 'mixed' quota substatus. If one or more of a FlexGroup's constituents are not online or otherwise cannot be reached, the FlexGroup will return an 'unknown' quota substatus. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEOFFLINE** | |
| **EAPIERROR** | |
| **EVSERVERNOTFOUND** | |
| **EONTAPI_EINVAL** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |
| **EAGGRFAILINGOVER** | |
| **EAGGRRELOCATING** | |
| **EAGGRMISMATCH** | |

# quota-status-iter

[top]

Iterate over quota status for all volumes in the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | quota-status-attributes optional | Specify the attributes that should be returned in the quota status object. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this response. |
| **query** | | quota-status-attributes optional | A query that specifies which quota status attributes need to be returned. A query could be specified on any number of attributes in the quota status object. All quota status objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the previous iteration. It is usually not specified for the first iteration. For subsequent iterations, copy the value from the 'next-tag' obtained from the previous iteration. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | quota-status-attributes[] optional | The list of attributes of quota status objects. |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next iteration. Not present when there are no more quota status objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this response. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **qtree-name**

[top]

Qtree Name

[none]

# Element definition: **quota**

[top]

Information about a single quota.

| Name | Range | Type | Description |
|---|---|---|---|
| **disk-limit** | | string | Maximum amount of disk space, in kilobytes, allowed for the quota target (hard disk space limit). The value is "-" if the limit is unlimited. |
| **disk-used** | | string | Current amount of disk space, in kilobytes, used by the quota target. |
| **disk-used-pct-disk-limit** | **[0..2^32-1]** | integer optional | Current disk space used expressed as a percentage of hard disk limit. |
| **disk-used-pct-soft-disk-limit** | **[0..2^32-1]** | integer optional | Current disk space used expressed as a percentage of soft disk limit. |
| **disk-used-pct-threshold** | **[0..2^32-1]** | integer optional | Current disk space used expressed as a percentage of threshold. |
| **file-limit** | | string | Maximum number of files allowed for the quota target (hard files limit). The value is "-" if the limit is unlimited. |
| **files-used** | | string | Current number of files used by the quota target. |
| **files-used-pct-file-limit** | **[0..2^32-1]** | integer optional | Current number of files used expressed as a percentage of hard file limit. |
| **files-used-pct-soft-file-limit** | **[0..2^32-1]** | integer optional | Current number of files used expressed as a percentage of soft file limit. |
| **quota-target** | | string | For an explicit quota, this value is a fully qualified quota target in the quota policy rule. Mulitple targets are comma separated. For a derived quota, the field is blank. |
| **quota-type** | | string | The type of quota: user, group, or tree. |
| **quota-users** | | quota-user[] optional | A list of quota users and group. |
| **soft-disk-** | | string | Soft disk space limit, in kilobytes, for the quota target. The value is |

| | | | |
|---|---|---|---|
| **limit** | | | "-" if the limit is unlimited. |
| **soft-file-limit** | | string | Soft file limit, in number of files, for the quota target. The value is "-" if the limit is unlimited. |
| **threshold** | | string | Disk space threshold, in kilobytes, for the quota target. The value is "-" if the limit is unlimited. |
| **tree** | | string | Name of the qtree to which the quota is applied. |
| **volume** | | string | Name of the volume to which the quota is applied. |
| **vserver** | | string optional | The vserver name in which the volume belongs, for which the quota is applicable |

# Element definition: **quota-entry**

[top]

Information about a single quota rule.

| Name | Range | Type | Description |
|---|---|---|---|
| **disk-limit** | | string optional | Maximum amount of disk space, in kilobytes, allowed for the quota target (hard disk space limit). The value is "-" if the limit is unlimited. |
| **file-limit** | | string optional | Maximum number of files allowed for the quota target (hard files limit). The value is "-" if the limit is unlimited. |
| **perform-user-mapping** | | boolean optional | If the value is true, user mapping will be performed for this rule. |
| **policy** | | string optional | The quota policy to which the rule belongs. |
| **qtree** | | string optional | Name of the qtree for the quota. It can be the qtree name or "" if no qtree. If there is an error in the quota entry, this value might not present. For tree rules, this field will be "". |
| **quota-target** | | string optional | The quota target of the type specified. The value will be one of: <name>, <number>, or <path name>. Mulitple targets can be specified by a comma-separated list. Quota directives in quota policy rules are used to form the quota target. If there is an error in the quota entry, this value might not present. For explicit tree rules, this field will indicate the qtree name in the format "/vol/< volume name >/ < qtree name >". |
| **quota-type** | | string optional | The type of quota rule. Possible values are "user", "group", or "tree". If there is an error in the quota entry, this value might not present. |
| **soft-disk-limit** | | string optional | Soft disk space limit, in kilobytes, for the quota target. The value is "-" if the limit is unlimited. |
| **soft-file-limit** | | string optional | Soft file limit, in number of files, for the quota target. The value is "-" if the limit is unlimited. |
| **threshold** | | string optional | Disk space threshold, in kilobytes, for the quota target. The value is "-" if the limit is unlimited. |
| **volume** | | string optional | Name of the volume for the quota. If there is an error in the quota entry, this value might not present. |
| **vserver** | | string optional | The vserver name. |

# Element definition: **quota-policy-delete-iter-info**

[top]

Information about the deletion operation that was attempted/performed against quota-policy object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **quota-policy-key** | | quota-policy-info | The keys for the quota-policy object to which the deletion applies. |

# Element definition: **quota-policy-info**

[top]

Info about a quota policy When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **last-modified** | | datetime optional | Last Modified Attributes: non-creatable, non-modifiable |
| **policy-name** | | string optional | Policy Name Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **quota-policy-rule-count-info**

[top]

Quota policy rule count(s) When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **count-where-policy** | **[0..2^32-1]** | integer optional | Total rule count matching the given Vserver and quota policy. All volumes, qtrees, and quota rule types are included. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable |
| | | | Subtotal of rules matching the given Vserver, quota policy, and |

| | | | |
|---|---|---|---|
| **count-where-policy-volume** | **[0..2^32-1]** | integer optional | volume. All qtrees and quota rule types are included. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable |
| **count-where-policy-volume-qtree** | **[0..2^32-1]** | integer optional | Subtotal of rules matching the given Vserver, quota policy, volume, and qtree. All quota rule types are included. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable |
| **count-where-policy-volume-qtree-type** | **[0..2^32-1]** | integer optional | Subtotal of rules matching the given Vserver, quota policy, volume, qtree, and quota rule type. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable |
| **count-where-policy-volume-type** | **[0..2^32-1]** | integer optional | Subtotal of rules matching the given Vserver, quota policy, volume, and quota rule type. All qtrees are included. If specified as input, only matching totals are returned. Attributes: non-creatable, non-modifiable |
| **policy** | | string optional | Policy Name Attributes: key, non-creatable, non-modifiable |
| **qtree** | | qtree-name optional | Qtree Name Attributes: key, non-creatable, non-modifiable |
| **quota-type** | | quota-type optional | Type Attributes: key, non-creatable, non-modifiable Possible values:<br>• "tree" ,<br>• "user" ,<br>• "group" |
| **volume** | | volume-name optional | Volume Name Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **quota-status-attributes**

[top]

Attributes of quota status

| Name | Range | Type | Description |
|---|---|---|---|
| **percent-complete** | | integer optional | The percentage complete for an "on" or "resize" operation. This is present when the status is "upgrading", "resizing" or "initializing". |
| **quota-error-msgs** | | quota-error-msg[] optional | Collection of quota errors including the value of the reason tag above. Since the quota parser does not stop when a parsing error occurs, this tag returns all the errors from the quota parser. |
| **reason** | | quota-error-msg optional | The last quota error message. If not present, there are no errors. |
| | | | Primary status of quotas on the indicated volume; Possible values:<br>• "corrupt"<br>• "initializing" |

| | | | |
|---|---|---|---|
| **status** | | string | "mixed"<br>• "off"<br>• "on"<br>• "resizing"<br>• "reverting"<br>• "unknown"<br>• "upgrading"<br><br>If a FlexGroup's constituents have differing quota statuses, the FlexGroup will return a 'mixed' quota status. If one or more of a FlexGroup's constituents are not online or otherwise cannot be reached, the FlexGroup will return an 'unknown' quota status. |
| **substatus** | | string | Minor quota status on the indicated volume. This status is only valid when primary status is "resizing" or "initializing". Possible values are:<br><br>• "done"<br>• "etc_scanning"<br>• "finishing"<br>• "mixed"<br>• "none"<br>• "queue_scan"<br>• "scanning"<br>• "setup"<br>• "transferring_rules"<br>• "unknown"<br>• "upgrading"<br><br>If a FlexGroup's constituents have differing quota substatuses, the FlexGroup will return a 'mixed' quota substatus. If one or more of a FlexGroup's constituents are not online or otherwise cannot be reached, the FlexGroup will return an 'unknown' quota substatus. |
| **volume** | | string | Name of the volume to which the quota is applied. |
| **vserver** | | string | The vserver name in which the volume belongs, for which the quota is applicable |

# Element definition: **quota-type**

[top]

tree|user|group Possible values:

- "tree" ,
- "user" ,
- "group"

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that

follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **qtree-name**

[top]

Qtree Name

[none]

# Element definition: **quota-error-msg**

[top]

Information about the single quota error.

[none]

# Element definition: **quota-user**

[top]

Information about a quota user or group.

| Name | Range | Type | Description |
|---|---|---|---|
| **quota-user-id** | | string | The id of the user. The quota-user-type determines the format. For uid and gid, the format is an integer. For sid, the format is the usual "S-*" style. |
| **quota-user-name** | | string | Name of the user, group, or sid. |
| **quota-user-type** | | string | The type of quota user. There are two possible values: sid (for Windows users), uid (for UNIX users), and gid (for UNIX groups). |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **secd**


secd-auth-get-claim-name
secd-auth-get-dc-info
secd-auth-show-ontap-admin-unix-creds-using-uid
secd-auth-show-ontap-admin-unix-creds-using-unix-user-name
secd-auth-sid-to-uid
secd-auth-sid-to-unix-user-name
secd-auth-translate-gid-to-groupname
secd-auth-translate-sid-to-win-user-name
secd-auth-translate-uid-to-username
secd-auth-translate-unix-group-name-to-gid
secd-auth-translate-unix-user-name-to-uid
secd-auth-translate-windows-user-name-to-sid
secd-auth-uid-to-sid
secd-connection-timeout-get
secd-connection-timeout-get-iter
secd-connection-timeout-modify
secd-dns-forward-lookup
secd-dns-srv-lookup
secd-name-mapping-show
secd-server-discovery-host
secd-server-discovery-reset
secd-server-discovery-site
secd-server-discovery-test


These APIs allow management of Access-check information per user

## secd-auth-get-claim-name

[top]

Get Claim-Name from Claim-cn

| Input Name | Range | Type | Description |
|---|---|---|---|
| **claim-cn** | | string | The common name of claim used for getting claim name |
| **node** | | string optional | The node on which command will be run |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **claim-name** | | string | The claim name corresponding to the input claim CN |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-auth-get-dc-info

[top]

Get the Active DC informartion give vfiler

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which command will be run |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **client-site** | | string | The client site corresponding to the domain controller |
| **domain-name** | | string | The domain name corresponding to the domain controller |
| **flags** | **[0..2^32-1]** | integer | flags correspondiing to the domain controller |
| **forest-name** | | string | The forest name corresponding to the domain controller |
| **guid** | | string | 128 bit global unique identifier corresponding to the domain controller |
| **netbios-hostname** | | string | The NetBIOS hostname corresponding to the domain controller |
| **netbios-name** | | string | The NetBIOS name corresponding to the domain controller |
| **server-site** | | string | The server site corresponding to the domain controller |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-auth-show-ontap-admin-unix-creds-using-uid

[top]

Get UNIX credentials from UNIX user ID

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **node** | | string optional | The node on which command will be run |
| **uid** | **[0..2^32-1]** | integer | The UNIX user ID passed to get the UNIX credentials |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **gid** | **[0..2^32-1]** | integer | The UNIX group ID corresponding to UNIX credentials |
| **unix-login-shell** | | string | The UNIX login shell corresponding to the UNIX credentials |
| **unix-user-name** | | string | The UNIX username passed to get the UNIX credentials |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-auth-show-ontap-admin-unix-creds-using-unix-user-name

[top]

Get UNIX credentials from UNIX User Name

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which command will be run |
| **unix-user-name** | | string | The UNIX username passed to get the UNIX credentials |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **gid** | **[0..2^32-1]** | integer | The UNIX group ID corresponding to UNIX credentials |
| **uid** | **[0..2^32-1]** | integer | The UNIX user ID passed to get the UNIX credentials |
| **unix-login-shell** | | string | The UNIX login shell corresponding to the UNIX credentials |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-auth-sid-to-uid

[top]

Get UNIX user ID from Windows SID

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which command will be run |
| **sid** | | string | The Windows SID to be looked up for its corresponding user ID |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **uid** | **[0..2^32-1]** | integer | The UNIX user ID corresponding to the input SID |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## secd-auth-sid-to-unix-user-name

[top]

Get UNIX User Name from Windows SID

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which command will be run |
| **sid** | | string | The Windows SID to be looked up for its corresponding User Name |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **unix-user-name** | | string | The UNIX User Name corresponding to the input SID |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## secd-auth-translate-gid-to-groupname

[top]

Translate Group ID to UNIX Group Name

| Input Name | Range | Type | Description |
|---|---|---|---|
| **gid** | **[0..2^32-1]** | integer | The UNIX group ID which needs to be translated |
| **node** | | string optional | The node on which the command will be run |
| **vserver** | | string | The Vserver for which the translation has to run |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **unix-group-name** | | string | The UNIX Group Name which needs to be translated |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## secd-auth-translate-sid-to-win-user-name

[top]

Translate SID to Windows User Name

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which the command will be run |
| **sid** | | string | The Windows SID which needs to be translated |
| **vserver** | | string | The Vserver for which the translation has to run |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **win-name** | | string | The Windows Name which needs to be translated |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-auth-translate-uid-to-username

[top]

Translate user ID to UNIX User Name

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which the command will be run |
| **uid** | **[0..2^32-1]** | integer | The UNIX user ID which needs to be translated |
| **vserver** | | string | The Vserver for which the translation has to run |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **unix-user-name** | | string | The UNIX User Name which needs to be translated |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-auth-translate-unix-group-name-to-gid

[top]

Translate UNIX Group Name to Group ID

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which the command will be run |
| **unix-group-name** | | string | The UNIX Group Name which needs to be translated |
| **vserver** | | string | The Vserver for which the translation has to run |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **gid** | **[0..2^32-1]** | integer | The UNIX group ID which needs to be translated |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Errno | Description |
| --- | --- |
| **EOBJECTNOTFOUND** | |

## secd-auth-translate-unix-user-name-to-uid

[top]

Translate UNIX User Name to user ID

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **node** | | string optional | The node on which the command will be run |
| **unix-user-name** | | string | The UNIX User Name which needs to be translated |
| **vserver** | | string | The Vserver for which the translation has to run |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **uid** | **[0..2^32-1]** | integer | The UNIX user ID which needs to be translated |

| Errno | Description |
| --- | --- |
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## secd-auth-translate-windows-user-name-to-sid

[top]

Translate Windows User Name to SID

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **node** | | string optional | The node on which the command will be run |
| **vserver** | | string | The Vserver for which the translation has to run |
| **win-name** | | string | The Windows Name which needs to be translated |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **sid** | | string | The Windows SID which needs to be translated |

| Errno | Description |
| --- | --- |
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## secd-auth-uid-to-sid

[top]

Get Windows SID from UNIX user ID

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **node** | | string optional | The node on which command will be run |

| | | | |
|---|---|---|---|
| **uid** | **[0..2^32-1]** | integer | The UNIX user ID to be looked up for its corresponding Windows SID |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **sid** | | string | The Windows SID corresponding to the input user ID |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-connection-timeout-get

[top]

Get the SecD connection timeout value for a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | secd-connection-timeout-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | secd-connection-timeout-info | The attributes of the secd. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# secd-connection-timeout-get-iter

[top]

Iterate through the SecD connection timeout values of the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | secd-connection-timeout-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | secd-connection-timeout- | A query that specifies which objects to return. A query could be specified on any number of attributes in the secd object. All secd |

| | | | |
|---|---|---|---|
| | | info optional | objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | secd-connection-timeout-info[] optional | The list of attributes of secd objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more secd objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# secd-connection-timeout-modify

[top]

Modify the SecD connection timeout value for a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection-timeout** | **[2..10]** | integer optional | Secd connection timeout in seconds |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# secd-dns-forward-lookup

[top]

DNS Forward Lookup for a Hostname

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hostname** | | string | The hostname for which the lookup has to be done |
| **lookup-type** | | string optional | The lookup type for the hostname passed |
| **node** | | string optional | The node on which the command will be run |
| **vserver** | | string | The Vserver for which the translation has to run |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **ip-address** | | string | Ip address of the hostname passed |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## secd-dns-srv-lookup

[top]

DNS Lookup for SRV records

| Input Name | Range | Type | Description |
|---|---|---|---|
| **lookup-string** | | string | The lookup string used to lookup the domain's authoritative name server |
| **lookup-type** | | string optional | The lookup type for the domain's authoritative name server |
| **name-servers** | | string[] optional | The name servers populated in the output |
| **node** | | string optional | The node on which the command will be run |
| **vserver** | | string | The Vserver for which the translation has to run |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **ip-address** | | string | IP Address result of SRV Lookup |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## secd-name-mapping-show

[top]

Get Name Mappings configured for particular direction

| Input Name | Range | Type | Description |
|---|---|---|---|
| **direction** | | string | The direction for which the name mapping will be run |
| **name** | | string | Username for which the Name Mapping will be run |
| **node** | | string optional | The node on which command will be run |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | string | Mapping for the given username |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-server-discovery-host

[top]

Host Information of the Discovered Servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which command will be run |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **ad-domain** | | string[] | The AD domain Name of the discovered server |
| **cifs-domain** | | string[] | The CIFS domain Name of the discovered server |
| **host-name** | | string[] | The host name of the discovered server |
| **ip-address** | | string[] | IP address of the discovered server |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-server-discovery-reset

[top]

Reset the Discovered Servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which command will be run |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | string | Result of the server discovery reset |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# secd-server-discovery-site

[top]

Site of the Discovered Servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which command will be run |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **site** | | string | Site information of the discovered server |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

## secd-server-discovery-test

[top]

Test the Discovered Servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | The node on which command will be run |
| **vserver** | | string | The Vserver where the lookup has to be done |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | string | Server discovery result of the test |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |

# Element definition: **secd-connection-timeout-info**

[top]

SecD Connection Timeout When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **connection-timeout** | **[2..10]** | integer optional | Secd connection timeout in seconds Attributes: required-for-create, modifiable |
| **vserver** | | vserver-name optional | Vserver name Attributes: key, non-creatable, non-modifiable |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **sectrace**


sectrace-find-or-create-filter
security-trace-filter-create
security-trace-filter-delete
security-trace-filter-get-iter
security-trace-filter-modify
security-trace-result-delete
security-trace-result-show


This set of ZAPIs allow setting up and managing permission check filters and logs. Permission tracing allows users to trace permission checks that are done during multiprotocol security access. These set of ZAPIs provide an interface to create, delete and modify security tracing filters. They also allow viewing and deleting of trace records that are generated as a result of the trace filters.

## sectrace-find-or-create-filter

[top]

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-ip** | | ip-address optional | The IP address of the client. |
| **name** | | string optional | Windows or Unix User Name to trace. |
| **path** | | string optional | Path to match. |
| **protocol** | | sectrace-protocol optional | The protocol for which the permission tracing is applicable. |
| **trace-allow** | | boolean optional | The deny events are traced by default. This option is to record trace results for allow events as well. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **index** | **[0..2^32-1]** | integer | Index for output |

| Errno | Description |
|---|---|
| **E_CIFS_ERROR_SECURITY_TRACE_ENTRIES_OUT_OF_RANGE** | |
| **E_NFS_UI_SECURITY_TRACE_FLEXGROUP_ERROR** | |

## security-trace-filter-create

[top]

Creates a new Security trace entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-ip** | | ip-address optional | The IP address of the client. |
| **enabled** | | enable optional | This is used to enable or disable the filter. |
| **index** | **[0..2^32-1]** | integer | internally created index for the filter. |
| **path** | | string optional | Path to match. |
| **protocols** | | sectrace-protocol[] optional | The protocols for which the permission tracing is applicable. Possible values:<br>• "cifs" - CIFS Protocol,<br>• "nfs" - NFS Protocol |
| **return-record** | | boolean optional | If set to true, returns the security-trace-filter on successful creation. Default: false |
| **time-enabled** | **[1..720]** | integer optional | The admin can specify a timeout for this filter after which it would be disabled. |
| **trace-allow** | | boolean optional | The deny events are traced by default. This option is to record trace results for allow events as well. |
| **unix-name** | | string optional | UNIX user name or user ID to trace. |
| **windows-name** | | string optional | Windows User Name to trace. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | security-trace-filter-attributes optional | The security-trace-filter created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-trace-filter-delete

[top]

Deletes the specified Security trace entry.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **index** | **[0..2^32-1]** | integer | internally created index for the filter. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-trace-filter-get-iter

[top]

Gives information about one or more Security trace entries.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-trace-filter-attributes optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | security-trace-filter-attributes optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-trace-filter object. All security-trace-filter objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | security-trace-filter-attributes[] optional | The list of attributes of security-trace-filter objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-trace-filter objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-trace-filter-modify

[top]

Modifies settings of a Security trace entry, even if it is in use.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-ip** | | ip-address optional | The IP address of the client. |
| **enabled** | | enable optional | This is used to enable or disable the filter. |
| **index** | **[0..2^32-1]** | integer | internally created index for the filter. |
| **path** | | string optional | Path to match. |
| **protocols** | | sectrace-protocol[] optional | The protocols for which the permission tracing is applicable. Possible values:<br>• "cifs" - CIFS Protocol,<br>• "nfs" - NFS Protocol |
| **time-enabled** | **[1..720]** | integer optional | The admin can specify a timeout for this filter after which it would be disabled. |
| | | | |

| | | | |
|---|---|---|---|
| **trace-allow** | | boolean optional | The deny events are traced by default. This option is to record trace results for allow events as well. |
| **unix-name** | | string optional | UNIX user name or user ID to trace. |
| **windows-name** | | string optional | Windows User Name to trace. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-trace-result-delete

[top]

Delete the specified security tracing event record.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | The cluster node on which the permission tracing event occured. |
| **seqnum** | **[0..2^64-1]** | integer | The sequence number of the permission tracing event. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-trace-result-show

[top]

Retrieve the list of permission tracing results for the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-trace-results-logs optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | security-trace-results-logs optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-trace-result object. All security-trace-result objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **attributes-list** | | security-trace-results-logs[] optional | The list of attributes of security-trace-result objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-trace-result objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **enable**

[top]

'enabled' or 'disabled'

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **sectrace-protocol**

[top]

cifs|nfs Possible values:

- "cifs" - CIFS Protocol,
- "nfs" - NFS Protocol

[none]

# Element definition: **security-trace-filter-attributes**

[top]

Security trace configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-ip** | | ip-address optional | The IP address of the client. Attributes: optional-for-create, modifiable |
| **enabled** | | enable optional | This is used to enable or disable the filter. Attributes: optional-for-create, modifiable |
| **index** | **[0..2^32-1]** | integer optional | internally created index for the filter. Attributes: key, required-for-create, non-modifiable |
| **path** | | string optional | Path to match. Attributes: optional-for-create, modifiable |
| **protocols** | | sectrace-protocol[] optional | The protocols for which the permission tracing is applicable. Attributes: optional-for-create, modifiable Possible values:<br>• "cifs" - CIFS Protocol,<br>• "nfs" - NFS Protocol |
| **time-enabled** | **[1..720]** | integer optional | The admin can specify a timeout for this filter after which it would be disabled. Attributes: optional-for-create, modifiable |
| **trace-allow** | | boolean optional | The deny events are traced by default. This option is to record trace results for allow events as well. Attributes: optional-for-create, modifiable |
| **unix-name** | | string optional | UNIX user name or user ID to trace. Attributes: optional-for-create, modifiable |
| **vserver** | | vserver-name optional | Vserver on which the permission tracing is applied. Attributes: key, non-creatable, non-modifiable |
| **windows-name** | | string optional | Windows User Name to trace. Attributes: optional-for-create, modifiable |

# Element definition: **security-trace-results-logs**

[top]

List of security tracing results. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-ip** | | ip-address optional | The IP address of the client that triggered the permission tracing event. Attributes: required-for-create, non-modifiable |
| **index** | **[0..2^32-1]** | integer optional | The index of the filter corresponding to the permission tracing event. Attributes: required-for-create, non-modifiable |
| **keytime** | | date optional | The date and time of day when the persmission tracing event occured. Attributes: required-for-create, non-modifiable |
| **node** | | node-name optional | The cluster node on which the permission tracing event occured. Attributes: key, required-for-create, non-modifiable |
| **path** | | string optional | The path of the file whose access triggered the permission tracing event. Attributes: required-for-create, non-modifiable |
| **protocol** | | sectrace-protocol optional | Protocol for which the permission tracing is configured. Attributes: required-for-create, non-modifiable Possible values:<br>• "cifs" - CIFS Protocol,<br>• "nfs" - NFS Protocol |
| **result** | | string optional | A brief explanation of the result of the security check. Attributes: required-for-create, non-modifiable |
| **security-style** | | security-style optional | The security style of the file system where the persmission tracing event occured. Attributes: required-for-create, non-modifiable Possible values:<br>• "security_none" - Security not Set,<br>• "security_unix_modebits" - UNIX and UNIX permissions,<br>• "security_unix_acl" - UNIX and NFSv4 ACL,<br>• "security_unix_sd" - UNIX and NT ACL,<br>• "security_mixed_modebits" - MIXED and UNIX permissions,<br>• "security_mixed_acl" - MIXED and NFSv4 ACL,<br>• "security_mixed_sd" - MIXED and NT ACL,<br>• "security_ntfs_modebits" - NTFS and UNIX permissions,<br>• "security_ntfs_acl" - NTFS and NT ACL,<br>• "security_ntfs_sd" - NTFS and NT ACL,<br>• "security_unix" - UNIX,<br>• "security_mixed" - MIXED,<br>• "security_ntfs" - NTFS,<br>• "security_modebits" - UNIX permissions,<br>• "security_acl" - ACL,<br>• "security_sd" - SD |
| **seqnum** | **[0..2^64-1]** | integer optional | The sequence number of the permission tracing event. Attributes: key, required-for-create, non-modifiable |
| **session-id** | **[0..2^64-1]** | integer optional | The unique identifier for the CIFS session. Attributes: required-for-create, non-modifiable |
| **share-name** | | string optional | CIFS Share name which has been accessed. Attributes: required-for-create, non-modifiable |
| **unix-user** | | string optional | Mapped UNIX User who triggered the permission tracing event. Attributes: required-for-create, non-modifiable |
| **user-name** | | string optional | Windows User who triggered the permission tracing event. Attributes: optional-for-create, non-modifiable |
| **volume-name** | | string optional | Name of the volume that has been accessed. Attributes: required-for-create, non-modifiable |
| **vserver** | | vserver-name | The Vserver on which the permission tracing event occured. Attributes: |

| | | | |
|---|---|---|---|
| | | optional | key, non-creatable, non-modifiable |

## Element definition: **date** [top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

## Element definition: **enable** [top]

'enabled' or 'disabled'

[none]

## Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

## Element definition: **node-name** [top]

The node's name

[none]

## Element definition: **sectrace-protocol** [top]

cifs|nfs Possible values:

- "cifs" - CIFS Protocol,
- "nfs" - NFS Protocol

[none]

## Element definition: **security-style** [top]

Effective security style on file Possible values:

- "security_none" - Security not Set,
- "security_unix_modebits" - UNIX and UNIX permissions,
- "security_unix_acl" - UNIX and NFSv4 ACL,
- "security_unix_sd" - UNIX and NT ACL,
- "security_mixed_modebits" - MIXED and UNIX permissions,
- "security_mixed_acl" - MIXED and NFSv4 ACL,
- "security_mixed_sd" - MIXED and NT ACL,
- "security_ntfs_modebits" - NTFS and UNIX permissions,
- "security_ntfs_acl" - NTFS and NT ACL,
- "security_ntfs_sd" - NTFS and NT ACL,
- "security_unix" - UNIX,
- "security_mixed" - MIXED,
- "security_ntfs" - NTFS,
- "security_modebits" - UNIX permissions,
- "security_acl" - ACL,
- "security_sd" - SD

[none]

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **security**


security-config-get
security-config-modify
security-config-ocsp-disable
security-config-ocsp-enable
security-config-ocsp-get-iter
security-last-login-info
security-login-create
security-login-delete
security-login-delete-iter
security-login-expire-password
security-login-expire-password-iter
security-login-get
security-login-get-iter
security-login-lock
security-login-modify
security-login-modify-iter
security-login-modify-password
security-login-role-config-get
security-login-role-config-get-iter
security-login-role-config-modify
security-login-role-config-modify-iter
security-login-role-create
security-login-role-delete
security-login-role-delete-iter
security-login-role-get
security-login-role-get-iter
security-login-role-modify
security-login-role-modify-iter
security-login-unlock
security-login-whoami
security-protocol-get
security-protocol-modify
security-protocol-ssh-get
security-protocol-ssh-modify
security-saml-sp-create-async
security-saml-sp-destroy
security-saml-sp-get
security-saml-sp-modify
security-ssh-add
security-ssh-get-iter
security-ssh-remove
security-ssh-reset


This set of ZAPIs allow to manage security of the system.

# security-config-get

[top]

Display Cluster Security Configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **interface** | | fips-interfaces | Type Of Interface. Deprecated as of ONTAP 9.8 and may be removed in a future release. Possible values:<br>• "ssl" |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-config-info | The attributes of the security. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-config-modify

[top]

Modify Cluster Security Configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | fips-interfaces | Type Of Interface. Deprecated as of ONTAP 9.8 and may be removed in a future release. Possible values:<br>• "ssl" |
| **is-fips-enabled** | | boolean optional | Data ONTAP FIPS Mode. |
| **supported-cipher-suites** | | string[] optional | Data ONTAP Supported Cipher Suites. |
| **supported-ciphers** | | string optional | Data ONTAP Supported Ciphers. Deprecated as of ONTAP 9.8 and may be removed in a future release. |
| **supported-protocols** | | string[] optional | Data ONTAP Supported Protocols. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-config-ocsp-disable

[top]

Disable OCSP for one or more selected applications

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string[] | Application Name<br><br>Possible values:<br><br>• 'autosupport' - AutoSupport,<br>• 'audit_log' - Audit-Logging,<br>• 'fabricpool' - FabricPool,<br>• 'ems' - EMS,<br>• 'kmip' - KMIP,<br>• 'ldap_ad' - LDAP-AD,<br>• 'ldap_nis_namemap' - LDAP-NIS-NameMap,<br>• 'all' - All Applications |

| Errno | Description |
|---|---|
| **E_SECURITY_CONFIG_ALL_CANNOT_COEXIST** | |

# security-config-ocsp-enable

[top]

Enable OCSP for one or more selected applications

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string[] | Application Name<br><br>Possible values:<br><br>• 'autosupport' - AutoSupport,<br>• 'audit_log' - Audit-Logging,<br>• 'fabricpool' - FabricPool,<br>• 'ems' - EMS,<br>• 'kmip' - KMIP,<br>• 'ldap_ad' - LDAP-AD,<br>• 'ldap_nis_namemap' - LDAP-NIS-NameMap,<br>• 'all' - All Applications |

| Errno | Description |
|---|---|
| **E_SECURITY_CONFIG_ALL_CANNOT_COEXIST** | |

# security-config-ocsp-get-iter

[top]

Display OCSP Support Status for Applications

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-config-ocsp optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | security-config-ocsp optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security object. All security objects matching this query up to 'max-records' will be returned. |

| | | | |
|---|---|---|---|
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | security-config-ocsp[] optional | The list of attributes of security objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-last-login-info

[top]

Show the last login time, unsuccessful login attempts and role change since last login.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **username** | | string | Name of user or group. |
| **vserver** | | string | Name of vserver. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **last-login-time** | | date optional | last successful login time |
| **last-role-change** | | true-false optional | Role change since last login |
| **last-unsuccessful-attempts** | | integer optional | Unsuccessful login attempts |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-login-create

[top]

Create a new user account associated with the specified application and authentication method. The new account can be local to ONTAP or an user/group configured in an external Active-Directory/LDAP/NIS server. In case of Active-Directory/LDAP/NIS group as the user account, access will be granted to its member users.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string | Name of the application. Possible values:<br>• 'amqp'<br>• 'console'<br>• 'http'<br>• 'ontapi'<br>• 'rsh'<br>• 'snmp' |

| | | | |
|---|---|---|---|
| | | | • 'service-processor'<br>• 'ssh'<br>• 'telnet'<br>. |
| **authentication-method** | | string | Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are:<br>• 'password' for 'amqp'' application.<br>• 'password' for 'console' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'http' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application.<br>• 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users).<br>• 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users).<br>• 'password' for 'service-processor' application.<br>• 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application. |
| **comment** | | string optional | Comments for the user account. The length of comment should be less than or equal to 128 charaters. |
| **is-ldap-fastbind** | | boolean optional | Whether the Authentication is LDAP Fastbind or not. |
| **is-ns-switch-group** | | boolean optional | Whether the added group is ns-switch group or not. |
| **is-password-hashed** | | boolean optional | This optionally specifies whether password entered by user is pre-hashed. This is ignored for creating snmp users. This is required for creating non-snmp users. |
| **password** | | string optional | Password for the user account. This field is not required (and will be ignored if present) when creating a user for the SNMP application. It is required for all other applications. |
| **remote-switch-ipaddress** | | string optional | This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model). |
| **role-name** | | string optional | The profile/role to be associated with the user. The default value is 'admin' for Admin Vserver. |
| **second-authentication-method** | | string optional | second authentication method for ssh application. Possible values: 'none', 'password', 'publickey' && 'nsswitch'.<br>• 'none'.<br>• 'password'.<br>• 'publickey'.<br>• 'nsswitch'. |
| **snmpv3-login-info** | | snmpv3-login-info optional | SNMPv3 user login information for 'usm' authentication method |
| **user-name** | | string | Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application. |
| **vserver** | | string | Name of the Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |

| | |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EINVALIDUSERNAME** | |
| **EINVALIDAPPLICATION** | |
| **EINVALIDAUTHENTICATIONMETHOD** | |
| **EROLENOTFOUND** | |
| **EINVALID_ENGINE_ID** | |
| **E_INVALID_AUTHENTICATION_PROTOCOL** | |
| **E_INVALID_PRIVACY_PROTOCOL** | |
| **E_RSH_USER_CREATION_NOT_SUPPORTED** | |
| **E_TELNET_USER_CREATION_NOT_SUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |
| **EINVALIDPASSWORD** | |
| **EINVALIDACCESS** | |
| **EASUPUSEROPERATIONFAILED** | |
| **E_COMMUNITY_CREATE_FAILED** | |
| **E_FAILED_TO_CREATE_SNMPV3_USER** | |
| **E_SECOND_AUTH_METHOD_SHOULD_BE_USED_WITH_SSH** | |
| **E_SECOND_AUTH_METHOD_SHOULD_BE_USED_WITH_FIRST_METHOD_PWD_PUB_NSSWITCH** | |
| **E_SECOND_AUTH_METHOD_SHOULD_BE_DIFF_FIRST_METHOD** | |
| **E_AUTH_METHOD_ALREADY_EXISTS_COMPLEMENTARY_PAIR** | |
| **E_SAME_USER_ALREADY_EXISTS_MFA_ENTRY** | |
| **E_RBAC_FAILED_TO_DISCOVER_SNMPV3_ENGINEID** | |
| **E_RBAC_REMOTEIP_SPECIFIED_FOR_NON_ADMIN_VSERVER** | |
| **E_RBAC_REMOTEIP_SPECIFIED_FOR_NON_SNMPV3_USER** | |
| **E_RBAC_ALL_ZEROS_REMOTEIP** | |
| **E_RBAC_ENGINEID_ASSOCIATED_WITH_EXISTING_USERNAME** | |
| **E_SNMPV3_CLIENT_UNAVAILABLE** | |

# security-login-delete

[top]

Delete an existing user account object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string | Name of the application. Possible values:<br>• 'amqp'<br>• 'console'<br>• 'http'<br>• 'ontapi'<br>• 'rsh'<br>• 'snmp'<br>• 'service-processor'<br>• 'ssh'<br>• 'telnet'<br>. |
| | | | Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are:<br>• 'password' for 'amqp'' application. |

| | | | |
|---|---|---|---|
| **authentication-method** | | string | • 'password' for 'console' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'http' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application.<br>• 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users).<br>• 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users).<br>• 'password' for 'service-processor' application.<br>• 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application. |
| **remote-switch-ipaddress** | | string optional | This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model). |
| **user-name** | | string | Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application. |
| **vserver** | | string | Name of the Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EUSERNOTFOUND** | |
| **EAPPLICATIONNOTFOUND** | |
| **EAUTHENTICATIONMETHODNOTFOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |
| **EINVALIDACCESS** | |
| **EASUPUSEROPERATIONFAILED** | |

# security-login-delete-iter

[top]

Delete an existing user account or a group of user account objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security login account objects match a given query. If set to true, the API will continue deleting the next matching security login account even when the deletion of a previous security login account fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching security login account even when the deletion of a previous matching security login account fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of security login account objects to delete in this call. Default: 20 |
| | | security- | |

| | | | |
|---|---|---|---|
| **query** | | login-account-info | If deleting a specific security login account, this input element must specify all keys. If deleting multiple security login account objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security login account objects (just keys) that were not deleted due to some error. If set to false, the list of security login account objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security login account objects (just keys) that were successfully deleted. If set to false, the list of security login account objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-login-delete-iter-info[] optional | Information about security login account objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security login account objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of security login account objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security login account objects that matched the query and were successfully deleted. |
| **success-list** | | security-login-delete-iter-info[] optional | The security login account objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-login-expire-password

[top]

If the user has a password enabled, this API will cause it to immediately expire. Current login sessions will still remain available.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **password-hash-algorithm** | | string optional | This optionally specifies password hash algorithm used to encrypt user's password. Possible values:<br>• sha512<br>• sha256<br>• md5 |
| **user-name** | | string | Name of the user whose password need to be expired. |
| **vserver** | | string | Name of the Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

| EUSERNOTFOUND | |
|---|---|

# security-login-expire-password-iter

[top]

Iterate over a list of user account that uses password as authentication method to immedialtely expire their passwords. Current login sessions will still remain available.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security objects match a given query. If set to true, the API will continue with the next matching security even when the operation fails for the security. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching security even when the operation on a previous matching security fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of security objects to be operated in this call. Default: 20 |
| **query** | | security-login-password-user-info | If operating on a specific security, this input element must specify all keys. If operating on security objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security objects (just keys) that were not operated on due to some error. If set to false, the list of security objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security objects (just keys) that were successfully operated on. If set to false, the list of security objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-login-expire-password-iter-info[] optional | Information about security objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of security objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security objects that matched the query and were successfully processed. |
| **success-list** | | security-login-expire-password-iter-info[] optional | The security objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|

| EINTERNALERROR | |
|---|---|

# security-login-get

[top]

Get the attributes of a user account.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string | Name of the application. Possible values:<br>• 'amqp'<br>• 'console'<br>• 'http'<br>• 'ontapi'<br>• 'rsh'<br>• 'snmp'<br>• 'service-processor'<br>• 'ssh'<br>• 'telnet'<br>. |
| **authentication-method** | | string | Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are:<br>• 'password' for 'amqp'' application.<br>• 'password' for 'console' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'http' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application.<br>• 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users).<br>• 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users).<br>• 'password' for 'service-processor' application.<br>• 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application. |
| **desired-attributes** | | security-login-account-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **remote-switch-ipaddress** | | string optional | This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model). |
| **user-name** | | string | Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application. |
| **vserver** | | string | Name of the Vserver. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-login-account-info | The attributes of the security login account. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVSERVERNOTFOUND | |
| EUSERNOTFOUND | |
| EAPPLICATIONNOTFOUND | |
| EAUTHENTICATIONMETHODNOTFOUND | |

# security-login-get-iter

[top]

Iterate over a list of user account objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | security-login-account-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | security-login-account-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security login account object. All security login account objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | security-login-account-info[] optional | The list of attributes of security login account objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more security login account objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# security-login-lock

[top]

Lock a user account that uses password as the authentication method. Returns an error if the user account does not use password authentication.

| Input Name | Range | Type | Description |
|---|---|---|---|
| user-name | | string | Name of the user account to be locked. |
| vserver | | string | Name of the Vserver. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVSERVERNOTFOUND | |
| EUSERNOTFOUND | |
| EUSERLOCKFAILED | |
| E_LOCK_NOT_SUPPORTED | |
| EINVALIDACCESS | |

# security-login-modify

[top]

Modify the attributes of a user account object. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| application | | string | Name of the application. Possible values:<br>• 'amqp'<br>• 'console'<br>• 'http'<br>• 'ontapi'<br>• 'rsh'<br>• 'snmp'<br>• 'service-processor'<br>• 'ssh'<br>• 'telnet'<br>. |
| authentication-method | | string | Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are:<br>• 'password' for 'amqp'' application.<br>• 'password' for 'console' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'http' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application.<br>• 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users).<br>• 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users).<br>• 'password' for 'service-processor' application.<br>• 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application. |
| comment | | string optional | Comments for the user account. The length of comment should be less than or equal to 128 charaters. |
| is-ldap-fastbind | | boolean optional | Whether the Authentication is LDAP Fastbind or not. |
| is-ns-switch-group | | boolean optional | Whether the added group is ns-switch group or not. |
| remote-switch-ipaddress | | string optional | This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model). |
| role-name | | string | The profile/role to be associated with the user. The default value is 'admin' for Admin Vserver. |

| | | | |
|---|---|---|---|
| **second-authentication-method** | | string optional | second authentication method for ssh application. Possible values: 'none', 'password', 'publickey' && 'nsswitch'.<br>• 'none'.<br>• 'password'.<br>• 'publickey'.<br>• 'nsswitch'. |
| **user-name** | | string | Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application. |
| **vserver** | | string | Name of the Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EUSERNOTFOUND** | |
| **EAPPLICATIONNOTFOUND** | |
| **EAUTHENTICATIONMETHODNOTFOUND** | |
| **EROLENOTFOUND** | |
| **E_NO_PASSWORD** | |
| **E_INVALID_AUTHENTICATION_PROTOCOL** | |
| **E_INVALID_PRIVACY_PROTOCOL** | |
| **E_NO_AUTHENTICATION_PASSWORD** | |
| **E_NO_PRIVACY_PASSWORD** | |
| **E_INVALID_AUTHENTICATION_PASSWORD** | |
| **E_INVALID_PRIVACY_PASSWORD** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |
| **EINVALIDACCESS** | |
| **EASUPUSEROPERATIONFAILED** | |
| **E_SAME_USER_ALREADY_EXISTS_MFA_ENTRY** | |
| **E_TWO_DIFFERENT_PROFILES** | |

# security-login-modify-iter

[top]

Modify the attributes of a user account or a group of user account objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-login-account-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security login account objects match a given query. If set to true, the API will continue modifying the next matching security login account even when modification of a previous security login account fails. If set to false, the API will return on the first failure. Default: false |
| | | | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching security login account even when the modification of a |

| | | | |
|---|---|---|---|
| **max-failure-count** | **[1..2^32-1]** | integer optional | previous matching security login account fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | security-login-account-info | If modifying a specific security login account, this input element must specify all keys. If modifying security login account objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security login account objects (just keys) that were not modified due to some error. If set to false, the list of security login account objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security login account objects (just keys) that were successfully updated. If set to false, the list of security login account objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-login-modify-iter-info[] optional | Information about security login account objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security login account objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of security login account objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security login account objects that matched the query and were successfully updated. |
| **success-list** | | security-login-modify-iter-info[] optional | The security login account objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-login-modify-password

[top]

Changes the password of a specified user.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-password-hashed** | | boolean optional | This optionally specifies whether password entered by user is pre-hashed. |
| **new-password** | | string | New password of the user. |
| **password-** | | string | This optionally specifies password hash algorithm used to encrypt user's password. The default value is 'sha512'. Possible values: |

| | | | |
|---|---|---|---|
| **hash-algorithm** | | optional | • sha512<br>• sha256 |
| **user-name** | | string<br>optional | The user whose password should be changed. This is mandatory when a user with admin role is modifying the password of another user. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDPASSWORD** | |
| **EONTAPI_EPERM** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-login-role-config-get

[top]

Get the attributes of a role configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-login-role-config-info<br>optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **role-name** | | string | Name of the role. |
| **vserver** | | string | Name of the Vserver. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-login-role-config-info | The attributes of the security login roleconfig. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EROLENOTFOUND** | |
| **EROLECONFIGNOTFOUND** | |

# security-login-role-config-get-iter

[top]

Iterate over a list of role objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-login-role-config-info<br>optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer<br>optional | The maximum number of records to return in this call. Default: 20 |
| | | security- | |

| | | | |
|---|---|---|---|
| **query** | | login-role-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security login roleconfig object. All security login roleconfig objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | security-login-role-config-info[] optional | The list of attributes of security login roleconfig objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security login roleconfig objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-login-role-config-modify

[top]

Modify the specified attributes of role configuration object. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **account-expiry-time** | | string optional | This optionally specifies the expiration period of user accounts. The default setting is 2^32-1 meaning that no accounts will be marked for expiration. |
| **account-inactive-limit** | | string optional | This optionally specifies the maximum duration of inactivity leading to expiration of user account. The default setting is 2^32-1, meaning that no account will expire based on inactivity. |
| **change-password-duration-in-days** | **[0..1000]** | integer optional | This optionally specifies the number of days that must pass between password changes. The default setting is 0 (zero) meaning the user is allowed to change the password immediately. |
| **delay-after-failed-login** | **[1..60]** | integer optional | This optionally specifies the delay after each failed login attempt in seconds. Default is 4 secs. |
| **last-passwords-disallowed-count** | **[1..25]** | integer optional | This optionally specifies the number of previous passwords that are disallowed for reuse. The default setting is 6. |
| **lockout-duration** | **[0..2^32-1]** | integer optional | This optionally specifies the number of days to lock the account if maximum number of failed attempts occur. Default is 0. |
| **max-failed-login-attempts** | **[0..2^32-1]** | integer optional | This optionally specifies the maximum number of invalid login attempts after which the account gets locked. Default is 0. |
| **min-passwd-specialchar** | **[0..64]** | integer optional | This optionally specifies the minimum special characters required in password. The default setting is no special chars i.e. 0. |
| **min-password-size** | **[3..64]** | integer optional | This optionally specifies the minimum length of the password. Possible values range from 3 to 64 characters. The default setting is 8 characters. |
| **min-username-size** | **[3..16]** | integer optional | The minimum length of the user name. Possible values range from 3 to 16 characters. The default setting is 3 characters. |
| **passwd-expiry-** | | string | If configured, this optionally specifies when the user starts receiving warning messages regarding upcoming password expiry. The default |

| | | | |
|---|---|---|---|
| **warn-time** | | optional | setting is 2^32-1. |
| **passwd-min-digits** | **[0..64]** | integer optional | This optionally specifies the minimum number of digits required in the password. The default setting is 0. |
| **passwd-min-lowercase-chars** | **[0..64]** | integer optional | This optionally specifies the minimum number of lowercase alphabetic characters required in the password. The default setting is 0. |
| **passwd-min-uppercase-chars** | **[0..64]** | integer optional | This optionally specifies the minimum number of uppercase alphabetic characters required in the password. The default setting is 0. |
| **password-expiration-duration** | | string optional | This optionally specifies the password expiry in days. A value of 0 means it expiries now. Default is 2^32-1 (ie., never expire). |
| **require-initial-password-update** | | boolean optional | This optionally specifies to change the password upon first-login to the storage controller from SSH or serial-console. Default is false. |
| **require-password-alpha-numeric** | | boolean optional | If this field is set it specifies that the password must have atleast 1 alpha and 1 numeric character. |
| **require-username-alpha-numeric** | | boolean optional | If this field is set it specifies that the username must have atleast 1 alpha and 1 numeric character. |
| **role-name** | | string | Name of the role. |
| **vserver** | | string | Name of the Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EROLENOTFOUND** | |
| **EROLECONFIGNOTFOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-login-role-config-modify-iter

[top]

Modify the attributes of role configuration or a group of role configuration objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-login-role-config-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security login roleconfig objects match a given query. If set to true, the API will continue modifying the next matching security login roleconfig even when modification of a previous security login roleconfig fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching security login roleconfig even when the modification of a previous matching security login roleconfig fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the |

| | | | |
|---|---|---|---|
| | | | number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | security-login-role-config-info | If modifying a specific security login roleconfig, this input element must specify all keys. If modifying security login roleconfig objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security login roleconfig objects (just keys) that were not modified due to some error. If set to false, the list of security login roleconfig objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security login roleconfig objects (just keys) that were successfully updated. If set to false, the list of security login roleconfig objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-login-role-config-modify-iter-info[] optional | Information about security login roleconfig objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security login roleconfig objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of security login roleconfig objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security login roleconfig objects that matched the query and were successfully updated. |
| **success-list** | | security-login-role-config-modify-iter-info[] optional | The security login roleconfig objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-login-role-create

[top]

Create a new user role.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-level** | | string optional | Access level for the role. Possible values: 'none', 'readonly', 'all'. The default value is 'all'. |
| **command-directory-name** | | string | The command or command directory to which the role has an access. |

| | | | |
|---|---|---|---|
| **return-record** | | boolean optional | If set to true, returns the security login role on successful creation. Default: false |
| **role-name** | | string | Name of the role. |
| **role-query** | | string optional | A query for the role. The query must apply to the specified command or directory name. Example: The command is 'volume show' and the query is '-volume vol1'. The query is applied to the command resulting in populating only the volumes with name vol1. |
| **vserver** | | string | Name of the Vserver. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | security-login-role-info optional | The security login role created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EINVALIDROLENAME** | |
| **EINVALIDCMDDIRNAME** | |
| **EINVALIDACCESS** | |
| **EINVALIDQUERY** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-login-role-delete

[top]

Delete an existing user role object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **command-directory-name** | | string | The command or command directory to which the role has an access. |
| **role-name** | | string | Name of the role. |
| **vserver** | | string | Name of the Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EROLENOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **ECMDDIRNOTFOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-login-role-delete-iter

[top]

Delete an existing user role or a group of user role objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security login role objects match a given query. If set to true, the API will continue deleting the next matching security login role even when the deletion of a previous security login role fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching security login role even when the deletion of a previous matching security login role fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of security login role objects to delete in this call. Default: 20 |
| **query** | | security-login-role-info | If deleting a specific security login role, this input element must specify all keys. If deleting multiple security login role objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security login role objects (just keys) that were not deleted due to some error. If set to false, the list of security login role objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security login role objects (just keys) that were successfully deleted. If set to false, the list of security login role objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-login-role-delete-iter-info[] optional | Information about security login role objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security login role objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of security login role objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security login role objects that matched the query and were successfully deleted. |
| **success-list** | | security-login-role-delete-iter-info[] optional | The security login role objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-login-role-get

[top]

Get the attributes of a user role.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **command-directory-name** | | string | The command or command directory to which the role has an access. |
| **desired-attributes** | | security-login-role-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **role-name** | | string | Name of the role. |
| **vserver** | | string | Name of the Vserver. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-login-role-info | The attributes of the security login role. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EROLENOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **ECMDDIRNOTFOUND** | |

# security-login-role-get-iter

[top]

Iterate over a list of user role objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-login-role-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | security-login-role-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security login role object. All security login role objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | security-login-role-info[] optional | The list of attributes of security login role objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security login role objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-login-role-modify

[top]

Modify the attributes of user role object. Omitted (optional) fields will not be changed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-level** | | string optional | Access level for the role. Possible values: 'none', 'readonly', 'all'. The default value is 'all'. |
| **command-directory-name** | | string | The command or command directory to which the role has an access. |
| **role-name** | | string | Name of the role. |
| **role-query** | | string optional | A query for the role. The query must apply to the specified command or directory name. Example: The command is 'volume show' and the query is '-volume vol1'. The query is applied to the command resulting in populating only the volumes with name vol1. |
| **vserver** | | string | Name of the Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EINVALIDROLENAME** | |
| **EINVALIDCMDDIRNAME** | |
| **EINVALIDACCESS** | |
| **EINVALIDACCESSLEVEL** | |
| **EINVALIDQUERY** | |
| **EINVALIDROLEQUERY** | |
| **E_PREDEFINED_ROLES_UNMUTABLE** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-login-role-modify-iter

[top]

Modify the attributes of user role or a group of user role objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-login-role-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security login role objects match a given query. If set to true, the API will continue modifying the next matching security login role even when modification of a previous security login role fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching security login role even when the modification of a previous matching security login role fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | security-login-role-info | If modifying a specific security login role, this input element must specify all keys. If modifying security login role objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security login role objects (just keys) that were not modified due to some error. If set to false, the list of security login role objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security login role objects (just keys) that were successfully updated. If set to false, the list of security login role objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-login-role-modify-iter-info[] optional | Information about security login role objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security login role objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of security login role objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security login role objects that matched the query and were successfully updated. |
| **success-list** | | security-login-role-modify-iter-info[] optional | The security login role objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-login-unlock

[top]

Unlock a user account that uses password as authentication method. Returns an error if the user account does not use password authentication.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **user-name** | | string | Name of the user account to be unlocked. |
| **vserver** | | string | Name of the Vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EUSERNOTFOUND** | |
| **EUSERUNLOCKFAILED** | |

| | |
|---|---|
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |
| **EINVALIDACCESS** | |

## security-login-whoami

[top]

Show the current user and role of this session.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-login-account-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-login-account-info | The attributes of the security login whoami. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## security-protocol-get

[top]

Get the security protocol configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string | Name of the application.Possible values:<br>• 'rsh'<br>• 'telnet'<br>. |
| **desired-attributes** | | security-protocol-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-protocol-info | The attributes of the security protocol. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-protocol-modify

[top]

Modify the security protocol configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string | Name of the application.Possible values:<br>• 'rsh'<br>• 'telnet'<br>. |
| **enabled** | | boolean | To enable or disable application. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-protocol-ssh-get

[top]

Get the security protocol ssh configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-protocol-ssh-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | security-protocol-ssh-info | The attributes of the security protocol ssh. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-protocol-ssh-modify

[top]

Modifies the security protocol ssh configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connections-per-second** | **[1..70]** | integer | Connections Per Second |
| **max-instances** | **[1..128]** | integer | Maximum Number of Instances |
| **per-source-limit** | **[1..64]** | integer | Per-Source Limit |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-saml-sp-create-async

[top]

Configure SAML service provider information. Note that this restarts the web server. Any HTTP/S connections that are active will be disrupted.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cert-ca** | | string optional | Specify the service prvider's certificate issuing CA. |
| **cert-common-name** | | common-name optional | Specify the service providers certificate's common name. |
| **cert-serial** | | string optional | Specify the service providers certificate's serial number. |
| **idp-uri** | | uri | Specify the URI containing the metadata of the identity provider. |
| **sp-host** | | remote-inet-address optional | Specify the SAML SP service provider host address. |
| **verify-metadata-server** | | boolean optional | Specify whether to verify the IdP metadata server identity. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | saml-sp-config-info optional | The security created (keys or the entire object if requested) |
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | The ID of the job that was spawned to create this security. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-saml-sp-destroy

[top]

Delete SAML service provider configuration information. Note that this restarts the web server. Any HTTP/S connections that are active will be disrupted.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

[top]

# security-saml-sp-get

Get SAML service provider configuration information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | saml-sp-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | saml-sp-config-info | The attributes of the security. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-saml-sp-modify

[top]

Modify SAML service provider configuration information. Note that this may restart the web server. Any HTTP/S connections that are active may be disrupted. Prior to disabling SAML service provider authentication, to prevent losing access, ensure that there are user accounts configured for non-SAML authentication.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Enable or disable the configured SAML SP for authentication. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-ssh-add

[top]

Adds the input algorithms, ciphers and mac algorithms to the SSH configuration. Existing algorithms, ciphers and mac algorithms remain in the configuration. API will succeed if requested kex algorithm or cipher or MAC algorithm is not currently enabled in the configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ciphers** | | ciphers[] optional | List of SSH Ciphers to Add |
| **key-exchange-algorithms** | | kex-algorithms[] optional | List of SSH Key Exchange Algorithms to Add |
| **mac-algorithms** | | mac-algorithms[] optional | List of SSH MAC Algorithms to Add |
| **vserver** | | vserver-name-data-admin optional | Name of Vserver. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# security-ssh-get-iter

[top]

Display SSH configuration options

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | security-ssh-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | security-ssh-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the ssh object. All ssh objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | security-ssh-info[] optional | The list of attributes of ssh objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more ssh objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# security-ssh-remove

[top]

Removes the input algorithms, ciphers and MAC algorithms from the SSH configuration. API will succeed if requested kex algorithm or cipher or MAC algorithm is already currently enabled in the configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| ciphers | | ciphers[] optional | List of SSH Ciphers to Remove |
| key-exchange-algorithms | | kex-algorithms[] optional | List of SSH Key Exchange Algorithms to Remove |
| mac-algorithms | | mac-algorithms[] optional | List of SSH MAC algorithms to Remove |
| vserver | | vserver-name-data-admin optional | Name of Vserver. |

| | |
|---|---|

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# security-ssh-reset

[top]

Enable and replace SSH configuration options to this new setting

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ciphers** | | ciphers[] optional | List of SSH Ciphers enabled. Possible values:<br>• "aes256_ctr" ,<br>• "aes192_ctr" ,<br>• "aes128_ctr" ,<br>• "aes256_cbc" ,<br>• "aes192_cbc" ,<br>• "aes128_cbc" ,<br>• "3des_cbc" ,<br>• "aes128_gcm" ,<br>• "aes256_gcm" |
| **key-exchange-algorithms** | | kex-algorithms[] optional | List of SSH key exchange algorithms enabled. Possible values:<br>• "diffie_hellman_group_exchange_sha256" ,<br>• "diffie_hellman_group_exchange_sha1" ,<br>• "diffie_hellman_group14_sha1" ,<br>• "diffie_hellman_group1_sha1" ,<br>• "ecdh_sha2_nistp256" ,<br>• "ecdh_sha2_nistp384" ,<br>• "ecdh_sha2_nistp521" ,<br>• "curve25519_sha256" |
| **mac-algorithms** | | mac-algorithms[] optional | List of SSH MAC algorithms enabled. Possible values:<br>• "hmac_md5" ,<br>• "hmac_md5_96" ,<br>• "hmac_md5_etm" ,<br>• "hmac_md5_96_etm" ,<br>• "hmac_ripemd160" ,<br>• "hmac_ripemd160_etm" ,<br>• "hmac_sha1" ,<br>• "hmac_sha1_etm" ,<br>• "hmac_sha1_96" ,<br>• "hmac_sha1_96_etm" ,<br>• "hmac_sha2_256" ,<br>• "hmac_sha2_256_etm" ,<br>• "hmac_sha2_512" ,<br>• "hmac_sha2_512_etm" ,<br>• "umac_64" ,<br>• "umac_128" ,<br>• "umac_64_etm" ,<br>• "umac_128_etm" |
| **max-authentication-retry-count** | **[2..6]** | integer optional | Maximum Authentication Retry Count. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

## Element definition: **ciphers**

[top]

cipher name Possible values:

- "aes256_ctr" ,
- "aes192_ctr" ,
- "aes128_ctr" ,
- "aes256_cbc" ,
- "aes192_cbc" ,
- "aes128_cbc" ,
- "3des_cbc" ,
- "aes128_gcm" ,
- "aes256_gcm"

[none]

## Element definition: **common-name**

[top]

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

## Element definition: **date**

[top]

Date (in seconds since Jan. 1, 1970 12:00:00) Range : [0..2^31-1].

[none]

## Element definition: **fips-interfaces**

[top]

SSL Possible values:

- "ssl"

[none]

## Element definition: **kex-algorithms**

[top]

algorithm name Possible values:

- "diffie_hellman_group_exchange_sha256" ,
- "diffie_hellman_group_exchange_sha1" ,
- "diffie_hellman_group14_sha1" ,
- "diffie_hellman_group1_sha1" ,
- "ecdh_sha2_nistp256" ,
- "ecdh_sha2_nistp384" ,
- "ecdh_sha2_nistp521" ,
- "curve25519_sha256"

[none]

## Element definition: **mac-algorithms**

[top]

MAC name Possible values:

- "hmac_md5" ,
- "hmac_md5_96" ,
- "hmac_md5_etm" ,
- "hmac_md5_96_etm" ,
- "hmac_ripemd160" ,
- "hmac_ripemd160_etm" ,
- "hmac_sha1" ,
- "hmac_sha1_etm" ,
- "hmac_sha1_96" ,
- "hmac_sha1_96_etm" ,
- "hmac_sha2_256" ,
- "hmac_sha2_256_etm" ,
- "hmac_sha2_512" ,
- "hmac_sha2_512_etm" ,
- "umac_64" ,
- "umac_128" ,
- "umac_64_etm" ,
- "umac_128_etm"

[none]

## Element definition: **remote-inet-address**

[top]

IPv4 Address, IPv6 Address or Host Name

[none]

## Element definition: **saml-sp-config-info**

[top]

SAML SP configuration information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cert-ca** | | string optional | Specify the service prvider's certificate issuing CA. Attributes: optional-for-create, non-modifiable |
| **cert-common-name** | | common-name optional | Specify the service providers certificate's common name. Attributes: optional-for-create, non-modifiable |
| **cert-serial** | | string optional | Specify the service providers certificate's serial number. Attributes: optional-for-create, non-modifiable |
| **idp-uri** | | uri optional | Specify the URI containing the metadata of the identity provider. Attributes: required-for-create, non-modifiable |
| **is-enabled** | | boolean optional | Enable or disable the configured SAML SP for authentication. Attributes: non-creatable, modifiable |
| **sp-host** | | remote-inet-address optional | Specify the SAML SP service provider host address. Attributes: optional-for-create, non-modifiable |
| **verify-metadata-server** | | boolean optional | Specify whether to verify the IdP metadata server identity. Attributes: optional-for-create, non-modifiable |

# Element definition: **security-config-info**

[top]

Provide Security Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster-security-config-ready** | | boolean optional | Cluster Security Configuration Ready. Deprecated as of ONTAP 9.9 and may be removed in a future release. Attributes: non-creatable, non-modifiable |
| **interface** | | fips-interfaces optional | Type Of Interface. Deprecated as of ONTAP 9.8 and may be removed in a future release. Attributes: key, optional-for-create, non-modifiable Possible values:<br>• "ssl" |
| **is-fips-enabled** | | boolean optional | Data ONTAP FIPS Mode. Attributes: optional-for-create, modifiable |
| **supported-cipher-suites** | | string[] optional | Data ONTAP Supported Cipher Suites. Attributes: optional-for-create, modifiable |
| **supported-ciphers** | | string optional | Data ONTAP Supported Ciphers. Deprecated as of ONTAP 9.8 and may be removed in a future release. Attributes: optional-for-create, modifiable |
| **supported-protocols** | | string[] optional | Data ONTAP Supported Protocols. Attributes: optional-for-create, modifiable |

# Element definition: **security-config-ocsp**

[top]

OCSP Support Status for Applications When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string optional | Application Name<br><br>Possible values:<br><br>• 'autosupport' - AutoSupport,<br>• 'audit_log' - Audit-Logging,<br>• 'fabricpool' - FabricPool,<br>• 'ems' - EMS,<br>• 'kmip' - KMIP,<br>• 'ldap_ad' - LDAP-AD,<br>• 'ldap_nis_namemap' - LDAP-NIS-NameMap,<br>• 'all' - All Applications<br><br>Attributes: key, non-creatable, non-modifiable |
| **is-ocsp-enabled** | | boolean optional | Is OCSP-based Certificate Status Check Enabled? Attributes: non-creatable, non-modifiable |

# Element definition: **security-login-account-info**

[top]

User account information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string optional | Name of the application. Possible values:<br><br>• 'amqp'<br>• 'console'<br>• 'http'<br>• 'ontapi'<br>• 'rsh'<br>• 'snmp'<br>• 'service-processor'<br>• 'ssh'<br>• 'telnet'<br>. Attributes: key, required-for-create, non-modifiable |
| | | | Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication |

| | | | |
|---|---|---|---|
| **authentication-method** | | string optional | methods are valid for an application. Valid authentication methods for each application are:<br><br>• 'password' for 'amqp'' application.<br>• 'password' for 'console' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'http' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application.<br>• 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users).<br>• 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users).<br>• 'password' for 'service-processor' application.<br>• 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application.<br><br>Attributes: key, required-for-create, non-modifiable |
| **comment** | | string optional | Comments for the user account. The length of comment should be less than or equal to 128 charaters. Attributes: optional-for-create, modifiable |
| **is-ldap-fastbind** | | boolean optional | Whether the Authentication is LDAP Fastbind or not. Attributes: optional-for-create, modifiable |
| **is-locked** | | boolean optional | Account Locked Attributes: non-creatable, non-modifiable |
| **is-ns-switch-group** | | boolean optional | Whether the added group is ns-switch group or not. Attributes: optional-for-create, modifiable |
| **password-hash-algorithm** | | string optional | This optionally specifies password hash algorithm used to encrypt user's password. The default value is 'sha512'. Possible values:<br><br>• sha512<br>• sha256<br>• md5<br><br>Attributes: non-creatable, non-modifiable |
| **remote-switch-ipaddress** | | string optional | This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model). Attributes: key, optional-for-create, non-modifiable |
| **role-name** | | string optional | The profile/role to be associated with the user. The default value is 'admin' for Admin Vserver. Attributes: required-for-create, modifiable |
| **second-authentication-method** | | string optional | second authentication method for ssh application. Possible values: 'none', 'password', 'publickey' && 'nsswitch'.<br><br>• 'none'.<br>• 'password'.<br>• 'publickey'.<br>• 'nsswitch'.<br><br>Attributes: optional-for-create, modifiable |
| **user-name** | | string optional | Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | string optional | Name of the Vserver. Attributes: key, non-creatable, non-modifiable |

## Element definition: **security-login-delete-iter-info**

[top]

Information about the deletion operation that was attempted/performed against security login account object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **security-key** | | security-login-account-info | The keys for the security login account object to which the deletion applies. |

# Element definition: **security-login-expire-password-iter-info**

[top]

Information about the operation that was attempted/performed against security object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **security-key** | | security-login-password-user-info | The keys for the security object to which the operation applies. |

# Element definition: **security-login-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against security login account object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **security-key** | | security-login-account-info | The keys for the security login account object to which the modify operation applies. |

# Element definition: **security-login-password-user-info**

[top]

Information of users with password authentication method When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **password-hash-algorithm** | | string optional | Password Hash Function Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **user-name** | | string optional | Username Attributes: key, required-for-create, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **security-login-role-config-info**

[top]

User role configuration information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **account-expiry-time** | | string optional | This optionally specifies the expiration period of user accounts. The default setting is 2^32-1 meaning that no accounts will be marked for expiration. Attributes: non-creatable, modifiable |
| **account-inactive-limit** | | string optional | This optionally specifies the maximum duration of inactivity leading to expiration of user account. The default setting is 2^32-1, meaning that no account will expire based on inactivity. Attributes: non-creatable, modifiable |
| **change-password-duration-in-days** | **[0..1000]** | integer optional | This optionally specifies the number of days that must pass between password changes. The default setting is 0 (zero) meaning the user is allowed to change the password immediately. Attributes: non-creatable, modifiable |
| **delay-after-failed-login** | **[1..60]** | integer optional | This optionally specifies the delay after each failed login attempt in seconds. Default is 4 secs. Attributes: non-creatable, modifiable |
| **last-passwords-disallowed-count** | **[1..25]** | integer optional | This optionally specifies the number of previous passwords that are disallowed for reuse. The default setting is 6. Attributes: non-creatable, modifiable |
| **lockout-duration** | **[0..2^32-1]** | integer optional | This optionally specifies the number of days to lock the account if maximum number of failed attempts occur. Default is 0. Attributes: non-creatable, modifiable |
| **max-failed-login-attempts** | **[0..2^32-1]** | integer optional | This optionally specifies the maximum number of invalid login attempts after which the account gets locked. Default is 0. Attributes: non-creatable, modifiable |
| **min-passwd-specialchar** | **[0..64]** | integer optional | This optionally specifies the minimum special characters required in password. The default setting is no special chars i.e. 0. Attributes: non-creatable, modifiable |
| **min-password-size** | **[3..64]** | integer optional | This optionally specifies the minimum length of the password. Possible values range from 3 to 64 characters. The default setting is 8 characters. Attributes: non-creatable, modifiable |
| **min-username-size** | **[3..16]** | integer optional | The minimum length of the user name. Possible values range from 3 to 16 characters. The default setting is 3 characters. Attributes: non-creatable, modifiable |
| **passwd-expiry-warn-time** | | string optional | If configured, this optionally specifies when the user starts receiving warning messages regarding upcoming password expiry. The default setting is 2^32-1. Attributes: non-creatable, modifiable |
| **passwd-min-digits** | **[0..64]** | integer optional | This optionally specifies the minimum number of digits required in the password. The default setting is 0. Attributes: non-creatable, modifiable |
| **passwd-min-lowercase-chars** | **[0..64]** | integer optional | This optionally specifies the minimum number of lowercase alphabetic characters required in the password. The default setting is 0. Attributes: non-creatable, modifiable |

| | | | |
|---|---|---|---|
| **passwd-min-uppercase-chars** | **[0..64]** | integer optional | This optionally specifies the minimum number of uppercase alphabetic characters required in the password. The default setting is 0. Attributes: non-creatable, modifiable |
| **password-expiration-duration** | | string optional | This optionally specifies the password expiry in days. A value of 0 means it expiries now. Default is 2^32-1 (ie., never expire). Attributes: non-creatable, modifiable |
| **require-initial-password-update** | | boolean optional | This optionally specifies to change the password upon first-login to the storage controller from SSH or serial-console. Default is false. Attributes: non-creatable, modifiable |
| **require-password-alpha-numeric** | | boolean optional | If this field is set it specifies that the password must have atleast 1 alpha and 1 numeric character. Attributes: non-creatable, modifiable |
| **require-username-alpha-numeric** | | boolean optional | If this field is set it specifies that the username must have atleast 1 alpha and 1 numeric character. Attributes: non-creatable, modifiable |
| **role-name** | | string optional | Name of the role. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Name of the Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **security-login-role-config-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against security login roleconfig object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **security-key** | | security-login-role-config-info | The keys for the security login roleconfig object to which the modify operation applies. |

# Element definition: **security-login-role-delete-iter-info**

[top]

Information about the deletion operation that was attempted/performed against security login role object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **security-key** | | security-login-role-info | The keys for the security login role object to which the deletion applies. |

# Element definition: **security-login-role-info**

[top]

User role information. When returned as part of the output, all elements of this typedef are reported, unless

otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **access-level** | | string optional | Access level for the role. Possible values: 'none', 'readonly', 'all'. The default value is 'all'. Attributes: optional-for-create, modifiable |
| **command-directory-name** | | string optional | The command or command directory to which the role has an access. Attributes: key, required-for-create, non-modifiable |
| **role-name** | | string optional | Name of the role. Attributes: key, required-for-create, non-modifiable |
| **role-query** | | string optional | A query for the role. The query must apply to the specified command or directory name. Example: The command is 'volume show' and the query is '-volume vol1'. The query is applied to the command resulting in populating only the volumes with name vol1. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Name of the Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **security-login-role-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against security login role object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **security-key** | | security-login-role-info | The keys for the security login role object to which the modify operation applies. |

# Element definition: **security-protocol-info**

[top]

Security protocol fields When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string optional | Name of the application.Possible values:<br>• 'rsh'<br>• 'telnet'<br>. Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **enabled** | | boolean optional | To enable or disable application. Attributes: non-creatable, modifiable |

# Element definition: **security-protocol-ssh-info**

[top]

Security protocol ssh fields When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **connections-per-second** | | integer optional | Connections Per Second Attributes: non-creatable, modifiable |
| **max-instances** | | integer optional | Maximum Number of Instances Attributes: non-creatable, modifiable |
| **per-source-limit** | | integer optional | Per-Source Limit Attributes: non-creatable, modifiable |

# Element definition: **security-ssh-info**

[top]

Provide SSH configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ciphers** | | ciphers[] optional | List of SSH Ciphers enabled. Attributes: optional-for-create, modifiable Possible values:<br>• "aes256_ctr" ,<br>• "aes192_ctr" ,<br>• "aes128_ctr" ,<br>• "aes256_cbc" ,<br>• "aes192_cbc" ,<br>• "aes128_cbc" ,<br>• "3des_cbc" ,<br>• "aes128_gcm" ,<br>• "aes256_gcm" |
| **key-exchange-algorithms** | | kex-algorithms[] optional | List of SSH key exchange algorithms enabled. Attributes: optional-for-create, modifiable Possible values:<br>• "diffie_hellman_group_exchange_sha256" ,<br>• "diffie_hellman_group_exchange_sha1" ,<br>• "diffie_hellman_group14_sha1" ,<br>• "diffie_hellman_group1_sha1" , |

| | | | |
|---|---|---|---|
| | | | • "ecdh_sha2_nistp256" ,<br>• "ecdh_sha2_nistp384" ,<br>• "ecdh_sha2_nistp521" ,<br>• "curve25519_sha256" |
| **mac-algorithms** | | mac-algorithms[] optional | List of SSH MAC algorithms enabled. Attributes: optional-for-create, modifiable Possible values:<br>• "hmac_md5" ,<br>• "hmac_md5_96" ,<br>• "hmac_md5_etm" ,<br>• "hmac_md5_96_etm" ,<br>• "hmac_ripemd160" ,<br>• "hmac_ripemd160_etm" ,<br>• "hmac_sha1" ,<br>• "hmac_sha1_etm" ,<br>• "hmac_sha1_96" ,<br>• "hmac_sha1_96_etm" ,<br>• "hmac_sha2_256" ,<br>• "hmac_sha2_256_etm" ,<br>• "hmac_sha2_512" ,<br>• "hmac_sha2_512_etm" ,<br>• "umac_64" ,<br>• "umac_128" ,<br>• "umac_64_etm" ,<br>• "umac_128_etm" |
| **max-authentication-retry-count** | **[2..6]** | integer optional | Maximum Authentication Retry Count. Attributes: optional-for-create, modifiable |
| **vserver-name** | | vserver-name-data-admin optional | Name of Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **snmpv3-login-info**

[top]

SNMPv3 user login information for 'usm' authentication method

| Name | Range | Type | Description |
|---|---|---|---|
| **authentication-password** | | string optional | Password for the authentication protocol. This should be minimum 8 characters long. This is required for 'md5', 'sha' and 'sha2-256' authentication protocols and not required for 'none'. Attributes: optional-for-create, non-modifiable |
| **authentication-protocol** | | string optional | Authentication protocol for the snmp user. Possible values: 'none', 'md5', 'sha' and 'sha2-256'. When cluster FIPS mode is on, 'sha' and 'sha2-256' are the only possible and valid values. When cluster FIPS mode is off, the default value is 'none'. When cluster FIPS mode is on, the default value is 'sha'. Attributes: optional-for-create, non-modifiable |
| **engine-id** | | hex-string optional | Authoritative entity's EngineID for the SNMPv3 user. This is required for creating SNMPv3 users (users for SNMPv3 INFORMs) with 'usm' authentication method only. This should be specified as a hexadecimal string. Engine ID with first bit set to 1 in first octet should have a minimum of 5 or maximum of 32 octets. Engine Id with first bit set to 0 in the first octet should be 12 octets in length. Engine Id cannot have all zeros in its address For e.g. 800001460300000000000. Attributes: optional-for-create, non-modifiable |
| **privacy-password** | | string optional | Password for the privacy protocol. This should be minimum 8 characters long. This is required for 'des' and 'aes128' privacy protocols and not required for 'none'. Attributes: optional-for-create, non-modifiable |
| **privacy-protocol** | | string optional | Privacy protocol for the snmp user. Possible values: 'none', 'des' and 'aes128'. When cluster FIPS mode is on, 'aes128' is the only possible and valid value. When cluster FIPS mode is off, the default value is 'none'. When cluster FIPS |

| | | | |
|---|---|---|---|
| | | | mode is on, the default value is 'aes128'. Attributes: optional-for-create, non-modifiable |

## Element definition: **true-false**

[top]

True/False

[none]

## Element definition: **uri**

[top]

[none]

## Element definition: **vserver-name-data-admin**

[top]

The name of the Vserver.

[none]

## Element definition: **ciphers**

[top]

cipher name Possible values:

- "aes256_ctr" ,
- "aes192_ctr" ,
- "aes128_ctr" ,
- "aes256_cbc" ,
- "aes192_cbc" ,
- "aes128_cbc" ,
- "3des_cbc" ,
- "aes128_gcm" ,
- "aes256_gcm"

[none]

## Element definition: **common-name**

[top]

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

## Element definition: **fips-interfaces**

[top]

SSL Possible values:

- "ssl"

[none]

## Element definition: **hex-string**

[top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

## Element definition: **kex-algorithms**

[top]

algorithm name Possible values:

- "diffie_hellman_group_exchange_sha256" ,
- "diffie_hellman_group_exchange_sha1" ,
- "diffie_hellman_group14_sha1" ,
- "diffie_hellman_group1_sha1" ,
- "ecdh_sha2_nistp256" ,
- "ecdh_sha2_nistp384" ,
- "ecdh_sha2_nistp521" ,
- "curve25519_sha256"

[none]

## Element definition: **mac-algorithms**

[top]

MAC name Possible values:

- "hmac_md5" ,
- "hmac_md5_96" ,
- "hmac_md5_etm" ,
- "hmac_md5_96_etm" ,
- "hmac_ripemd160" ,
- "hmac_ripemd160_etm" ,
- "hmac_sha1" ,
- "hmac_sha1_etm" ,
- "hmac_sha1_96" ,
- "hmac_sha1_96_etm" ,
- "hmac_sha2_256" ,
- "hmac_sha2_256_etm" ,
- "hmac_sha2_512" ,
- "hmac_sha2_512_etm" ,
- "umac_64" ,
- "umac_128" ,
- "umac_64_etm" ,
- "umac_128_etm"

[none]

## Element definition: **remote-inet-address** [top]

IPv4 Address, IPv6 Address or Host Name

[none]

## Element definition: **security-login-account-info** [top]

User account information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string optional | Name of the application. Possible values:<br>• 'amqp'<br>• 'console'<br>• 'http'<br>• 'ontapi'<br>• 'rsh'<br>• 'snmp'<br>• 'service-processor'<br>• 'ssh'<br>• 'telnet'<br>. Attributes: key, required-for-create, non-modifiable |
| **authentication-method** | | string optional | Authentication method for the application. Possible values: 'community', 'password', 'publickey', 'domain', 'nsswitch' and 'usm'. Not all authentication methods are valid for an application. Valid authentication methods for each application are:<br>• 'password' for 'amqp'' application.<br>• 'password' for 'console' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'http' application.<br>• 'password', 'domain', 'nsswitch', 'cert' for 'ontapi' application.<br>• 'community' for 'snmp' application (when creating SNMPv1 and SNMPv2 users).<br>• 'usm' and 'community' for 'snmp' application (when creating SNMPv3 users).<br>• 'password' for 'service-processor' application.<br>• 'password', 'publickey', 'domain', 'nsswitch' for 'ssh' application.<br>Attributes: key, required-for-create, non-modifiable |
| **comment** | | string optional | Comments for the user account. The length of comment should be less than or equal to 128 charaters. Attributes: optional-for-create, modifiable |
| **is-ldap-fastbind** | | boolean optional | Whether the Authentication is LDAP Fastbind or not. Attributes: optional-for-create, modifiable |
| | | boolean | |

| | | | |
|---|---|---|---|
| **is-locked** | | optional | Account Locked Attributes: non-creatable, non-modifiable |
| **is-ns-switch-group** | | boolean optional | Whether the added group is ns-switch group or not. Attributes: optional-for-create, modifiable |
| **password-hash-algorithm** | | string optional | This optionally specifies password hash algorithm used to encrypt user's password. The default value is 'sha512'. Possible values:<br>• sha512<br>• sha256<br>• md5<br><br>Attributes: non-creatable, non-modifiable |
| **remote-switch-ipaddress** | | string optional | This optionally specifies the IP Address of the remote switch. The remote switch could be a cluster switch monitored by Cluster Switch Health Monitor (CSHM) or a Fiber Channel (FC) switch monitored by Metro Cluster Health Monitor (MCC-HM). This is applicable only for a remote SNMPv3 user i.e. only if user is a remote (non-local) user, application is snmp and authentication-method is usm (SNMP user security model). Attributes: key, optional-for-create, non-modifiable |
| **role-name** | | string optional | The profile/role to be associated with the user. The default value is 'admin' for Admin Vserver. Attributes: required-for-create, modifiable |
| **second-authentication-method** | | string optional | second authentication method for ssh application. Possible values: 'none', 'password', 'publickey' && 'nsswitch'.<br>• 'none'.<br>• 'password'.<br>• 'publickey'.<br>• 'nsswitch'.<br><br>Attributes: optional-for-create, modifiable |
| **user-name** | | string optional | Name of the User or Group. When creating a SNMPv1 or SNMPv2 user with 'snmp' application and 'community' authentication-method, the user name is the community string. The Active Directory or LDAP/NIS group name can be specified as user name respectively with 'domain' or 'nsswitch' authentication-method and 'ontapi' or 'ssh' application. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | string optional | Name of the Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **security-login-role-config-info**

[top]

User role configuration information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **account-expiry-time** | | string optional | This optionally specifies the expiration period of user accounts. The default setting is 2^32-1 meaning that no accounts will be marked for expiration. Attributes: non-creatable, modifiable |
| **account-inactive-limit** | | string optional | This optionally specifies the maximum duration of inactivity leading to expiration of user account. The default setting is 2^32-1, meaning that no account will expire based on inactivity. Attributes: non-creatable, modifiable |
| **change-** | | | This optionally specifies the number of days that must pass between |

| | | | |
|---|---|---|---|
| **password-duration-in-days** | **[0..1000]** | integer optional | password changes. The default setting is 0 (zero) meaning the user is allowed to change the password immediately. Attributes: non-creatable, modifiable |
| **delay-after-failed-login** | **[1..60]** | integer optional | This optionally specifies the delay after each failed login attempt in seconds. Default is 4 secs. Attributes: non-creatable, modifiable |
| **last-passwords-disallowed-count** | **[1..25]** | integer optional | This optionally specifies the number of previous passwords that are disallowed for reuse. The default setting is 6. Attributes: non-creatable, modifiable |
| **lockout-duration** | **[0..2^32-1]** | integer optional | This optionally specifies the number of days to lock the account if maximum number of failed attempts occur. Default is 0. Attributes: non-creatable, modifiable |
| **max-failed-login-attempts** | **[0..2^32-1]** | integer optional | This optionally specifies the maximum number of invalid login attempts after which the account gets locked. Default is 0. Attributes: non-creatable, modifiable |
| **min-passwd-specialchar** | **[0..64]** | integer optional | This optionally specifies the minimum special characters required in password. The default setting is no special chars i.e. 0. Attributes: non-creatable, modifiable |
| **min-password-size** | **[3..64]** | integer optional | This optionally specifies the minimum length of the password. Possible values range from 3 to 64 characters. The default setting is 8 characters. Attributes: non-creatable, modifiable |
| **min-username-size** | **[3..16]** | integer optional | The minimum length of the user name. Possible values range from 3 to 16 characters. The default setting is 3 characters. Attributes: non-creatable, modifiable |
| **passwd-expiry-warn-time** | | string optional | If configured, this optionally specifies when the user starts receiving warning messages regarding upcoming password expiry. The default setting is 2^32-1. Attributes: non-creatable, modifiable |
| **passwd-min-digits** | **[0..64]** | integer optional | This optionally specifies the minimum number of digits required in the password. The default setting is 0. Attributes: non-creatable, modifiable |
| **passwd-min-lowercase-chars** | **[0..64]** | integer optional | This optionally specifies the minimum number of lowercase alphabetic characters required in the password. The default setting is 0. Attributes: non-creatable, modifiable |
| **passwd-min-uppercase-chars** | **[0..64]** | integer optional | This optionally specifies the minimum number of uppercase alphabetic characters required in the password. The default setting is 0. Attributes: non-creatable, modifiable |
| **password-expiration-duration** | | string optional | This optionally specifies the password expiry in days. A value of 0 means it expiries now. Default is 2^32-1 (ie., never expire). Attributes: non-creatable, modifiable |
| **require-initial-password-update** | | boolean optional | This optionally specifies to change the password upon first-login to the storage controller from SSH or serial-console. Default is false. Attributes: non-creatable, modifiable |
| **require-password-alpha-numeric** | | boolean optional | If this field is set it specifies that the password must have atleast 1 alpha and 1 numeric character. Attributes: non-creatable, modifiable |
| **require-username-alpha-numeric** | | boolean optional | If this field is set it specifies that the username must have atleast 1 alpha and 1 numeric character. Attributes: non-creatable, modifiable |
| **role-name** | | string optional | Name of the role. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Name of the Vserver. Attributes: key, non-creatable, non-modifiable |

## Element definition: **security-login-role-info**

[top]

User role information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **access-level** | | string optional | Access level for the role. Possible values: 'none', 'readonly', 'all'. The default value is 'all'. Attributes: optional-for-create, modifiable |
| **command-directory-name** | | string optional | The command or command directory to which the role has an access. Attributes: key, required-for-create, non-modifiable |
| **role-name** | | string optional | Name of the role. Attributes: key, required-for-create, non-modifiable |
| **role-query** | | string optional | A query for the role. The query must apply to the specified command or directory name. Example: The command is 'volume show' and the query is '-volume vol1'. The query is applied to the command resulting in populating only the volumes with name vol1. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Name of the Vserver. Attributes: key, non-creatable, non-modifiable |

# APIs in Category: **security-certificate**


security-certificate-ca-issued-get
security-certificate-ca-issued-get-iter
security-certificate-create
security-certificate-delete
security-certificate-delete-iter
security-certificate-file-get-iter
security-certificate-generate-csr
security-certificate-get
security-certificate-get-iter
security-certificate-install
security-certificate-remove-precluster-cert
security-certificate-rename
security-certificate-revoke
security-certificate-sign
security-certificate-truststore-clear
security-certificate-truststore-load


This set of ZAPIs allows to manage certificates in a cluster environment including: creation, deletion, installation, generation of CSR, signing of certificate and revocation.

## security-certificate-ca-issued-get

[top]

Get the attributes of the security-certificate-ca-issued.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ca-serial-number** | | string | Serial number of CA certificate. |
| **certificate-authority** | | string | Certificate Authority |
| **desired-attributes** | | certificate-ca-issued-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **serial-number** | | string | Serial number of certificate. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | certificate-ca-issued- | The attributes of the security-certificate-ca-issued. |

| | | | |
|---|---|---|---|
| | | info | |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-certificate-ca-issued-get-iter

[top]

Iterate over a list of security-certificate-ca-issued objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | certificate-ca-issued-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | certificate-ca-issued-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-certificate-ca-issued object. All security-certificate-ca-issued objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | certificate-ca-issued-info[] optional | The list of attributes of security-certificate-ca-issued objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more security-certificate-ca-issued objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# security-certificate-create

[top]

If a certificate is created with the existing Common Name then a new certificate is generated with a different serial number

| Input Name | Range | Type | Description |
|---|---|---|---|
| cert-name | | string optional | Specifies the system's internal identifier for the certificate. It must be unique within a Vserver. If not provided, it is automatically generated by the system. |
| common- | | | Represents the domain name in FQDN form that specifies its exact |

| | | | |
|---|---|---|---|
| **name** | | string | location in the tree hierarchy of the Domain Name System (DNS). |
| **country** | | string optional | Name of the country. Default value is 'US'. |
| **email-address** | | string optional | Email address of administrator. Default value is empty string. |
| **expire-days** | | integer optional | Number of days until expiration. Default value is '365'. |
| **hash-function** | | string optional | Hashing function used to sign the certificate. Default value is 'sha256'.<br><br>Possible values:<br><br>• 'sha1' ,<br>• 'sha256' ,<br>• 'md5' ,<br>• 'sha224' ,<br>• 'sha384' ,<br>• 'sha512 |
| **is-system-internal-certificate** | | boolean optional | Is System Internal Certificate. Default value is 'false'. |
| **locality** | | string optional | Name of the locality Default value is empty string. |
| **organization** | | string optional | Name of the organization. Default value is empty string. |
| **organization-unit** | | string optional | Name of the unit. Example: IT, Finance. Default value is empty string. |
| **size** | | string optional | Size of requested certificate in bits. Default value is '2048'.<br><br>Possible values:<br><br>• '512' - 512 bits private key,<br>• '1024' - 1024 bits private key,<br>• '1536' - 1536 bits private key,<br>• '2048' - 2048 bits private key,<br>• '3072' - 3072 bits private key |
| **state** | | string optional | Name of the state. Default value is empty string. |
| **type** | | string | Type of certificate.<br><br>Possible values:<br><br>• 'server' - Server certificate,<br>• 'client' - Certificate for Data ONTAP as an SSL client,<br>• 'root_ca' - Self-Signed Root CA,<br>• 'client_ca' - CA who signed user certificates on client,<br>• 'server_ca' - CA who signed user certificates on server,<br>• 'server_chain' - Intermediate certificate for server authentication |
| **vserver** | | string optional | Name of vserver. Default value is Cserver. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-certificate-delete

[top]

Delete an existing security-certificate object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cert-name** | | string optional | System's internal identifier for the certificate. Is is unique within a Vserver. |
| **certificate-authority** | | string | Certificate Authority |
| **common-name** | | string | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). |
| **is-system-internal-certificate** | | boolean optional | Is System Internal Certificate |
| **serial-number** | | string optional | Serial number of certificate. |
| **subtype** | | string optional | Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release. |
| **type** | | string | Type of certificate.<br><br>Possible values:<br><br>• 'server' - Server certificate,<br>• 'client' - Certificate for Data ONTAP as an SSL client,<br>• 'root_ca' - Self-Signed Root CA,<br>• 'client_ca' - CA who signed user certificates on client,<br>• 'server_ca' - CA who signed user certificates on server,<br>• 'server_chain' - Intermediate certificate for server authentication |
| **vserver** | | string optional | Name of vserver. Default value is Cserver. |

| Errno | Description |
|---|---|
| **E_CERTIFICATE_CANNOT_DELETE_DEFAULT** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-certificate-delete-iter

[top]

Delete an existing security-certificate or a group of security-certificate objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security-certificate objects match a given query. If set to true, the API will continue deleting the next matching security-certificate even when the deletion of a previous security-certificate fails. If set to false, the API will return on the first failure. Default: false |

| | | | |
|---|---|---|---|
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching security-certificate even when the deletion of a previous matching security-certificate fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of security-certificate objects to delete in this call. Default: 20 |
| **query** | | certificate-info | If deleting a specific security-certificate, this input element must specify all keys. If deleting multiple security-certificate objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security-certificate objects (just keys) that were not deleted due to some error. If set to false, the list of security-certificate objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security-certificate objects (just keys) that were successfully deleted. If set to false, the list of security-certificate objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-certificate-delete-iter-info[] optional | Information about security-certificate objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security-certificate objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of security-certificate objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security-certificate objects that matched the query and were successfully deleted. |
| **success-list** | | security-certificate-delete-iter-info[] optional | The security-certificate objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **E_CERTIFICATE_CANNOT_DELETE_DEFAULT** | |

# security-certificate-file-get-iter

[top]

Iterate over a list of security-certificate-file objects.

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | certificate-file-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | certificate-file-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-certificate-file object. All security-certificate-file objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | certificate-file-info[] optional | The list of attributes of security-certificate-file objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-certificate-file objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-certificate-generate-csr

[top]

Generate a digital certificate signing request(CSR)

| Input Name | Range | Type | Description |
|---|---|---|---|
| **common-name** | | string | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). |
| **country** | | string optional | Name of the country. |
| **email-address** | | string optional | Email address of administrator. |
| **hash-function** | | string optional | Hashing function used to sign the certificate. Default value is 'sha256'.<br><br>Possible values:<br><br>• 'sha1' ,<br>• 'sha256' ,<br>• 'md5' ,<br>• 'sha224' ,<br>• 'sha384' ,<br>• 'sha512' |
| **locality** | | string optional | Name of the locality. |
| **organization** | | string | Name of the organization. |

| | | | |
|---|---|---|---|
| | | optional | |
| **organization-unit** | | string optional | Name of the unit. Example: IT, Finance. |
| **size** | | string optional | Size of requested certificate in bits. Default value is '2048'. Deprecated as of ONTAP 9.8 and may be removed in future releases.<br><br>Possible values:<br><br>• '512' - 512 bits private key,<br>• '1024' - 1024 bits private key,<br>• '1536' - 1536 bits private key,<br>• '2048' - 2048 bits private key,<br>• '3072' - 3072 bits private key |
| **state** | | string optional | Name of the state. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **csr** | | string | Certificate Signing Request |
| **private-key** | | string | Private Key |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-certificate-get

[top]

Get the attributes of the security-certificate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cert-name** | | string optional | System's internal identifier for the certificate. Is is unique within a Vserver. |
| **certificate-authority** | | string | Certificate Authority |
| **common-name** | | string | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). |
| **desired-attributes** | | certificate-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **serial-number** | | string optional | Serial number of certificate. |
| **subtype** | | string optional | Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release. |
| **type** | | string | Type of certificate.<br><br>Possible values:<br><br>• 'server' - Server certificate,<br>• 'client' - Certificate for Data ONTAP as an SSL client,<br>• 'root_ca' - Self-Signed Root CA,<br>• 'client_ca' - CA who signed user certificates on the client, |

| | | | |
|---|---|---|---|
| | | | 'server_ca' - CA who signed user certificates on the server,<br>• 'server_chain' - Intermediate certificate for server authentication |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | certificate-info | The attributes of the security-certificate. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-certificate-get-iter

[top]

Iterate over a list of security-certificate objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | certificate-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | certificate-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-certificate object. All security-certificate objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | certificate-info[] optional | The list of attributes of security-certificate objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-certificate objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-certificate-install

[top]

Install a digital certificate

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cert-name** | | string optional | Specifies the system's internal identifier for the certificate. It must be unique within a Vserver. If not provided, it is automatically generated by the system. |
| **certificate** | | string | Public Key Certificate |
| **common-name** | | common-name optional | FQDN or custom common name. This field is available from Data ONTAP 8.3.3 onwards and is only applicable if the certificate has an empty subject field and a valid subject alternate name extension. This field must have a valid common name to install such a certificate. |
| **intermediate-cert-list** | | pubcertificate[] optional | Chain of Intermediate Certificates |
| **is-system-internal-certificate** | | boolean optional | Netapp internal certificate. Default value is 'false'. |
| **private-key** | | string optional | Private Key |
| **subtype** | | subtype optional | Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release. |
| **type** | | string | Type of certificate.<br><br>Possible values:<br><br>• 'server' - Server certificate,<br>• 'client' - Certificate for Data ONTAP as an SSL client,<br>• 'client_ca' - CA who signed user certificates on client,<br>• 'server_ca' - CA who signed user certificates on server |
| **vserver** | | string optional | Name of vserver. Default value is Cserver. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **ca** | | string optional | Installed certificate's CA for reference. |
| **serial** | | string optional | Installed certificate's serial number for reference. |

| Errno | Description |
|---|---|
| **E_CERTIFICATE_SUBTYPE_ONLY_SUPPORT_FOR_ADMIN_VSERVER** | |
| **E_CERTIFICATE_CERT_TYPE_WITH_SUBTYPE_NOT_APPLICABLE** | |
| **E_CERTIFICATE_CERT_EMPTY** | |
| **E_CERTIFICATE_PRIVATE_KEY_EMPTY** | |
| **E_CERTIFICATE_INTERMEDIATE_EMPTY** | |
| **E_CERTIFICATE_MULTIPLE_INTERMEDIATE_EMPTY** | |
| **E_CERTIFICATE_INTERMEDIATE_UNSUPPORTED_TYPE** | |
| **E_CERTIFICATE_DUPLICATE_SERVER_CHAIN_ENTRY** | |
| **E_CERTIFICATE_EMPTY_VSERVER_DIR_PATH** | |
| **E_CERTIFICATE_INSTALLATION_NEEDS_COMMON_NAME** | |
| **E_CERTIFICATE_FAILED_TO_INSTALL_CERTIFICATE** | |
| **E_CERTIFICATE_CANNOT_ACCEPT_PRIVATE_KEY** | |
| **E_CERTIFICATE_FAILED_TO_EXTRACT_CERTIFICATE_INFORMATION** | |
| **E_CERTIFICATE_CANNOT_EXTRACT_ISSUER** | |
| **E_CERTIFICATE_INVALID_COMMON_NAME** | |

| | |
|---|---|
| **E_CERTIFICATE_FAILED_TO_EXTRACT_COMMON_NAME** | |
| **E_LIBSSLMGNT_UI_EVP_PKEY_READ_KEY** | |
| **E_LIBSSLMGNT_UI_X509_READ_BIO** | |
| **E_LIBSSLMGNT_UI_X509_MISMATCH_KEY** | |
| **E_LIBSSLMGNT_UI_X509_TOO_EARLY** | |
| **E_LIBSSLMGNT_UI_X509_EXPIRED** | |
| **E_LIBSSLMGNT_UI_X509_VERIFY_CHAIN** | |
| **E_LIBSSLMGNT_UI_X509_FIPS_UNSUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-certificate-remove-precluster-cert

[top]

Removes the auto-generated precluster certificate

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-certificate-rename

[top]

Rename a digital certificate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cert-name** | | string | The current name for the certificate. |
| **new-name** | | string | The desired name for the certificate. |
| **vserver** | | vserver-name-data-admin | Name of vserver. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EONTAPI_EEXIST** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-certificate-revoke

[top]

Revoke a digital certificate

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **ca-serial-number** | | string | Serial number of CA certificate. |
| **certificate-authority** | | string | Certificate Authority |
| **common-name** | | string optional | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). |
| **serial-number** | | string | Serial number of certificate. |
| **vserver** | | string optional | Name of vserver. Default value is Cserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-certificate-sign

[top]

Sign a certificate using self-signed root CA

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ca-serial-number** | | string | Serial number of CA certificate. |
| **certificate-authority** | | string | Certificate Authority to Sign |
| **csr** | | string | Certificate signing request. |
| **destination** | | uri optional | URI to send file to. Example: ftp://abc.com. |
| **expire-days** | | integer optional | Number of days until expiration. Default value is '365'. |
| **filepassword** | | string optional | Password for PKCS12 file |
| **format** | | string optional | Certificate Format. Default value is 'PEM'.<br><br>Possible values:<br>• 'pkcs12' ,<br>• 'pem' |
| **hash-function** | | string optional | Hashing function used to sign the certificate. Default value is 'sha256'.<br><br>Possible values:<br>• 'sha1' ,<br>• 'sha256' ,<br>• 'md5' ,<br>• 'sha224' ,<br>• 'sha384' ,<br>• 'sha512' |
| **password** | | string | Destination URI password |

| | | | |
|---|---|---|---|
| | | optional | |
| **private-key** | | string optional | Private Key |
| **username** | | string optional | Destination URI username |
| **vserver** | | string optional | Name of vserver. Default value is Cserver. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **signed-cert** | | string | Signed certificate. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-certificate-truststore-clear

[top]

Clear the default root certificates from truststore

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-certificate-truststore-load

[top]

Load the default root certificates to truststore

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ontap-version** | | ontap-version optional | Certificates from specific ONTAP version |
| **password** | | string optional | Password to access the URL |
| **path** | | string optional | File to load PEM certificates from |
| **uri** | | string optional | URL to download PEM certificates from |
| **username** | | string optional | Username to access the URL |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **certificate-ca-issued-info**

[top]

Information about issued digital certificates by Self-Signed Root CA When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ca-serial-number** | | string optional | Serial number of CA certificate. Attributes: key, required-for-create, non-modifiable |
| **certificate-authority** | | string optional | Certificate Authority Attributes: key, required-for-create, non-modifiable |
| **common-name** | | string optional | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). Attributes: required-for-create, non-modifiable |
| **country** | | string optional | Name of the country. Attributes: required-for-create, non-modifiable |
| **email-addr** | | string optional | Email address of administrator. Attributes: required-for-create, non-modifiable |
| **expiration-date** | **[0..2^31-1]** | integer optional | Certificate expiration date. Attributes: non-creatable, non-modifiable |
| **locality** | | string optional | Name of the locality. Attributes: required-for-create, non-modifiable |
| **organization** | | string optional | Name of the organization. Attributes: required-for-create, non-modifiable |
| **organization-unit** | | string optional | Name of the unit. Example: IT, Finance. Attributes: required-for-create, non-modifiable |
| **revocation-date** | **[0..2^31-1]** | integer optional | Certificate revocation date. Attributes: optional-for-create, modifiable |
| **serial-number** | | string optional | Serial number of certificate. Attributes: key, required-for-create, non-modifiable |
| **state** | | string optional | Name of the state. Attributes: required-for-create, non-modifiable |
| **status** | | string optional | Status of certificate. Attributes: required-for-create, non-modifiable Possible values:<br>• "active" ,<br>• "revoked" |
| **vserver** | | string optional | Name of vserver. Default value is Cserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **certificate-file-info**

[top]

Information about location of certificate files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ s description or limited by a set of

desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **certificate-authority** | | string optional | Certificate Authority. Attributes: key, non-creatable, non-modifiable |
| **common-name** | | string optional | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). Attributes: key, non-creatable, non-modifiable |
| **exists** | | boolean optional | Certificate File Exists Attributes: non-creatable, non-modifiable |
| **file** | | string optional | Type of file. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "certificate" - Public Key,<br>• "key" - Private Key,<br>• "crl" - Certificate Revocation List |
| **node-name** | | string optional | The node on which the file exists. Attributes: key, non-creatable, non-modifiable |
| **path** | | string optional | Path of the file in the file system. Attributes: non-creatable, non-modifiable |
| **protocol** | | string optional | Protocol Attributes: non-creatable, non-modifiable Possible values:<br>• "ssl" |
| **serial-number** | | string optional | Serial number of certificate. Attributes: key, non-creatable, non-modifiable |
| **subtype** | | string optional | Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release. Attributes: key, non-creatable, non-modifiable |
| **type** | | string optional | Type of certificate.<br><br>Possible values:<br>• 'server' - Server certificate,<br>• 'client' - Certificate for Data ONTAP as an SSL client,<br>• 'root_ca' - Self-Signed Root CA,<br>• 'client_ca' - CA who signed user certificates on client,<br>• 'server_ca' - CA who signed user certificates on server,<br>• 'server_chain' - Intermediate certificate for server authentication<br><br>Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Name of vserver. Default value is Cserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **certificate-info**

[top]

Information about a Digital Certificate When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ s description or limited by a set of desired

attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cert-name** | | string optional | System's internal identifier for the certificate. Is is unique within a Vserver. Attributes: key, optional-for-create, non-modifiable |
| **certificate-authority** | | string optional | Certificate Authority Attributes: key, required-for-create, non-modifiable |
| **common-name** | | string optional | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). Attributes: key, required-for-create, non-modifiable |
| **country** | | string optional | Name of the country. Default value is 'US'. Attributes: required-for-create, non-modifiable |
| **email-address** | | string optional | Email address of administrator. Default value is empty string. Attributes: required-for-create, non-modifiable |
| **expiration-date** | **[0..2^63-1]** | integer optional | Certificate Expiration Date Attributes: non-creatable, non-modifiable |
| **expire-days** | **[1..3652]** | integer optional | Number of days until expiration. Default value is '365'. Attributes: required-for-create, non-modifiable |
| **hash-function** | | string optional | Hashing function used to sign the certificate. Default value is 'sha256'. Attributes: required-for-create, non-modifiable |
| **is-default** | | boolean optional | Indicates if the certificate is part of the pre-installed truststore certificates. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-root** | | boolean optional | Is Root CA Certificate? Attributes: non-creatable, non-modifiable |
| **is-system-generated** | | boolean optional | Indicates if the certificate is created by Data ONTAP. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **locality** | | string optional | Name of the locality Default value is empty string. Attributes: required-for-create, non-modifiable |
| **organization** | | string optional | Name of the organization. Default value is empty string. Attributes: required-for-create, non-modifiable |
| **organization-unit** | | string optional | Name of the unit. Example: IT, Finance. Default value is empty string. Attributes: required-for-create, non-modifiable |
| **protocol** | | string optional | Protocol Attributes: required-for-create, non-modifiable Possible values:<br>• "ssl" |
| **public-certificate** | | string optional | Public Key Certificate Attributes: non-creatable, non-modifiable |
| **self-signed** | | boolean optional | Indicates if it is a self-signed certificate. Default value is 'false'. Attributes: non-creatable, non-modifiable |
| **serial-number** | | string optional | Serial number of certificate. Attributes: key, required-for-create, non-modifiable |
| **size** | | string optional | Size of requested certificate in bits. Default value is '2048'. Attributes: required-for-create, non-modifiable |
| **start-date** | **[0..2^31-1]** | integer optional | Certificate Start Date Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **state** | | string optional | Name of the state. Default value is empty string. Attributes: required-for-create, non-modifiable |
| **subtype** | | string optional | Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release. Attributes: key, optional-for-create, non-modifiable |
| **type** | | string optional | Type of certificate.<br><br>Possible values:<br><br>• 'server' - Server certificate,<br>• 'client' - Certificate for Data ONTAP as an SSL client,<br>• 'root_ca' - Self-Signed Root CA,<br>• 'client_ca' - CA who signed user certificates on client,<br>• 'server_ca' - CA who signed user certificates on server,<br>• 'server_chain' - Intermediate certificate for server authentication<br><br>Attributes: key, required-for-create, non-modifiable |
| **vserver** | | string optional | Name of vserver. Default value is Cserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **common-name**

[top]

Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS).

[none]

# Element definition: **ontap-version**

[top]

Possible values:

- "9_2" ,
- "9_7" ,
- "9_8" ,
- "9_9_1" ,
- "9_10_0" ,
- "9_10_1" ,
- "9_11_0" ,
- "9_12_0"

[none]

# Element definition: **pubcertificate**

[top]

[none]

# Element definition: **security-certificate-delete-iter-info** [top]

Information about the deletion operation that was attempted/performed against security-certificate object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **security-certificate-key** | | certificate-info | The keys for the security-certificate object to which the deletion applies. |

# Element definition: **subtype** [top]

Certificate subtype

[none]

# Element definition: **uri** [top]

[none]

# Element definition: **vserver-name-data-admin** [top]

The name of the Vserver.

[none]

# Element definition: **certificate-info** [top]

Information about a Digital Certificate When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cert-name** | | string optional | System's internal identifier for the certificate. Is is unique within a Vserver. Attributes: key, optional-for-create, non-modifiable |
| **certificate-authority** | | string optional | Certificate Authority Attributes: key, required-for-create, non-modifiable |
| **common-name** | | string optional | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). Attributes: key, required-for-create, non-modifiable |
| **country** | | string optional | Name of the country. Default value is 'US'. Attributes: required-for-create, non-modifiable |
| **email-address** | | string optional | Email address of administrator. Default value is empty string. Attributes: required-for-create, non-modifiable |
| **expiration-date** | **[0..2^63-1]** | integer optional | Certificate Expiration Date Attributes: non-creatable, non-modifiable |
| **expire-days** | **[1..3652]** | integer optional | Number of days until expiration. Default value is '365'. Attributes: required-for-create, non-modifiable |
| **hash-function** | | string optional | Hashing function used to sign the certificate. Default value is 'sha256'. Attributes: required-for-create, non-modifiable |
| **is-default** | | boolean optional | Indicates if the certificate is part of the pre-installed truststore certificates. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **is-root** | | boolean optional | Is Root CA Certificate? Attributes: non-creatable, non-modifiable |
| **is-system-generated** | | boolean optional | Indicates if the certificate is created by Data ONTAP. Default value is 'false'. Attributes: optional-for-create, modifiable |
| **locality** | | string optional | Name of the locality Default value is empty string. Attributes: required-for-create, non-modifiable |
| **organization** | | string optional | Name of the organization. Default value is empty string. Attributes: required-for-create, non-modifiable |
| **organization-unit** | | string optional | Name of the unit. Example: IT, Finance. Default value is empty string. Attributes: required-for-create, non-modifiable |
| **protocol** | | string optional | Protocol Attributes: required-for-create, non-modifiable Possible values:<br>• "ssl" |
| **public-certificate** | | string optional | Public Key Certificate Attributes: non-creatable, non-modifiable |
| **self-signed** | | boolean optional | Indicates if it is a self-signed certificate. Default value is 'false'. Attributes: non-creatable, non-modifiable |
| **serial-number** | | string optional | Serial number of certificate. Attributes: key, required-for-create, non-modifiable |
| **size** | | string optional | Size of requested certificate in bits. Default value is '2048'. Attributes: required-for-create, non-modifiable |
| **start-date** | **[0..2^31-1]** | integer optional | Certificate Start Date Attributes: non-creatable, non-modifiable |
| **state** | | string optional | Name of the state. Default value is empty string. Attributes: required-for-create, non-modifiable |
| **subtype** | | string optional | Certificate subtype. Deprecated as of ONTAP 9.6 and may be removed in a future release. Attributes: key, optional-for-create, non-modifiable |
| | | | Type of certificate. |

| | | | |
|---|---|---|---|
| **type** | | string optional | Possible values:<br><br>• 'server' - Server certificate,<br>• 'client' - Certificate for Data ONTAP as an SSL client,<br>• 'root_ca' - Self-Signed Root CA,<br>• 'client_ca' - CA who signed user certificates on client,<br>• 'server_ca' - CA who signed user certificates on server,<br>• 'server_chain' - Intermediate certificate for server authentication<br><br>Attributes: key, required-for-create, non-modifiable |
| **vserver** | | string optional | Name of vserver. Default value is Cserver. Attributes: key, non-creatable, non-modifiable |

# APIs in Category: **security-key-manager**

This set of APIs manages the key manager and its attributes.


external-restore-get-iter
external-status-get-iter
key-query-get-iter
security-key-manager-add
security-key-manager-add-iter
security-key-manager-backup-get
security-key-manager-config-get
security-key-manager-config-modify
security-key-manager-create-key
security-key-manager-delete
security-key-manager-delete-iter
security-key-manager-delete-keys
security-key-manager-delete-kmip-config
security-key-manager-external-add-servers
security-key-manager-external-disable
security-key-manager-external-enable
security-key-manager-external-get
security-key-manager-external-get-iter
security-key-manager-external-modify
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security-key-manager-external-remove-servers
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security-key-manager-key-database-create-key
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security-key-manager-key-migrate
security-key-manager-key-store-get-iter
security-key-manager-

onboard-backup-get
security-key-manager-onboard-disable
security-key-manager-onboard-enable
security-key-manager-onboard-sync
security-key-manager-onboard-update-passphrase
security-key-manager-query-get
security-key-manager-query-get-iter
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security-key-manager-restore-v2-get
security-key-manager-restore-v2-get-iter
security-key-manager-setup
security-key-manager-update-passphrase
security-key-manager-volume-encryption-supported

# external-restore-get-iter

[top]

Restore the key IDs from all the key management servers known to this cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-external-restore optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | key-manager-external-restore optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager object. All security-key-manager objects matching this query up to 'max-records' will be returned. |
| | | string | Specify the tag from the last call. It is usually not specified for the |

| | | | |
|---|---|---|---|
| **tag** | | optional | first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | key-manager-external-restore[] optional | The list of attributes of security-key-manager objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# external-status-get-iter

[top]

Lists the connectivity status for all key management servers known to the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | external-key-manager-status optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | external-key-manager-status optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager object. All security-key-manager objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | external-key-manager-status[] optional | The list of attributes of security-key-manager objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# key-query-get-iter

[top]

Lists the keys in the key managers.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | keymanager-key-query-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | keymanager-key-query-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager object. All security-key-manager objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | keymanager-key-query-info[] optional | The list of attributes of security-key-manager objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-key-manager-add

[top]

Add a key management server to Data ONTAP. Deprecated as of ONTAP 9.6 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **key-manager-ip-address** | | string | The IP address of the key management server. |
| **key-manager-tcp-port** | | integer optional | The TCP port on which the key management server listens for incoming connections. The default value for this parameter is 5696. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-add-iter

[top]

(DEPRECATED)-Add a key management server to each node in the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security-key-manager objects match a given query. If set to true, the API will continue with the next matching security-key-manager even when the operation fails for the security-key-manager. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching security-key-manager even when the operation on a previous matching security-key-manager fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of security-key-manager objects to be operated in this call. Default: 20 |
| **query** | | key-manager-info | If operating on a specific security-key-manager, this input element must specify all keys. If operating on security-key-manager objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security-key-manager objects (just keys) that were not operated on due to some error. If set to false, the list of security-key-manager objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security-key-manager objects (just keys) that were successfully operated on. If set to false, the list of security-key-manager objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-key-manager-add-iter-info[] optional | Information about security-key-manager objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security-key-manager objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of security-key-manager objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security-key-manager objects that matched the query and were successfully processed. |
| **success-list** | | security-key-manager- | The security-key-manager objects that were successfully processed. This element will be returned only if input element |

| | | | |
|---|---|---|---|
| | | add-iter-info[] optional | 'return-success-list' is true. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# security-key-manager-backup-get

[top]

Get backup of key hierarchy. Deprecated as of ONTAP 9.6 and might be removed in a future release.

| Output Name | Range | Type | Description |
|---|---|---|---|
| key-backup | | string | Backup of key hierarchy |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-key-manager-config-get

[top]

Display Key Management Configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | keymanager-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | keymanager-config-info | The attributes of the security-key-manager. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-key-manager-config-modify

[top]

Modify Key Management Configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| are-unencrypted-metadata-volumes-allowed-in-cc-mode | | boolean optional | Are Unencrypted Metadata Volumes Allowed in Common Criteria Mode |
| | | boolean | |

| | | | |
|---|---|---|---|
| **cc-mode-enabled** | | optional | CC-Mode Enabled. |
| **health-monitor-polling-interval** | **[15..30]** | integer optional | Health Monitor Polling Period (in minutes) |
| **okm-on-usb-enabled** | | boolean optional | OKM-on-USB Enabled. |
| **onboard-passphrase** | | string optional | Current onboard cluster-wide passphrase. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-create-key

[top]

Create a new authentication key with the key management servers. Deprecated as of ONTAP 9.6 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **key-tag** | | string optional | Key Tag |
| **passphrase** | | string optional | Authentication Passphrase |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **error-status** | | keymanager-status optional | Action Status |
| **key-id** | | string optional | Authentication Key ID |
| **restore-failure-list** | | node-name[] optional | Nodes that Failed Restoring Key Pair |
| **restore-success-list** | | node-name[] optional | Nodes that Succesfully Restored Key Pair |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-delete

[top]

Delete a key management server from Data ONTAP. Deprecated as of ONTAP 9.6 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **key-manager-ip-address** | | string | The IP address of the key management server. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-delete-iter

[top]

(DEPRECATED)-Delete a key management server from Data ONTAP

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security-key-manager objects match a given query. If set to true, the API will continue with the next matching security-key-manager even when the operation fails for the security-key-manager. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching security-key-manager even when the operation on a previous matching security-key-manager fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of security-key-manager objects to be operated in this call. Default: 20 |
| **query** | | key-manager-info | If operating on a specific security-key-manager, this input element must specify all keys. If operating on security-key-manager objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security-key-manager objects (just keys) that were not operated on due to some error. If set to false, the list of security-key-manager objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security-key-manager objects (just keys) that were successfully operated on. If set to false, the list of security-key-manager objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-key-manager-delete-iter-info[] optional | Information about security-key-manager objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security-key-manager objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of security-key-manager objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security-key-manager objects that matched the query and were successfully processed. |

| | | | |
|---|---|---|---|
| **success-list** | | security-key-manager-delete-iter-info[] optional | The security-key-manager objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-key-manager-delete-keys

[top]

Deletes the key hierarchy for the Onboard Key Manager. Deprecated as of ONTAP 9.6 and might be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **passphrase** | | string optional | The Onboard Key Manager cluster-wide passphrase. |

| Errno | Description |
|---|---|
| **E_KEY_MANAGER_NOT_ENABLED** | |
| **E_KEY_MANAGER_NOT_SETUP** | |
| **E_PASSPHRASE_LEN_EXCEEDS_RANGE** | |
| **E_FAILED_PASSPHRASE_VERIFY** | |
| **E_INCORRECT_PASSPHRASE** | |
| **E_FOUND_ENCRYPTED_VOLUMES** | |
| **E_UNSUPPORTED_ONB_ECV** | |
| **EINTERNALERROR** | |

# security-key-manager-delete-kmip-config

[top]

Deletes the KMIP configuration. Deprecated as of ONTAP 9.6 and might be removed in a future release.

| Errno | Description |
|---|---|
| **E_UNSUPPORTED_ONB_ECV** | |
| **E_KMIP_NOT_CONFIGURED** | |
| **E_NSE_AK_IS_SET** | |
| **E_FOUND_ENCRYPTED_VOLUMES** | |
| **EINTERNALERROR** | |
| **E_EXT_KMIP_SERVER_CONF** | |
| **E_CHECKING_KMIP_SERVER** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-key-manager-external-add-servers

[top]

Add additional external key management servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **key-servers** | | string[] | The key management servers to add. |
| **vserver** | | vserver-name | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-key-manager-external-disable

[top]

Disable external key management

| Input Name | Range | Type | Description |
|---|---|---|---|
| **vserver** | | vserver-name | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-key-manager-external-enable

[top]

Enable external key management

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-cert** | | string | The name of the client certificate. |
| **key-servers** | | string[] | The set of key management servers. |
| **keyservers-are-clustered** | | boolean optional | Are the key servers clustered? |
| **policy** | | string optional | The key manager policy. |
| **server-ca-certs** | | string[] | The names of the server CA certificates. |
| **vserver** | | vserver-name | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

| License |
|---|
| MT_EK_MGMT |

# security-key-manager-external-get

[top]

Get information about a registered key management server.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | external-key-manager-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| key-server | | string optional | The key server name with port. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | external-key-manager-info | The attributes of the security-key-manager-external. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-key-manager-external-get-iter

[top]

Lists registered key management servers known to the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | external-key-manager-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | external-key-manager-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager-external object. All security-key-manager-external objects matching this query up to 'max-records' will be returned. |
| | | | Specify the tag from the last call. It is usually not specified for the |

| | | | |
|---|---|---|---|
| **tag** | | string optional | first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | external-key-manager-info[] optional | The list of attributes of security-key-manager-external objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager-external objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-key-manager-external-modify

[top]

Modify external key management

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-cert** | | string optional | The name of the new client certificate. |
| **keyservers-are-clustered** | | boolean optional | Are the key servers clustered? |
| **server-ca-certs** | | string[] optional | The names of the new server CA certificates. |
| **vserver** | | vserver-name | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-key-manager-external-modify-server

[top]

Modify information about an external key management server

| Input Name | Range | Type | Description |
|---|---|---|---|
| **key-server** | | string | The key server to modify. |
| **password** | | string optional | The new key server authentication password. |
| **secondary-key-servers** | | remote-inet-address[] optional | The secondary key servers. |
| | | | |

| | | | |
|---|---|---|---|
| **timeout** | | integer<br>optional | The new key server I/O timeout. |
| **username** | | string<br>optional | The new key server authentication username. |
| **vserver** | | vserver-name | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-key-manager-external-remove-servers

[top]

Remove external key management servers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **key-servers** | | string[] | The key management servers to remove. |
| **vserver** | | vserver-name | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# security-key-manager-get

[top]

Lists all registered key management servers known to a specified node. Deprecated as of ONTAP 9.6 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-info<br>optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **key-manager-ip-address** | | string | The IP address of the key management server. |
| **node-name** | | string | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | key-manager-info | The attributes of the security-key-manager. |

| | |
|---|---|

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-key-manager-get-iter

[top]

Lists registered key management servers known to the cluster. Deprecated as of ONTAP 9.6 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | key-manager-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | key-manager-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager object. All security-key-manager objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | key-manager-info[] optional | The list of attributes of security-key-manager objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more security-key-manager objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# security-key-manager-key-database-create-key

[top]

Create a new authentication key on the key manager

| Input Name | Range | Type | Description |
|---|---|---|---|
| key-tag | | string optional | The key tag. |
| passphrase | | string optional | The key AK passphrase. |

| | | | |
|---|---|---|---|

| Output Name | Range | Type | Description |
|---|---|---|---|
| **error-status** | | keymanager-status optional | The action status. |
| **key-id** | | hex-string optional | The key ID. |
| **restore-failure-list** | | node-name[] optional | Nodes on which the newly-created key was not successfully restored. |
| **restore-success-list** | | node-name[] optional | Nodes on which the newly-created key was successfully restored. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-key-database-delete-key

[top]

Delete an existing authentication key on the key manager

| Input Name | Range | Type | Description |
|---|---|---|---|
| **key-id** | | hex-string | The ID of the key to delete. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-key-migrate

[top]

Migrate keys from one vserver to another

| Input Name | Range | Type | Description |
|---|---|---|---|
| **from-vserver** | | vserver-name | The Vserver name to migrate from. |
| **to-vserver** | | vserver-name | The Vserver name to migrate to. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-key-store-get-iter

[top]

Lists all configured key managers.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **desired-attributes** | | keymanager-key-store-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | keymanager-key-store-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager object. All security-key-manager objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | keymanager-key-store-info[] optional | The list of attributes of security-key-manager objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-key-manager-onboard-backup-get

[top]

Get backup of key hierarchy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **vserver** | | string optional | The admin Vserver. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **key-backup** | | string | The salt and wrapped keys as a hex dump. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-onboard-disable

[top]

Disable the Onboard Key Manager

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **vserver** | | vserver-name optional | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-onboard-enable

[top]

Enable the Onboard Key Manager

| Input Name | Range | Type | Description |
|---|---|---|---|
| **are-unencrypted-metadata-volumes-allowed-in-cc-mode** | | boolean optional | Are Unencrypted Metadata Volumes Allowed in Common Criteria Mode |
| **cc-mode-enabled** | | boolean optional | Common Criteria mode enabled? |
| **okm-on-usb-enabled** | | boolean optional | OKM-on-USB enabled? |
| **onboard-passphrase** | | string optional | The Onboard Key Manager Cluster-Wide Passphrase |
| **vserver** | | vserver-name optional | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-onboard-sync

[top]

Sync the Onboard Key Manager Keys

| Input Name | Range | Type | Description |
|---|---|---|---|
| **passphrase** | | string | Onboard Cluster-wide Passphrase |
| **vserver** | | vserver-name optional | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-onboard-update-passphrase

[top]

Update the Onboard Key Manager Passphrase

| Input Name | Range | Type | Description |
|---|---|---|---|
| **existing-passphrase** | | string | The existing the Onboard Key Manager passphrase. |
| **new-passphrase** | | string | The new the Onboard Key Manager passphrase. |
| **vserver** | | vserver-name optional | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-query-get

[top]

(DEPRECATED)-Return the key IDs stored in a key management server and whether restored (present in the node's key table).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-query-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **key-manager-ip-address** | | string | IP Address |
| **node-name** | | string | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | key-manager-query-info | The attributes of the security-key-manager-query. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-query-get-iter

[top]

(DEPRECATED)-Return the key IDs stored in all of the key management servers known to the cluster and whether restored (present in the nodes' key tables).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-query-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | key-manager-query-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager-query object. All security-key-manager-query objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | key-manager-query-info[] optional | The list of attributes of security-key-manager-query objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager-query objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-key-manager-query-v2-get

[top]

Return the key IDs stored in a key management server and whether restored (present in the node's key table). Deprecated as of ONTAP 9.6 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-query-info-v2 optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **key-id** | | string | Key ID |
| **key-manager-ip-address** | | string | IP Address |
| **node-name** | | string | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | key-manager-query-info-v2 | The attributes of the security-key-manager-query-v2. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-query-v2-get-iter

[top]

Return the key IDs stored in all of the key management servers known to the cluster and whether restored (present in the nodes' key tables). Deprecated as of ONTAP 9.6 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-query-info-v2 optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | key-manager-query-info-v2 optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager-query-v2 object. All security-key-manager-query-v2 objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | key-manager-query-info-v2[] optional | The list of attributes of security-key-manager-query-v2 objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager-query-v2 objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-key-manager-restore-get

[top]

(DEPRECATED)-Restore the key IDs stored in the specified key management server for the specified node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-restore-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **key-manager-ip-address** | | string | IP Address |
| **key-tag** | | string optional | Key Tag |
| **node-name** | | string | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | key-manager-restore-info | The attributes of the security-key-manager-restore. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-restore-get-iter

[top]

(DEPRECATED)-Restore the key IDs from all the key management servers known to this cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-restore-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | key-manager-restore-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager-restore object. All security-key-manager-restore objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | key-manager-restore-info[] optional | The list of attributes of security-key-manager-restore objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager-restore objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-key-manager-restore-v2-get

[top]

Restore the key IDs from the specified key management server for the specified node. Deprecated as of ONTAP 9.6 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-restore-info-v2 optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **key-id** | | string | Key ID |
| **key-manager-ip-address** | | string | IP Address |
| **key-tag** | | string optional | Key Tag |
| **node-name** | | string | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | key-manager-restore-info-v2 | The attributes of the security-key-manager-restore-v2. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-key-manager-restore-v2-get-iter

[top]

Restore the key IDs from all the key management servers known to this cluster. Deprecated as of ONTAP 9.6 and may be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | key-manager-restore-info-v2 optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | key-manager-restore-info-v2 optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager-restore-v2 object. All security-key-manager-restore-v2 objects matching this query up to 'max-records' will be returned. |
| | | | Specify the tag from the last call. It is usually not specified for the |

| | | | |
|---|---|---|---|
| **tag** | | string optional | first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | key-manager-restore-info-v2[] optional | The list of attributes of security-key-manager-restore-v2 objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager-restore-v2 objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-key-manager-setup

[top]

Configure key manager connectivity. Deprecated as of ONTAP 9.6 and might be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **are-unencrypted-metadata-volumes-allowed-in-cc-mode** | | boolean optional | Are Unencrypted Metadata Volumes Allowed in CC-Mode |
| **cc-mode-enabled** | | boolean optional | Enable Common Criteria Mode? |
| **key-manager-boot-address** | | ip-address optional | Key Manager Boot Node IPv4 Address |
| **key-manager-boot-addressV6** | | ip-address optional | Key Manager Boot Node IPv6 Address |
| **key-manager-boot-gateway** | | ip-address optional | IPv4 Gateway for the Key Server |
| **key-manager-boot-gatewayV6** | | ip-address optional | IPv6 Gateway for the Key Server |
| **key-manager-boot-interface** | | lif-bindable optional | Physical Interface Used to Contact Key Server |
| **key-manager-boot-netmask** | | ip-address optional | Netmask for the Key Server |
| **key-manager-boot-port** | | integer optional | TCP Port for the Key Server |
| **key-manager-boot-prefixlen** | | integer optional | IPv6 Prefix Length |
| **node** | | filer-id optional | Node Name |

| | | | |
|---|---|---|---|
| **onboard-passphrase** | | string optional | Onboard Key Manager Cluster-wide Passphrase |
| **sync-metrocluster-config** | | boolean optional | Sync MetroCluster Configuration from Peer |
| **use-external-usb** | | boolean optional | Use external USB for Onboard Key Storage |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## security-key-manager-update-passphrase

[top]

Update passphrase for the Onboard Key Manager. Deprecated as of ONTAP 9.6 and might be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-passphrase** | | string | New onboard cluster-wide passphrase |
| **onboard-passphrase** | | string | Current onboard cluster-wide passphrase |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## security-key-manager-volume-encryption-supported

[top]

Checks if Volume encryption is supported on this node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Node Name |
| **vserver** | | string optional | Vserver Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **vol-encryption-supported** | | boolean | Volume encryption supported |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **external-key-manager-info**

[top]

Returns External Key Management Server Information When returned as part of the output, all

elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **client-cert** | | string optional | The name of the client certificate. Attributes: non-creatable, non-modifiable |
| **info** | | string optional | Any Key Server Registered or Not Attributes: non-creatable, non-modifiable |
| **key-server** | | string optional | The key server name with port. Attributes: key, non-creatable, non-modifiable |
| **keyservers-are-clustered** | | boolean optional | Are the key servers clustered? Attributes: non-creatable, non-modifiable |
| **secondary-key-servers** | | string[] optional | The secondary key servers. Attributes: non-creatable, non-modifiable |
| **server-ca-certs** | | string[] optional | The names of the server CA certificates. Attributes: non-creatable, non-modifiable |
| **timeout** | **[-1..60]** | integer optional | The key server I/O timeout. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | The Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **external-key-manager-status**

[top]

Returns External Key Management Server Status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **key-server** | | string optional | Primary Key Server Attributes: key, non-creatable, non-modifiable |
| **key-server-status** | | keymanager-server-status optional | Key Server Status Attributes: non-creatable, non-modifiable Possible values:<br>• "available" - Key server available,<br>• "not_responding" - Key server is not responding,<br>• "unknown" - Key server status is unknown |
| **node** | | node-name optional | Node Name Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **secondary-key-servers** | | string[] optional | Secondary Key Servers Attributes: non-creatable, non-modifiable |
| **status-details** | | string optional | Key Server Status Details Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **filer-id** [top]

Filer UUID

[none]

# Element definition: **hex-string** [top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

# Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

# Element definition: **key-manager-external-restore** [top]

Information about the key ID pairs restored from a key management server When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **key-id** | | hex-string optional | The ID of the restored key. Attributes: key, non-creatable, non-modifiable |
| **key-server** | | string optional | The key server from which the key was restored. Attributes: key, non-creatable, non-modifiable |
| | | string | The tag of the restored key. Attributes: key, non-creatable, non- |

| | | | |
|---|---|---|---|
| **key-tag** | | optional | modifiable |
| **node-name** | | node-name optional | The node name. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | The Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **key-manager-info**

[top]

Returns Key Management Server Info connectivity status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **key-manager-ip-address** | | string optional | The IP address of the key management server. Attributes: key, non-creatable, non-modifiable |
| **key-manager-server-status** | | string optional | The status of the given key management server. Attributes: non-creatable, non-modifiable Possible values:<br>• "available" - Key server available,<br>• "not_responding" - Key server is not responding,<br>• "unknown" - Key server status is unknown |
| **key-manager-tcp-port** | **[1..65535]** | integer optional | The TCP port on which the key management server listens for incoming connections. The default value for this parameter is 5696. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **key-manager-query-info**

[top]

Returns key manager query result When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **key-id-count** | **[0..2^32-1]** | integer optional | AK/Key ID Pair Count Attributes: non-creatable, non-modifiable |
| **key-ids** | | key-id-info[] optional | Information about AK/key ID pairs and their associated key-tags. |
| **key-manager-ip-address** | | string optional | IP Address Attributes: key, non-creatable, non-modifiable |
| **key-manager-server-status** | | string optional | Command Error Code Attributes: non-creatable, non-modifiable Possible values:<br>• "available" - Key server available,<br>• "not_responding" - Key server is not responding,<br>• "unknown" - Key server status is unknown |
| **node-name** | | string optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **key-manager-query-info-v2**

[top]

Returns key manager query result When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **key-id** | | string optional | Key ID Attributes: key, non-creatable, non-modifiable |
| **key-manager-ip-address** | | string optional | IP Address Attributes: key, non-creatable, non-modifiable |
| **key-manager-server-status** | | string optional | Command Error Code Attributes: non-creatable, non-modifiable Possible values:<br>• "available" - Key server available,<br>• "not_responding" - Key server is not responding,<br>• "unknown" - Key server status is unknown |
| **key-tag** | | string optional | Key Tag Attributes: non-creatable, non-modifiable |
| **key-type** | | string optional | Key Type Attributes: non-creatable, non-modifiable Possible values:<br>• "nse_ak" - Authentication Key for NSE drive,<br>• "aek" - Aggregate Encryption Key,<br>• "vek" - Volume Encryption Key,<br>• "nek" - NVRAM Encryption Key,<br>• "svm_kek" - SVM Key Encryption Key for wrapping VEK |
| | | string | |

| | | | |
|---|---|---|---|
| **node-name** | | optional | Node Attributes: key, non-creatable, non-modifiable |
| **restored** | | boolean optional | Key/Key ID Pair Present in Node's Key Table? Attributes: non-creatable, non-modifiable |

# Element definition: **key-manager-restore-info**

[top]

Information about the authentication key and key ID pairs restored from a key management server When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **key-id-count** | **[0..2^32-1]** | integer optional | AK/Key ID Pair Count Attributes: non-creatable, non-modifiable |
| **key-ids** | | key-id-info[] optional | List of restored key IDs |
| **key-manager-ip-address** | | string optional | IP Address Attributes: key, non-creatable, non-modifiable |
| **key-manager-server-status** | | string optional | Command Error Code Attributes: non-creatable, non-modifiable Possible values:<br>• "available" - Key server available,<br>• "not_responding" - Key server is not responding,<br>• "unknown" - Key server status is unknown |
| **key-tag** | | string optional | Key Tag Attributes: key, non-creatable, non-modifiable |
| **node-name** | | string optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **key-manager-restore-info-v2**

[top]

Information about the key ID pairs restored from a key management server When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| | | | |
|---|---|---|---|

| Name | Range | Type | Description |
|---|---|---|---|
| **key-id** | | string optional | Key ID Attributes: key, non-creatable, non-modifiable |
| **key-manager-ip-address** | | string optional | IP Address Attributes: key, non-creatable, non-modifiable |
| **key-manager-server-status** | | string optional | Command Error Code Attributes: non-creatable, non-modifiable Possible values:<br>• "available" - Key server available,<br>• "not_responding" - Key server is not responding,<br>• "unknown" - Key server status is unknown |
| **key-tag** | | string optional | Key Tag Attributes: key, non-creatable, non-modifiable |
| **node-name** | | string optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **keymanager-config-info**

[top]

Provide Key Management Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **are-unencrypted-metadata-volumes-allowed-in-cc-mode** | | boolean optional | Are Unencrypted Metadata Volumes Allowed in Common Criteria Mode Attributes: non-creatable, modifiable |
| **cc-mode-enabled** | | boolean optional | CC-Mode Enabled. Attributes: non-creatable, modifiable |
| **health-monitor-polling-interval** | **[15..30]** | integer optional | Health Monitor Polling Period (in minutes) Attributes: non-creatable, modifiable |
| **okm-on-usb-enabled** | | boolean optional | OKM-on-USB Enabled. Attributes: non-creatable, modifiable |
| **onboard-passphrase** | | string optional | Current onboard cluster-wide passphrase. Attributes: non-creatable, modifiable |

# Element definition: **keymanager-key-query-info**

[top]

Returns Information About the Keys in the Key Manager When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **key-id** | | hex-string optional | The key ID. Attributes: key, non-creatable, non-modifiable |
| **key-server** | | string optional | The key server. Attributes: key, non-creatable, non-modifiable |
| **key-store** | | keystore optional | The key manager type. Attributes: non-creatable, non-modifiable Possible values:<br>• "onboard" - Onboard Key Database,<br>• "external" - External KMIP Server Key Database |
| **key-tag** | | string optional | The key tag. Attributes: non-creatable, non-modifiable |
| **key-type** | | keyusagetype optional | The key type. Attributes: non-creatable, non-modifiable Possible values:<br>• "nse_ak" - Authentication Key for NSE drive,<br>• "aek" - Aggregate Encryption Key,<br>• "vek" - Volume Encryption Key,<br>• "nek" - NVRAM Encryption Key,<br>• "svm_kek" - SVM Key Encryption Key for wrapping VEK |
| **key-user** | | vserver-name optional | The key user. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | The node name. Attributes: key, non-creatable, non-modifiable |
| **restored** | | boolean optional | Is Key/Key ID Pair in Node's Key Table? Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | The Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **keymanager-key-store-info**

[top]

Returns Information About Configured Key Managers When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | The key store. Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **key-store** | | keystore optional | • "onboard" - Onboard Key Database,<br>• "external" - External KMIP Server Key Database |
| **vserver** | | vserver-name optional | The Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **keymanager-status**

[top]

Key Manager Command Error Status Possible values:

- "ok" ,
- "error_unknown" ,
- "error_invalid_op" ,
- "error_internal" ,
- "error_operation_timeout" ,
- "error_client_cert_file_missing" ,
- "error_server_cert_missing" ,
- "error_server_connection" ,
- "error_server_duplicate" ,
- "error_server_not_found" ,
- "error_server_not_supported" ,
- "error_server_not_registered" ,
- "error_server_max" ,
- "error_server_delete_failed" ,
- "error_key_restore_completed" ,
- "error_key_restore_init" ,
- "error_key_restore_in_progress" ,
- "error_key_restore_failed" ,
- "error_key_gen_crypto_failed" ,
- "error_key_gen_hexstr_failed" ,
- "error_key_backup_failed" ,
- "error_key_duplicate_found" ,
- "error_key_del_crypto_failed" ,
- "error_kmip_bootarg_unset" ,
- "error_wrapping_key_not_found" ,
- "error_key_unwrapping_failed" ,
- "error_key_manager_not_setup"

[none]

# Element definition: **lif-bindable**

[top]

|

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **remote-inet-address** [top]

IPv4 Address, IPv6 Address or Host Name

[none]

## Element definition: **security-key-manager-add-iter-info** [top]

Information about the operation that was attempted/performed against security-key-manager object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **security-key-manager-key** | | key-manager-info | The keys for the security-key-manager object to which the operation applies. |

## Element definition: **security-key-manager-delete-iter-info** [top]

Information about the operation that was attempted/performed against security-key-manager object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **security-key-manager-key** | | key-manager-info | The keys for the security-key-manager object to which the operation applies. |

## Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

# Element definition: **hex-string**

[top]

The displays the hexadecimal value in string. Integer value 161 will be displayed as a1

[none]

# Element definition: **key-id-info**

[top]

List of restored key IDs

| Name | Range | Type | Description |
|---|---|---|---|
| **key-id** | | string optional | Authentication Key ID Attributes: non-creatable, non-modifiable |

# Element definition: **key-manager-info**

[top]

Returns Key Management Server Info connectivity status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **key-manager-ip-address** | | string optional | The IP address of the key management server. Attributes: key, non-creatable, non-modifiable |
| **key-manager-server-status** | | string optional | The status of the given key management server. Attributes: non-creatable, non-modifiable Possible values:<br>• "available" - Key server available,<br>• "not_responding" - Key server is not responding,<br>• "unknown" - Key server status is unknown |
| **key-manager-tcp-port** | **[1..65535]** | integer optional | The TCP port on which the key management server listens for incoming connections. The default value for this parameter is 5696. Attributes: non-creatable, non-modifiable |
| **node-name** | | string optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **keymanager-server-status**

[top]

available|not-responding|unknown Possible values:

- "available" - Key server available,
- "not_responding" - Key server is not responding,
- "unknown" - Key server status is unknown

[none]

## Element definition: **keystore**

[top]

Key Store Possible values:

- "onboard" - Onboard Key Database,
- "external" - External KMIP Server Key Database

[none]

## Element definition: **keyusagetype**

[top]

Key Usage Type Possible values:

- "nse_ak" - Authentication Key for NSE drive,
- "aek" - Aggregate Encryption Key,
- "vek" - Volume Encryption Key,
- "nek" - NVRAM Encryption Key,
- "svm_kek" - SVM Key Encryption Key for wrapping VEK

[none]

# APIs in Category: **security-key-manager-key**

| | |
|---|---|
| security-key-manager-key-get-iter | This ZAPI provides information related to the keys present in the cluster. |

## security-key-manager-key-get-iter

[top]

Show information related to the keys present in the cluster. Deprecated as of ONTAP 9.6 and might be removed in a future release.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | security-key-manager-key-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | security-key-manager-key-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-key-manager-key object. All security-key-manager-key objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | security-key-manager-key-info[] optional | The list of attributes of security-key-manager-key objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-key-manager-key objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **security-key-manager-key-info**

[top]

Display Encryption Key Information When returned as part of the output, all elements of this typedef

are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **key-id** | | string optional | Key Identifier Attributes: key, non-creatable, non-modifiable |
| **key-location** | | string optional | Key Location Attributes: non-creatable, non-modifiable |
| **key-store** | | string optional | Key Store Attributes: key, non-creatable, non-modifiable Possible values:<br>• "onboard" - Onboard Key Database,<br>• "external" - External KMIP Server Key Database |
| **key-tag** | | string optional | Key Tag Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Node Attributes: key, non-creatable, non-modifiable |
| **restored** | | boolean optional | Restored Attributes: non-creatable, non-modifiable |
| **used-by** | | string optional | Used By Attributes: non-creatable, non-modifiable Possible values:<br>• "nse_ak" - Authentication Key for NSE drive,<br>• "aek" - Aggregate Encryption Key,<br>• "vek" - Volume Encryption Key,<br>• "nek" - NVRAM Encryption Key,<br>• "svm_kek" - SVM Key Encryption Key for wrapping VEK |

# APIs in Category: **security-session**


security-session-application-stats-get-iter
security-session-kill-cli-iter
security-session-limit-application-create
security-session-limit-application-delete
security-session-limit-application-get-iter
security-session-limit-application-modify
security-session-limit-create
security-session-limit-delete
security-session-limit-get-iter
security-session-limit-location-create
security-session-limit-location-delete
security-session-limit-location-get-iter
security-session-limit-location-modify
security-session-limit-modify
security-session-limit-request-create
security-session-limit-request-delete
security-session-limit-request-get-iter
security-session-limit-request-modify
security-session-limit-user-create
security-session-limit-user-delete
security-session-limit-user-get-iter
security-session-limit-user-modify
security-session-limit-vserver-create
security-session-limit-vserver-delete
security-session-limit-vserver-get-iter
security-session-limit-vserver-modify


This set of APIs allows viewing session statistics and configuring session limits.

security-session-location-stats-get-iter
security-session-request-stats-get-iter
security-session-running-stats-get-iter
security-session-user-stats-get-iter
security-session-vserver-stats-get-iter

# security-session-application-stats-get-iter

[top]

Returns session application statistics.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-application-stats-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-application-stats-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-application-stats-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-kill-cli-iter

[top]

Kill a CLI session

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple security-session objects match a given query. If set to true, the API will continue with the next matching security-session even when the operation fails for the security-session. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching security-session even when the operation on a previous matching security-session fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of security-session objects to be operated in this call. Default: 20 |
| **query** | | session-running-stats-info | If operating on a specific security-session, this input element must specify all keys. If operating on security-session objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of security-session objects (just keys) that were not operated on due to some error. If set to false, the list of security-session objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of security-session objects (just keys) that were successfully operated on. If set to false, the list of security-session objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | security-session-kill-cli-iter-info[] optional | Information about security-session objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching security-session objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of security-session objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of security-session objects that matched the query and were successfully processed. |
| **success-list** | | security-session-kill-cli-iter-info[] optional | The security-session objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-application-create

[top]

Creates a per-application session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string | The name of the application for this limit. An application name of '-default-' specifies the default application limit for any application. |
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| **max-active-limit** | **[0..250]** | integer | The maximum number of concurrent sessions allowed for this interface and application. |
| **return-record** | | boolean optional | If set to true, returns the security-session on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | session-application-limits-info optional | The security-session created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-application-delete

[top]

Deletes a per-application session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string | The name of the application for this limit. An application name of '-default-' specifies the default application limit for any application. |
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-session-limit-application-get-iter

[top]

Returns per-application session limits.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | session- | Specify the attributes that should be returned. If not present, all |

| | | | |
|---|---|---|---|
| **desired-attributes** | | application-limits-info optional | attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-application-limits-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-application-limits-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-application-modify

[top]

Modifies a per-application session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application** | | string | The name of the application for this limit. An application name of '-default-' specifies the default application limit for any application. |
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface and application. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-session-limit-create

[top]

Creates a session default limit.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **category** | | session-limit-type | The session type for this default limit. The following categories are defined:<br>• 'application': Identifies the default limit for any single application<br>• 'location': Identifies the default limit for any single location<br>• 'request': Identifies the default limit for any single request type<br>• 'user': Identifies the default limit for any single user<br>• 'vserver': Identifies the default limit for any single Vserver |
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this default limit. |
| **max-active-limit** | **[0..250]** | integer | The maximum number of concurrent sessions allowed for this interface and category. |
| **return-record** | | boolean<br>optional | If set to true, returns the security-session on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | session-default-limits-info<br>optional | The security-session created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-delete

[top]

Deletes a session default limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **category** | | session-limit-type | The session type for this default limit. The following categories are defined:<br>• 'application': Identifies the default limit for any single application<br>• 'location': Identifies the default limit for any single location<br>• 'request': Identifies the default limit for any single request type<br>• 'user': Identifies the default limit for any single user<br>• 'vserver': Identifies the default limit for any single Vserver |
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this default limit. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-session-limit-get-iter

[top]

Returns session default limits.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-default-limits-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-default-limits-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-default-limits-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-location-create

[top]

Creates a per-location session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| **ipspace** | | string optional | The IPspace from which the client location is seen. If not specified, changes are made in the 'Default' IPspace. |
| **location** | | string | A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. A location name of '-default-' specifies the default location limit for any location. |
| **max-active-limit** | **[0..250]** | integer | The maximum number of concurrent sessions allowed for this interface and location. |
| **return-record** | | boolean optional | If set to true, returns the security-session on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | session-location-limits-info optional | The security-session created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-location-delete

[top]

Deletes a per-location session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| **ipspace** | | string optional | The IPspace from which the client location is seen. If not specified, changes are made in the 'Default' IPspace. |
| **location** | | string | A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. A location name of '-default-' specifies the default location limit for any location. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-session-limit-location-get-iter

[top]

Returns per-location session limits.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-location-limits-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-location-limits-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' |

| | | | |
|---|---|---|---|
| | | | obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-location-limits-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-location-modify

[top]

Modifies a per-location session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| **ipspace** | | string optional | The IPspace from which the client location is seen. If not specified, changes are made in the 'Default' IPspace. |
| **location** | | string | A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. A location name of '-default-' specifies the default location limit for any location. |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface and location. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-session-limit-modify

[top]

Modifies a session default limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **category** | | session-limit-type | The session type for this default limit. The following categories are defined:<br>• 'application': Identifies the default limit for any single application<br>• 'location': Identifies the default limit for any single location<br>• 'request': Identifies the default limit for any single request |

| | | | |
|---|---|---|---|
| | | | type<br>• 'user': Identifies the default limit for any single user<br>• 'vserver': Identifies the default limit for any single Vserver |
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this default limit. |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface and category. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-session-limit-request-create

[top]

Creates a per-request session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| **max-active-limit** | **[0..250]** | integer | The maximum number of concurrent sessions allowed for this interface and request type. |
| **request** | | string | The name of the request for this limit. A request name of '-default-' specifies the default request limit for any request type. |
| **return-record** | | boolean optional | If set to true, returns the security-session on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | session-request-limits-info optional | The security-session created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-request-delete

[top]

Deletes a per-request session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| **request** | | string | The name of the request for this limit. A request name of '-default-' specifies the default request limit for any request type. |

| Errno | Description |
|---|---|
| | |

| Errno | Description |
| --- | --- |
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-session-limit-request-get-iter

[top]

Returns per-request session limits.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| desired-attributes | | session-request-limits-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | session-request-limits-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| attributes-list | | session-request-limits-info[] optional | The list of attributes of security-session objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

# security-session-limit-request-modify

[top]

Modifies a per-request session limit.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| interface | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| max-active-limit | [0..250] | integer optional | The maximum number of concurrent sessions allowed for this interface and request type. |
| request | | string | The name of the request for this limit. A request name of '-default-' |

| | | | |
|---|---|---|---|
| | | | specifies the default request limit for any request type. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-session-limit-user-create

[top]

Creates a per-user session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| interface | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| max-active-limit | [0..250] | integer | The maximum number of concurrent sessions allowed for this interface, Vserver, and user. |
| return-record | | boolean optional | If set to true, returns the security-session on successful creation. Default: false |
| username | | string | The name of the authenticated user for this limit. A user name of '-default-' specifies the default user limit for the specified Vserver. |
| vserver | | vserverid | The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| result | | session-user-limits-info optional | The security-session created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# security-session-limit-user-delete

[top]

Deletes a per-user session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| interface | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| username | | string | The name of the authenticated user for this limit. A user name of '-default-' specifies the default user limit for the specified Vserver. |
| vserver | | vserverid | The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-session-limit-user-get-iter

[top]

Returns per-user session limits.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-user-limits-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-user-limits-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-user-limits-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-user-modify

[top]

Modifies a per-user session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface, Vserver, and user. |
| **username** | | string | The name of the authenticated user for this limit. A user name of '-default-' specifies the default user limit for the specified Vserver. |
| **vserver** | | vserverid | The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-session-limit-vserver-create

[top]

Creates a per-vserver session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| interface | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| max-active-limit | [0..250] | integer | The maximum number of concurrent sessions allowed for this interface and Vserver. |
| return-record | | boolean optional | If set to true, returns the security-session on successful creation. Default: false |
| vserver | | vserverid | The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| result | | session-vserver-limits-info optional | The security-session created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# security-session-limit-vserver-delete

[top]

Deletes a per-vserver session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| interface | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| vserver | | vserverid | The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# security-session-limit-vserver-get-iter

[top]

Returns per-vserver session limits.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-vserver-limits-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-vserver-limits-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-vserver-limits-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-limit-vserver-modify

[top]

Modifies a per-vserver session limit.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type | The interface (cli, ontapi, or rest) for this application limit. |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface and Vserver. |
| **vserver** | | vserverid | The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# security-session-location-stats-get-iter

[top]

Returns session location statistics.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-location-stats-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-location-stats-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-location-stats-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-request-stats-get-iter

[top]

Returns session request statistics.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-request-stats-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-request-stats-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| | | | Specify the tag from the last call. It is usually not specified for the |

| | | | |
|---|---|---|---|
| **tag** | | string optional | first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-request-stats-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## security-session-running-stats-get-iter

[top]

Returns session running statistics.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-running-stats-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-running-stats-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-running-stats-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-user-stats-get-iter

[top]

Returns session user statistics.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-user-stats-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | session-user-stats-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-user-stats-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-session-vserver-stats-get-iter

[top]

Returns session vserver statistics.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | session-vserver-stats-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | session- | |

| | | | |
|---|---|---|---|
| **query** | | vserver-stats-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the security-session object. All security-session objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | session-vserver-stats-info[] optional | The list of attributes of security-session objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more security-session objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **security-session-kill-cli-iter-info**

[top]

Information about the operation that was attempted/performed against security-session object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **security-session-key** | | session-running-stats-info | The keys for the security-session object to which the operation applies. |

# Element definition: **session-application-limits-info**

[top]

Session Application Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **application** | | string optional | The name of the application for this limit. An application name of '-default-' specifies the default application limit for any application. Attributes: key, required-for-create, non-modifiable |
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface and application. Attributes: required-for-create, modifiable |

# Element definition: **session-application-stats-info**

[top]

Session Application Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **active** | **[0..2^32-1]** | integer optional | The number of sessions that are currently active. Attributes: non-creatable, non-modifiable |
| **application** | | string optional | The name of the calling application. Attributes: key, required-for-create, non-modifiable |
| **average-time** | **[0..2^64-1]** | integer optional | The average time spent on a request. Attributes: non-creatable, non-modifiable |
| **blocked-percent** | **[0..100]** | integer optional | The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable |
| **blocked-requests** | **[0..2^64-1]** | integer optional | The number of requests blocked due to configured limits. Attributes: required-for-create, modifiable |
| **failed-percent** | **[0..100]** | integer optional | The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable |
| **failed-requests** | **[0..2^64-1]** | integer optional | The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, modifiable |
| **idle-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last session ended. This is only present when there are no active sessions. Attributes: non-creatable, non-modifiable |
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **last-active-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last session started. This is only present when there are active sessions. Attributes: non-creatable, non-modifiable |
| **last-time** | **[0..2^32-1]** | integer optional | The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable |
| **max-active** | **[0..2^32-1]** | integer optional | The maximum number of concurrently active sessions. Attributes: required-for-create, modifiable |

| | | | |
|---|---|---|---|
| **max-active-limit** | **[0..250]** | integer optional | The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, modifiable |
| **max-time** | **[0..2^32-1]** | integer optional | The maximum time (in milliseconds) that a request took. Attributes: required-for-create, modifiable |
| **node-name** | | node-name optional | The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **success-percent** | **[0..100]** | integer optional | The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable |
| **total-requests** | **[0..2^64-1]** | integer optional | The total number of requests received. Attributes: non-creatable, non-modifiable |
| **total-seconds** | **[0..2^64-1]** | integer optional | The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable |

# Element definition: **session-default-limits-info**

[top]

Session Default Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **category** | | session-limit-type optional | The session type for this default limit. The following categories are defined:<br>• 'application': Identifies the default limit for any single application<br>• 'location': Identifies the default limit for any single location<br>• 'request': Identifies the default limit for any single request type<br>• 'user': Identifies the default limit for any single user<br>• 'vserver': Identifies the default limit for any single Vserver<br>Attributes: key, required-for-create, non-modifiable |
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) for this default limit. Attributes: key, required-for-create, non-modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface and category. Attributes: required-for-create, modifiable |

# Element definition: **session-if-type**

[top]

Session Interface Type

[none]

# Element definition: **session-limit-type**

[top]

Session Limit Type

[none]

# Element definition: **session-location-limits-info**

[top]

Session Location Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable |
| **ipspace** | | string optional | The IPspace from which the client location is seen. If not specified, changes are made in the 'Default' IPspace. Attributes: key, optional-for-create, non-modifiable |
| **location** | | string optional | A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. A location name of '-default-' specifies the default location limit for any location. Attributes: key, required-for-create, non-modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface and location. Attributes: required-for-create, modifiable |

# Element definition: **session-location-stats-info**

[top]

Session Location Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **active** | **[0..2^32-1]** | integer optional | The number of sessions that are currently active. Attributes: non-creatable, non-modifiable |
| **average-time** | **[0..2^64-1]** | integer optional | The average time spent on a request. Attributes: non-creatable, non-modifiable |
| **blocked-percent** | **[0..100]** | integer optional | The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable |
| **blocked-requests** | **[0..2^64-1]** | integer optional | The number of requests blocked due to configured limits. Attributes: required-for-create, modifiable |
| **failed-percent** | **[0..100]** | integer optional | The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable |
| **failed-requests** | **[0..2^64-1]** | integer optional | The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, modifiable |
| **idle-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last session ended. This is only present when there are no active sessions. Attributes: non-creatable, non-modifiable |
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **ipspace** | | string optional | The IPspace from which the client location is seen. Attributes: key, required-for-create, non-modifiable |
| **last-active-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last session started. This is only present when there are active sessions. Attributes: non-creatable, non-modifiable |
| **last-time** | **[0..2^32-1]** | integer optional | The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable |
| **location** | | string optional | A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. Attributes: key, required-for-create, non-modifiable |
| **max-active** | **[0..2^32-1]** | integer optional | The maximum number of concurrently active sessions. Attributes: required-for-create, modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, modifiable |
| **max-time** | **[0..2^64-1]** | integer optional | The maximum time (in milliseconds) that a request took. Attributes: required-for-create, modifiable |
| **node-name** | | node-name optional | The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **success-percent** | **[0..100]** | integer optional | The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable |
| **total-requests** | **[0..2^64-1]** | integer optional | The total number of requests received. Attributes: non-creatable, non-modifiable |
| **total-seconds** | **[0..2^64-1]** | integer optional | The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable |

## Element definition: **session-request-limits-info**

[top]

Session Request Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface and request type. Attributes: required-for-create, modifiable |
| **request** | | string optional | The name of the request for this limit. A request name of '-default-' specifies the default request limit for any request type. Attributes: key, required-for-create, non-modifiable |

# Element definition: **session-request-stats-info**

[top]

Session Request Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **active** | **[0..2^32-1]** | integer optional | The number of requests that are currently active. Attributes: non-creatable, non-modifiable |
| **average-time** | **[0..2^64-1]** | integer optional | The average time spent on a request. Attributes: non-creatable, non-modifiable |
| **blocked-percent** | **[0..100]** | integer optional | The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable |
| **blocked-requests** | **[0..2^64-1]** | integer optional | The number of requests blocked due to configured limits. Attributes: required-for-create, non-modifiable |
| **failed-percent** | **[0..100]** | integer optional | The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable |
| **failed-requests** | **[0..2^64-1]** | integer optional | The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, non-modifiable |
| **idle-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last request completed. This is only present when there are no active requests. Attributes: non-creatable, non-modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **last-active-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last request started. This is only present when there are active requests. Attributes: non-creatable, non-modifiable |
| **last-time** | **[0..2^32-1]** | integer optional | The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable |
| **max-active** | **[0..2^32-1]** | integer optional | The maximum number of concurrently active requests. Attributes: required-for-create, non-modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, non-modifiable |
| **max-time** | **[0..2^32-1]** | integer optional | The maximum time (in milliseconds) that a request took. Attributes: required-for-create, non-modifiable |
| **node-name** | | node-name optional | The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **request** | | string optional | The name of the request that was issued. Attributes: key, required-for-create, non-modifiable |
| **success-percent** | **[0..100]** | integer optional | The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable |
| **total-requests** | **[0..2^64-1]** | integer optional | The total number of requests received. Attributes: non-creatable, non-modifiable |
| **total-seconds** | **[0..2^64-1]** | integer optional | The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable |

# Element definition: **session-running-stats-info**

[top]

Session Location Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **active-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last request started. Attributes: non-creatable, non-modifiable |
| **application** | | string optional | The name of the calling application. Attributes: key, non-creatable, non-modifiable |
| **failed-requests** | **[0..2^64-1]** | integer optional | The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable |
| **idle-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last request completed. Attributes: non-creatable, non-modifiable |
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) that is processing the session. Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **ipspace** | | string optional | The IPspace from which the client location is seen. Attributes: non-creatable, non-modifiable |
| **last-time** | **[0..2^32-1]** | integer optional | The time (in milliseconds) that the last request took on this session. Attributes: non-creatable, non-modifiable |
| **location** | | string optional | A textual identifier indicating the client location. This is either the IP address of the external client, or 'console' or 'localhost' for console or localhost connections. Attributes: key, non-creatable, non-modifiable |
| **max-time** | **[0..2^32-1]** | integer optional | The maximum time (in milliseconds) that a request took on this session. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The name of the node that is processing the session. Attributes: key, non-creatable, non-modifiable |
| **request** | | string optional | The request input that is currently being handled by the session. Attributes: non-creatable, non-modifiable |
| **session-id** | **[0..2^32-1]** | integer optional | A monotonically increasing number for each node that helps make each session uniquely identifiable. Attributes: key, non-creatable, non-modifiable |
| **start-time** | **[0..2^31-1]** | integer optional | The start time of the current session. Attributes: key, non-creatable, non-modifiable |
| **state** | | session-state optional | The state (pending, active, or idle) of the session. The state is 'pending' if it hit a session limit and the session is waiting for another session to end. The state is 'idle' for CLI sessions that are waiting at the command prompt. The state is 'active' if the session is actively working on a request. Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "pending" ,<br>• "active" ,<br>• "idle" |
| **total-requests** | **[0..2^64-1]** | integer optional | The total number of requests received so far on this session. Attributes: non-creatable, non-modifiable |
| **total-seconds** | **[0..2^32-1]** | integer optional | The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable |
| **username** | | string optional | The name of the authenticated user that originated this request. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserverid optional | The name of the Vserver that originated this request. Attributes: key, non-creatable, non-modifiable |

# Element definition: **session-user-limits-info**

[top]

Session User Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface, Vserver, and user. Attributes: required-for-create, modifiable |
| **username** | | string optional | The name of the authenticated user for this limit. A user name of '-default-' specifies the default user limit for the specified Vserver. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserverid optional | The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. Attributes: key, required-for-create, non-modifiable |

# Element definition: **session-user-stats-info**

[top]

Session User Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **active** | **[0..2^32-1]** | integer optional | The number of sessions that are currently active. Attributes: non-creatable, non-modifiable |
| **average-time** | **[0..2^64-1]** | integer optional | The average time spent on a request. Attributes: non-creatable, non-modifiable |
| **blocked-percent** | **[0..100]** | integer optional | The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable |
| **blocked-requests** | **[0..2^64-1]** | integer optional | The number of requests blocked due to configured limits. Attributes: required-for-create, modifiable |
| **failed-percent** | **[0..100]** | integer optional | The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable |
| **failed-requests** | **[0..2^64-1]** | integer optional | The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, modifiable |
| **idle-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last session ended. This is only present when there are no active sessions. Attributes: non-creatable, non-modifiable |
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **last-active-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last session started. This is only present when there are active sessions. Attributes: non-creatable, non-modifiable |
| **last-time** | **[0..2^32-1]** | integer optional | The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable |
| **max-** | **[0..2^32-** | integer | The maximum number of concurrently active sessions. Attributes: |

| | | | |
|---|---|---|---|
| **active** | **1]** | optional | required-for-create, modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, modifiable |
| **max-time** | **[0..2^32-1]** | integer optional | The maximum time (in milliseconds) that a request took. Attributes: required-for-create, modifiable |
| **node-name** | | node-name optional | The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **success-percent** | **[0..100]** | integer optional | The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable |
| **total-requests** | **[0..2^64-1]** | integer optional | The total number of requests received. Attributes: non-creatable, non-modifiable |
| **total-seconds** | **[0..2^64-1]** | integer optional | The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable |
| **username** | | string optional | The name of the authenticated user that originated this request. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | vserverid optional | The name of the Vserver that originated this request. Attributes: key, required-for-create, non-modifiable |

# Element definition: **session-vserver-limits-info**

[top]

Session Vserver Limits When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) for this application limit. Attributes: key, required-for-create, non-modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The maximum number of concurrent sessions allowed for this interface and Vserver. Attributes: required-for-create, modifiable |
| **vserver** | | vserverid optional | The name of the Vserver for this limit. The 'Cluster' Vserver is used to specify the default for all Vservers. Attributes: key, required-for-create, non-modifiable |

# Element definition: **session-vserver-stats-info**

[top]

Session Vserver Stats When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **active** | **[0..2^32-1]** | integer optional | The number of sessions that are currently active. Attributes: non-creatable, non-modifiable |
| **average-time** | **[0..2^64-1]** | integer optional | The average time spent on a request. Attributes: non-creatable, non-modifiable |
| **blocked-percent** | **[0..100]** | integer optional | The percentage of requests that have been blocked due to confiugred limits. Attributes: non-creatable, non-modifiable |
| **blocked-requests** | **[0..2^64-1]** | integer optional | The number of requests blocked due to configured limits. Attributes: required-for-create, modifiable |
| **failed-percent** | **[0..100]** | integer optional | The percentage of requests that have failed for any reason, including if they were blocked due to configured limits. Attributes: non-creatable, non-modifiable |
| **failed-requests** | **[0..2^64-1]** | integer optional | The number of requests that failed for any reason, including if they were blocked due to configured limits. Attributes: required-for-create, modifiable |
| **idle-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last session ended. This is only present when there are no active sessions. Attributes: non-creatable, non-modifiable |
| **interface** | | session-if-type optional | The interface (cli, ontapi, or rest) that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **last-active-seconds** | **[0..2^64-1]** | integer optional | The time (in seconds) since the last session started. This is only present when there are active sessions. Attributes: non-creatable, non-modifiable |
| **last-time** | **[0..2^32-1]** | integer optional | The time (in milliseconds) that the last request took. Attributes: non-creatable, non-modifiable |
| **max-active** | **[0..2^32-1]** | integer optional | The maximum number of concurrently active sessions. Attributes: required-for-create, modifiable |
| **max-active-limit** | **[0..250]** | integer optional | The configured limit that is used to control requests for the pspecified keys. Attributes: non-creatable, modifiable |
| **max-time** | **[0..2^32-1]** | integer optional | The maximum time (in milliseconds) that a request took. Attributes: required-for-create, modifiable |
| **node-name** | | node-name optional | The name of the node that processed the requests. Attributes: key, required-for-create, non-modifiable |
| **success-percent** | **[0..100]** | integer optional | The percentage of requests that have succeeded. Attributes: non-creatable, non-modifiable |
| **total-requests** | **[0..2^64-1]** | integer optional | The total number of requests received. Attributes: non-creatable, non-modifiable |
| **total-seconds** | **[0..2^64-1]** | integer optional | The total time (in seconds) that has been consumed by all completed requests. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserverid optional | The name of the Vserver that originated this request. Attributes: key, required-for-create, non-modifiable |

## Element definition: **vserverid** [top]

Vserver Id

[none]

## Element definition: **node-name** [top]

The node's name

[none]

## Element definition: **session-if-type** [top]

Session Interface Type

[none]

## Element definition: **session-state** [top]

pending|active|idle Possible values:

- "pending" ,
- "active" ,
- "idle"

[none]

# APIs in Category: **security-ssl**


security-ssl-get
security-ssl-get-iter
security-ssl-modify


This is an auto generated category.

## security-ssl-get

[top]

Get the attributes of SSL security

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-ssl-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vserver-ssl-info | The attributes of the SSL security. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## security-ssl-get-iter

[top]

Get the attributes of SSL security

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-ssl-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vserver-ssl-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the SSL security object. All SSL security objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **attributes-list** | | vserver-ssl-info[] optional | The list of attributes of SSL security objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more SSL security objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# security-ssl-modify

[top]

Modify SSL authentication for a Vserver. Only field(s) that are provided will be modified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **certificate-authority** | | string optional | Issuing Certificate Authority (CA) of server certificate. This field is required when you specify server-enabled as true. |
| **certificate-serial-number** | | string optional | Serial number of certificate in hexadecimal format. This field is required when you specify server-enabled as true, if you do not specify one it will use the serial number of the default certificate. |
| **client-authentication-enabled** | | boolean optional | Informs if SSL Client Authentication is enabled. |
| **common-name** | | string optional | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). This field is optional when you specify server-enabled as true. |
| **ocsp-default-responder** | | string optional | This parameter sets the default OCSP responder to use. If the â€œocsp-override-responderâ€ parameter is not enabled, the URI given will be used only if no responder URI is specified in the certificate being verified. |
| **ocsp-enabled** | | boolean optional | This parameter enables OCSP validation of the client certificate chain. If this parameter is enabled, certificates in the client's certificate chain will be validated against an OCSP responder after normal verification (including CRL checks) have taken place. The OCSP responder used is either extracted from the certificate itself, or derived by configuration. |
| **ocsp-max-response-age** | | string optional | This parameter sets the maximum allowable age (freshness), in seconds, for OCSP responses. The default value (unlimited) does not enforce a maximum age, which means that OCSP responses are considered valid as long as their expiration date field is in the future. |
| **ocsp-max-response-time-skew** | | time-interval optional | This parameter sets the maximum allowable time difference for OCSP responses (when validating their ThisUpdate and NextUpdate fields). |
| **ocsp-override-responder** | | boolean optional | This parameter forces the configured default OCSP responder to be used during OCSP certificate validation, regardless of whether the certificate being validated references an OCSP responder. |
| **ocsp-responder-timeout** | | time-interval optional | This parameter sets the timeout for queries to OCSP responders. Specify zero for the minimum possible timeout. The default value is 10 seconds. |
| | | | This parameter determines whether queries to OCSP responders should contain a NONCE or not. By default, a query NONCE is always |

| | | | |
|---|---|---|---|
| **ocsp-use-request-nonce** | | boolean optional | used and checked against the response's one. When the responder does not use NONCEs (e.g. Microsoft OCSP Responder), this parameter should be disabled. Note: A NONCE is a unique identifier included in each OCSP request / response to prevent a replay attack. |
| **server-authentication-enabled** | | boolean optional | Informs if SSL Server Authentication is enabled. |
| **vserver** | | string optional | Name of vserver. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

# Element definition: **vserver-ssl-info**

[top]

Information about SSL authentication for a Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **certificate-authority** | | string optional | Issuing Certificate Authority (CA) of server certificate. This field is required when you specify server-enabled as true. Attributes: non-creatable, modifiable |
| **certificate-serial-number** | | string optional | Serial number of certificate in hexadecimal format. This field is required when you specify server-enabled as true. Attributes: non-creatable, modifiable |
| **client-authentication-enabled** | | boolean optional | Informs if SSL Client Authentication is enabled. Attributes: non-creatable, modifiable |
| **common-name** | | string optional | Represents the domain name in FQDN form that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). This field is optional when you specify server-enabled as true. Attributes: non-creatable, modifiable |
| | | | |

| | | | |
|---|---|---|---|
| **ocsp-default-responder** | | string optional | This parameter sets the default OCSP responder to use. If the â€œocsp-override-responderâ€ parameter is not enabled, the URI given will be used only if no responder URI is specified in the certificate being verified. Attributes: non-creatable, modifiable |
| **ocsp-enabled** | | boolean optional | This parameter enables OCSP validation of the client certificate chain. If this parameter is enabled, certificates in the client's certificate chain will be validated against an OCSP responder after normal verification (including CRL checks) have taken place. The OCSP responder used is either extracted from the certificate itself, or derived by configuration. Attributes: non-creatable, modifiable |
| **ocsp-max-response-age** | | string optional | This parameter sets the maximum allowable age (freshness), in seconds, for OCSP responses. The default value (unlimited) does not enforce a maximum age, which means that OCSP responses are considered valid as long as their expiration date field is in the future. Attributes: non-creatable, modifiable |
| **ocsp-max-response-time-skew** | | time-interval optional | This parameter sets the maximum allowable time difference for OCSP responses (when validating their ThisUpdate and NextUpdate fields). Attributes: non-creatable, modifiable |
| **ocsp-override-responder** | | boolean optional | This parameter forces the configured default OCSP responder to be used during OCSP certificate validation, regardless of whether the certificate being validated references an OCSP responder. Attributes: non-creatable, modifiable |
| **ocsp-responder-timeout** | | time-interval optional | This parameter sets the timeout for queries to OCSP responders. Specify zero for the minimum possible timeout. The default value is 10 seconds. Attributes: non-creatable, modifiable |
| **ocsp-use-request-nonce** | | boolean optional | This parameter determines whether queries to OCSP responders should contain a NONCE or not. By default, a query NONCE is always used and checked against the response's one. When the responder does not use NONCEs (e.g. Microsoft OCSP Responder), this parameter should be disabled. Note: A NONCE is a unique identifier included in each OCSP request / response to prevent a replay attack. Attributes: non-creatable, modifiable |
| **server-authentication-enabled** | | boolean optional | Informs if SSL Server Authentication is enabled. Attributes: non-creatable, modifiable |
| **vserver** | | string optional | Name of vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

# APIs in Category: **service-processor**


service-processor-api-service-disable-installed-certificates
service-processor-api-service-enable-installed-certificates
service-processor-api-service-get
service-processor-api-service-modify
service-processor-api-service-renew-internal-certificates
service-processor-asup-config-get
service-processor-asup-config-set
service-processor-asup-invoke
service-processor-auto-configuration-disable
service-processor-auto-configuration-enable
service-processor-auto-configuration-get
service-processor-get
service-processor-get-iter
service-processor-image-get
service-processor-image-modify
service-processor-image-update
service-processor-image-update-progress-get
service-processor-log-allocation-get
service-processor-log-allocation-get-iter
service-processor-network-get
service-processor-network-get-iter
service-processor-network-modify
service-processor-network-modify-iter
service-processor-reboot
service-processor-ssh-add-allowed-addresses
service-processor-ssh-get
service-processor-ssh-


These APIs enable applications to get information about the Service Processor of any node in the cluster or modifying its configuration. A Service Processor (SP) device provides remote management capabilities including console redirection, logging and power control. It also extends AutoSupport by sending additional system event alerts. The AutoSupport settings are used for sending these alerts via email over the SP LAN interface.

| | |
|---|---|
| remove-allowed-addresses | |

## service-processor-api-service-disable-installed-certificates

[top]

Disable user-installed certificates for the service processor API service - use auto-generated certificates

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## service-processor-api-service-enable-installed-certificates

[top]

Enable user-installed certificates for the service processor API service

| Input Name | Range | Type | Description |
|---|---|---|---|
| **client-cert** | | string | The name of the client certificate. |
| **rootca-cert** | | string | The names of the root CA certificates. |
| **server-cert** | | string | The name of the server certificate. |
| **vserver** | | vserver-name-data-admin | The Vserver name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## service-processor-api-service-get

[top]

Get service processor API service configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | service-processor-api-service optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | service-processor-api-service | The attributes of the service-processor. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# service-processor-api-service-modify

[top]

Modify service processor API service configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| is-enabled | | boolean optional | Is SP API Service Enabled |
| limit-access | | boolean optional | Only Cluster Members Can Access the Service |
| port | [49152..65535] | integer optional | SP API Service Port |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# service-processor-api-service-renew-internal-certificates

[top]

Generate SSL and SSH certificates used for secure communication with the service processor API service

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# service-processor-asup-config-get

[top]

Returns Service Processor AutoSupport Configuration Information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | service-processor-asup-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | service-processor-asup-info | The attributes of the service-processor. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

## service-processor-asup-config-set

[top]

Setup Service Processor AutoSupport Configuration Information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| is-enabled | | boolean optional | SP AutoSupport Is-enabled state |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

## service-processor-asup-invoke

[top]

Invoke AutoSupport from Specific Service-Processor

| Input Name | Range | Type | Description |
|---|---|---|---|
| node | | node-name | Node |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

## service-processor-auto-configuration-disable

[top]

Disable Service Processor Auto-Configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| address-family | | sp-ip-address-type | IPv4/IPv6 Address Family |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

## service-processor-auto-configuration-enable

[top]

Enable Service Processor Auto-Configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address-family** | | sp-ip-address-type | IPv4/IPv6 Address Family |
| **subnet-name** | | string | Subnet Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# service-processor-auto-configuration-get

[top]

Get Service Processor auto-configuration subnet name.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | sp-subnet-name-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | sp-subnet-name-info | The attributes of the service-processor. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# service-processor-get

[top]

Get basic information about the device

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | service-processor-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node on which the device is located |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | service-processor-info | The attributes of the service-processor. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# service-processor-get-iter

[top]

Get basic information about device of each node in the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | service-processor-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | service-processor-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the service-processor object. All service-processor objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | service-processor-info[] optional | The list of attributes of service-processor objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more service-processor objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# service-processor-image-get

[top]

Get information about installed firmware images

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | service-processor-image optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| | | | Is this image primary or backup firmware for the device Possible values: |

| | | | |
|---|---|---|---|
| **firmware-image** | | sp-fw-type | • "primary" - Firmware which the device boots into by default,<br>• "backup" - Firmware which the device boots into if primary fails |
| **node** | | node-name | Node on which the device is located |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | service-processor-image | The attributes of the service-processor. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# service-processor-image-modify

[top]

Enable or disable automatic firmware update

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-autoupdate-enabled** | | boolean optional | Is firmware autoupdate enabled on the device |
| **node** | | node-name | Node on which the device is located |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# service-processor-image-update

[top]

Install new firmware image

| Input Name | Range | Type | Description |
|---|---|---|---|
| **clear-logs** | | boolean optional | Clear logs on the device after update. Default value is true |
| **install-baseline-image** | | boolean optional | Install the version packaged with ONTAP if this parameter is set to true. Otherwise, -package must be used to specify the package to install |
| **node** | | node-name | Node on which the device is located |
| **package** | | string optional | Name of the package file containing the firmware to be installed. Not required when -baseline is true |
| **update-type** | | sp-fw-update-type optional | Type of firmware update to be performed |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# service-processor-image-update-progress-get

[top]

Get firmware update progress

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | service-processor-image-update-progress-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| node | | node-name | Node on which the device is located |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | service-processor-image-update-progress-info | The attributes of the service-processor. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# service-processor-log-allocation-get

[top]

Get the Service Processor log allocation map.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | service-processor-log-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| node | | node-name | The host node name where the log files are located |
| remote-node | | string | The node name the log files are collected from |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | service-processor-log-info | The attributes of the service-processor. |

| Errno | Description |
|---|---|

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# service-processor-log-allocation-get-iter

[top]

Get the Service Processor log allocation map of each node in the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | service-processor-log-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | service-processor-log-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the service-processor object. All service-processor objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | service-processor-log-info[] optional | The list of attributes of service-processor objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more service-processor objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# service-processor-network-get

[top]

Get the network configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| address-type | | sp-ip-address-type | Network configuration that is being addressed i.e. IPv4 or IPv6<br>Possible values:<br>• "ipv4" - Internet Protocol version 4,<br>• "ipv6" - Internet Protocol version 6 |
| desired- | | service-processor-network- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | info optional | present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node on which the device is located |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | service-processor-network-info | The attributes of the service-processor. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# service-processor-network-get-iter

[top]

Get the network configuration of device of each node in the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | service-processor-network-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | service-processor-network-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the service-processor object. All service-processor objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | service-processor-network-info[] optional | The list of attributes of service-processor objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more service-processor objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# service-processor-network-modify

[top]

Modify the network configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address-type** | | sp-ip-address-type | Network configuration that is being addressed i.e. IPv4 or IPv6 Possible values:<br>• "ipv4" - Internet Protocol version 4,<br>• "ipv6" - Internet Protocol version 6 |
| **dhcp** | | sp-dhcp-status optional | DHCP status for the configuration Possible values:<br>• "v4" - DHCP for IPv4,<br>• "none" - DHCP not enabled,<br>• "v6" - DHCP for IPv6 |
| **gateway-ip-address** | | ip-address optional | IP address of the network gateway |
| **ip-address** | | ip-address optional | IP address currently held by the device |
| **is-enabled** | | boolean optional | Is this address configuration enabled |
| **netmask** | | ip-address optional | Netmask for the device |
| **node** | | node-name | Node on which the device is located |
| **prefix-length** | **[0..64]** | integer optional | Prefix length of subnet mask |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# service-processor-network-modify-iter

[top]

Modify the network configuration of device of each node in the cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | service-processor-network-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple service-processor objects match a given query. If set to true, the API will continue modifying the next matching service-processor even when modification of a previous service-processor fails. If set to false, the API will return on the first failure. Default: false |
| | | | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, |

| | | | |
|---|---|---|---|
| **max-failure-count** | **[1..2^32-1]** | integer optional | the API will continue modifying the next matching service-processor even when the modification of a previous matching service-processor fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | service-processor-network-info | If modifying a specific service-processor, this input element must specify all keys. If modifying service-processor objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of service-processor objects (just keys) that were not modified due to some error. If set to false, the list of service-processor objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of service-processor objects (just keys) that were successfully updated. If set to false, the list of service-processor objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | service-processor-network-modify-iter-info[] optional | Information about service-processor objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching service-processor objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of service-processor objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of service-processor objects that matched the query and were successfully updated. |
| **success-list** | | service-processor-network-modify-iter-info[] optional | The service-processor objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# service-processor-reboot

[top]

Reboot the Service Processor

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **firmware-image** | | sp-fw-type optional | Image to boot upon reboot. Default is primary |
| **node** | | node-name | Node on which the device is located |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# service-processor-ssh-add-allowed-addresses

[top]

Add IP addresses that are allowed to access the Service Processor

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allowed-addresses** | | ip-and-mask[] | Public IP Addresses |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# service-processor-ssh-get

[top]

Return SSH security information about the Service Processor.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | service-processor-ssh-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | service-processor-ssh-info | The attributes of the service-processor. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# service-processor-ssh-remove-allowed-addresses

[top]

Remove IP addresses that are allowed to access the Service Processor

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allowed-addresses** | | ip-and-mask[] | Public IP Addresses |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **ip-and-mask**

[top]

4-byte IP address followed by 4-byte mask

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **service-processor-api-service**

[top]

Service Processor API service type When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Is SP API Service Enabled Attributes: non-creatable, modifiable |
| **limit-access** | | boolean optional | Only Cluster Members Can Access the Service Attributes: non-creatable, modifiable |

| | | | |
|---|---|---|---|
| **port** | **[49152..65535]** | integer optional | SP API Service Port Attributes: non-creatable, modifiable |

# Element definition: **service-processor-asup-info**

[top]

Service Processor AutoSupport Configuration Applies within the Cluster. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | SP AutoSupport Is-enabled state Attributes: non-creatable, modifiable |

# Element definition: **service-processor-image**

[top]

Service processor firmware information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **firmware-image** | | sp-fw-type optional | Is this image primary or backup firmware for the device Attributes: key, non-creatable, non-modifiable Possible values:<br>• "primary" - Firmware which the device boots into by default,<br>• "backup" - Firmware which the device boots into if primary fails |
| **is-autoupdate-enabled** | | boolean optional | Is firmware autoupdate enabled on the device Attributes: non-creatable, non-modifiable |
| **is-current** | | boolean optional | Is device currently booted from this image Attributes: non-creatable, non-modifiable |
| **last-update-status** | | sp-pass-fail optional | Did last firmware install on the device pass or fail Attributes: non-creatable, non-modifiable Possible values:<br>• "failed" - Operation failed,<br>• "passed" - Operation was successful |
| | | node- | |

| | | | |
|---|---|---|---|
| **node** | | name optional | Node on which the device is located Attributes: key, non-creatable, non-modifiable |
| **status** | | sp-fw-status optional | Status of this firmware image Attributes: non-creatable, non-modifiable Possible values:<br>• "installed" - Firmware installed and in normal state,<br>• "corrupt" - Firmware is corrupt,<br>• "updating" - Firmware is undergoing a manual update,<br>• "auto_updating" - Firmware is undergoing an automatic update,<br>• "none" - Firmware status not known |
| **type** | | sp-type optional | Type of device Attributes: non-creatable, non-modifiable Possible values:<br>• "sp" - Service Processor,<br>• "none" - NONE,<br>• "bmc" - BMC |
| **version** | | string optional | Firmware version in this image Attributes: non-creatable, non-modifiable |

# Element definition: **service-processor-image-update-progress-info**

[top]

Service processor image update progress information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **end-time** | | datetime optional | Time when the firmware finished (if complete, else empty) Attributes: non-creatable, non-modifiable |
| **is-in-progress** | | boolean optional | Is a firmware update in progress Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node on which the device is located Attributes: key, non-creatable, non-modifiable |
| **percent-done** | **[0..100]** | integer optional | Current progress of the firmware update percentage Attributes: non-creatable, non-modifiable |
| **start-time** | | datetime optional | Time when the firmware update started Attributes: non-creatable, non-modifiable |

# Element definition: **service-processor-info**

[top]

Service processor information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired

attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **device-revision** | | string optional | Device revision. Applicable for RLM only Attributes: non-creatable, non-modifiable |
| **firmware-version** | | string optional | Firmware version installed on the device Attributes: non-creatable, non-modifiable |
| **ip-address** | | ip-address[] optional | Public IP addresses of the device Attributes: non-creatable, non-modifiable |
| **is-autoupdate-enabled** | | boolean optional | Is firmware autoupdate enabled for the device Attributes: non-creatable, non-modifiable |
| **is-ip-configured** | | boolean optional | Is network configured on the device to have at least one public IP address Attributes: non-creatable, non-modifiable |
| **mac-address** | | mac-address optional | MAC address of the device Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node on which the device is located Attributes: key, non-creatable, non-modifiable |
| **part-num** | | string optional | Part number of the device. Applicable for RLM only Attributes: non-creatable, non-modifiable |
| **serial-num** | | string optional | Serial number of the device. Applicable for RLM only Attributes: non-creatable, non-modifiable |
| **status** | | sp-status-type optional | Current status of the device Attributes: non-creatable, non-modifiable Possible values:<br>• "online" - Device is up and running fine,<br>• "offline" - Device is out of communication,<br>• "sp_daemon_offline" - Daemon which communicates with the device is not running,<br>• "node_offline" - Node that hosts the device is out of communication,<br>• "degraded" - Node that hosts the device is missing heartbeat signals from the device,<br>• "rebooting" - Device is rebooting,<br>• "unknown" - Device status could not be determined,<br>• "updating" - BMC is updating |
| **type** | | sp-type optional | Type of device Attributes: non-creatable, non-modifiable Possible values:<br>• "sp" - Service Processor,<br>• "none" - NONE,<br>• "bmc" - BMC |

# Element definition: **service-processor-log-info**

[top]

Service Processor Log Allocation Info. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name optional | The host node name where the log files are located Attributes: key, non-creatable, non-modifiable |
| **remote-node** | | string optional | The node name the log files are collected from Attributes: key, non-creatable, non-modifiable |
| **seqlist** | **[0..2^32-1]** | integer[] optional | The sequence numbers of the log files Attributes: non-creatable, non-modifiable |

# Element definition: **service-processor-network-info**

[top]

Service Processor Network Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address-type** | | sp-ip-address-type optional | Network configuration that is being addressed i.e. IPv4 or IPv6 Attributes: key, non-creatable, non-modifiable Possible values:<br>• "ipv4" - Internet Protocol version 4,<br>• "ipv6" - Internet Protocol version 6 |
| **device-type** | | sp-type optional | Type of device Attributes: non-creatable, non-modifiable Possible values:<br>• "sp" - Service Processor,<br>• "none" - NONE,<br>• "bmc" - BMC |
| **dhcp** | | sp-dhcp-status optional | DHCP status for the configuration Attributes: non-creatable, modifiable Possible values:<br>• "v4" - DHCP for IPv4,<br>• "none" - DHCP not enabled,<br>• "v6" - DHCP for IPv6 |

| | | | |
|---|---|---|---|
| **gateway-ip-address** | | ip-address optional | IP address of the network gateway Attributes: non-creatable, modifiable |
| **ip-address** | | ip-address optional | IP address currently held by the device Attributes: non-creatable, modifiable |
| **is-enabled** | | boolean optional | Is this address configuration enabled Attributes: non-creatable, modifiable |
| **is-ipv6-ra-enabled** | | boolean optional | IPv6 RA enable/disable in a node Attributes: non-creatable, non-modifiable |
| **link-local-ip-address** | | ip-address optional | Link local IP address Attributes: non-creatable, non-modifiable |
| **link-status** | | sp-link-status optional | Current status of the underlying network link used by this address Attributes: non-creatable, non-modifiable Possible values:<br>• "up" - Link is connected,<br>• "down" - Link is severed,<br>• "disabled" - Link has been disabled by user,<br>• "unknown" - Link status is no known |
| **mac-address** | | mac-address optional | MAC address of the device Attributes: non-creatable, non-modifiable |
| **netmask** | | ip-address optional | Netmask for the device Attributes: non-creatable, modifiable |
| **node** | | node-name optional | Node on which the device is located Attributes: key, non-creatable, non-modifiable |
| **prefix-length** | **[0..64]** | integer optional | Prefix length of subnet mask Attributes: non-creatable, modifiable |
| **router-ip-address** | | ip-address optional | Router assigned IP address Attributes: non-creatable, non-modifiable |
| **setup-failure-reason** | | sp-setup-errcodes optional | SP network setup failure reason Attributes: non-creatable, non-modifiable Possible values:<br>• "success" - No error,<br>• "subnet_out_of_address" - Run out of IP address,<br>• "invalid_subnet" - Invalid subnet,<br>• "other_error" - Other errors |
| **setup-status** | | sp-setup-status optional | SP network configuration status Attributes: non-creatable, non-modifiable Possible values:<br>• "not_setup" - Configuration not done,<br>• "succeeded" - Configuration succeeded,<br>• "in_progress" - Configuration in progress,<br>• "failed" - Configuration failed |
| **status** | | sp-status-type optional | Current status of the device Attributes: non-creatable, non-modifiable Possible values:<br>• "online" - Device is up and running fine,<br>• "offline" - Device is out of communication,<br>• "sp_daemon_offline" - Daemon which communicates with the device is not running,<br>• "node_offline" - Node that hosts the device is out of communication,<br>• "degraded" - Node that hosts the device is missing heartbeat signals from the device, |

| | | | |
|---|---|---|---|
| | | | "rebooting" - Device is rebooting,<br>• "unknown" - Device status could not be determined,<br>• "updating" - BMC is updating |
| **subnet-name** | | string<br>optional | Subnet Name Attributes: non-creatable, non-modifiable |

# Element definition: **service-processor-network-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against service-processor object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer<br>optional | Error code, if the modify operation caused an error. |
| **error-message** | | string<br>optional | Error description, if the modify operation caused an error. |
| **service-processor-key** | | service-processor-network-info | The keys for the service-processor object to which the modify operation applies. |

# Element definition: **service-processor-ssh-info**

[top]

Service Processor SSH Allowed IP addresses Configuration applied across the Cluster When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **allowed-addresses** | | ip-and-mask[]<br>optional | List of Allowed IP Addresses. Attributes: non-creatable, non-modifiable |

# Element definition: **sp-dhcp-status**

[top]

Possible configurations for DHCP protocol Possible values:

- "v4" - DHCP for IPv4,
- "none" - DHCP not enabled,
- "v6" - DHCP for IPv6

[none]

## Element definition: **sp-fw-type** [top]

Choices for the two firmware images installed on a SP/RLM device Possible values:

- "primary" - Firmware which the device boots into by default,
- "backup" - Firmware which the device boots into if primary fails

[none]

## Element definition: **sp-fw-update-type** [top]

Possible choices for a firmware update type Possible values:

- "serial_full" - Replace the fimrware completely with new package using package interface.,
- "serial_differential" - Replace only parts of firmware which have changed in new package using package interface.,
- "network_full" - Replace the fimrware completely with new package using network interface.,
- "full" - Deprecated version of serial-full.,
- "differential" - Deprecated version of serial-differential.

[none]

## Element definition: **sp-ip-address-type** [top]

Choices for which IP version to use Possible values:

- "ipv4" - Internet Protocol version 4,
- "ipv6" - Internet Protocol version 6

[none]

## Element definition: **sp-subnet-name-info** [top]

Service Processor subnet name that provides IP resources for auto-configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **subnet-name-v4** | | string optional | IPv4 subnet name that provides IP resources for auto-configuration. Attributes: non-creatable, non-modifiable |
| **subnet-name-v6** | | string optional | IPv6 subnet name that provides IP resources for auto-configuration. Attributes: non-creatable, non-modifiable |

## Element definition: **vserver-name-data-admin** [top]

The name of the Vserver.

[none]

## Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

## Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

## Element definition: **ip-and-mask** [top]

4-byte IP address followed by 4-byte mask

[none]

## Element definition: **mac-address** [top]

MAC Address

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **service-processor-network-info**

[top]

Service Processor Network Configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address-type** | | sp-ip-address-type optional | Network configuration that is being addressed i.e. IPv4 or IPv6 Attributes: key, non-creatable, non-modifiable Possible values:<br>• "ipv4" - Internet Protocol version 4,<br>• "ipv6" - Internet Protocol version 6 |
| **device-type** | | sp-type optional | Type of device Attributes: non-creatable, non-modifiable Possible values:<br>• "sp" - Service Processor,<br>• "none" - NONE,<br>• "bmc" - BMC |
| **dhcp** | | sp-dhcp-status optional | DHCP status for the configuration Attributes: non-creatable, modifiable Possible values:<br>• "v4" - DHCP for IPv4,<br>• "none" - DHCP not enabled,<br>• "v6" - DHCP for IPv6 |
| **gateway-ip-address** | | ip-address optional | IP address of the network gateway Attributes: non-creatable, modifiable |
| **ip-address** | | ip-address optional | IP address currently held by the device Attributes: non-creatable, modifiable |
| **is-enabled** | | boolean optional | Is this address configuration enabled Attributes: non-creatable, modifiable |
| **is-ipv6-ra-enabled** | | boolean optional | IPv6 RA enable/disable in a node Attributes: non-creatable, non-modifiable |
| **link-local-ip-address** | | ip-address optional | Link local IP address Attributes: non-creatable, non-modifiable |
| **link-status** | | sp-link-status | Current status of the underlying network link used by this address Attributes: non-creatable, non-modifiable Possible values:<br>• "up" - Link is connected, |

| | | | |
|---|---|---|---|
| | | optional | "down" - Link is severed,<br>• "disabled" - Link has been disabled by user,<br>• "unknown" - Link status is no known |
| **mac-address** | | mac-address optional | MAC address of the device Attributes: non-creatable, non-modifiable |
| **netmask** | | ip-address optional | Netmask for the device Attributes: non-creatable, modifiable |
| **node** | | node-name optional | Node on which the device is located Attributes: key, non-creatable, non-modifiable |
| **prefix-length** | **[0..64]** | integer optional | Prefix length of subnet mask Attributes: non-creatable, modifiable |
| **router-ip-address** | | ip-address optional | Router assigned IP address Attributes: non-creatable, non-modifiable |
| **setup-failure-reason** | | sp-setup-errcodes optional | SP network setup failure reason Attributes: non-creatable, non-modifiable Possible values:<br>• "success" - No error,<br>• "subnet_out_of_address" - Run out of IP address,<br>• "invalid_subnet" - Invalid subnet,<br>• "other_error" - Other errors |
| **setup-status** | | sp-setup-status optional | SP network configuration status Attributes: non-creatable, non-modifiable Possible values:<br>• "not_setup" - Configuration not done,<br>• "succeeded" - Configuration succeeded,<br>• "in_progress" - Configuration in progress,<br>• "failed" - Configuration failed |
| **status** | | sp-status-type optional | Current status of the device Attributes: non-creatable, non-modifiable Possible values:<br>• "online" - Device is up and running fine,<br>• "offline" - Device is out of communication,<br>• "sp_daemon_offline" - Daemon which communicates with the device is not running,<br>• "node_offline" - Node that hosts the device is out of communication,<br>• "degraded" - Node that hosts the device is missing heartbeat signals from the device,<br>• "rebooting" - Device is rebooting,<br>• "unknown" - Device status could not be determined,<br>• "updating" - BMC is updating |
| **subnet-name** | | string optional | Subnet Name Attributes: non-creatable, non-modifiable |

# Element definition: **sp-dhcp-status**

[top]

Possible configurations for DHCP protocol Possible values:

- "v4" - DHCP for IPv4,
- "none" - DHCP not enabled,

- "v6" - DHCP for IPv6

[none]

## Element definition: **sp-fw-status**

[top]

Possible states the firmware of a SP/RLM device can be in Possible values:

- "installed" - Firmware installed and in normal state,
- "corrupt" - Firmware is corrupt,
- "updating" - Firmware is undergoing a manual update,
- "auto_updating" - Firmware is undergoing an automatic update,
- "none" - Firmware status not known

[none]

## Element definition: **sp-ip-address-type**

[top]

Choices for which IP version to use Possible values:

- "ipv4" - Internet Protocol version 4,
- "ipv6" - Internet Protocol version 6

[none]

## Element definition: **sp-link-status**

[top]

Possible states for the underlying physical link for a network insterface Possible values:

- "up" - Link is connected,
- "down" - Link is severed,
- "disabled" - Link has been disabled by user,
- "unknown" - Link status is no known

[none]

## Element definition: **sp-pass-fail**

[top]

Possible completion states of a task Possible values:

- "failed" - Operation failed,
- "passed" - Operation was successful

[none]

## Element definition: **sp-setup-errcodes**

[top]

SP network setup error codes Possible values:

- "success" - No error,
- "subnet_out_of_address" - Run out of IP address,
- "invalid_subnet" - Invalid subnet,
- "other_error" - Other errors

[none]

## Element definition: **sp-setup-status**

[top]

SP network setup status Possible values:

- "not_setup" - Configuration not done,
- "succeeded" - Configuration succeeded,
- "in_progress" - Configuration in progress,
- "failed" - Configuration failed

[none]

## Element definition: **sp-status-type**

[top]

Possible states a Service Processor or Remote LAN Module can be in Possible values:

- "online" - Device is up and running fine,
- "offline" - Device is out of communication,
- "sp_daemon_offline" - Daemon which communicates with the device is not running,
- "node_offline" - Node that hosts the device is out of communication,
- "degraded" - Node that hosts the device is missing heartbeat signals from the device,
- "rebooting" - Device is rebooting,
- "unknown" - Device status could not be determined,
- "updating" - BMC is updating

[none]

## Element definition: **sp-type**

[top]

Types of remote management device that can be found in a node Possible values:

- "sp" - Service Processor,
- "none" - NONE,
- "bmc" - BMC

[none]

## Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

## Element definition: **mac-address** [top]

MAC Address

[none]

## Element definition: **node-name** [top]

The node's name

[none]

# APIs in Category: **ses**


storage-shelf-bay-list-info
storage-shelf-environment-list-info
storage-shelf-get-channel-list
storage-shelf-get-shelf-info
storage-shelf-get-shelf-list
storage-shelf-list-info
storage-shelf-set-led-state
storage-shelf-update-fw


## storage-shelf-bay-list-info

[top]

Returns information about storage shelf bays and ports for a selected number of shelves, or optionally all shelves connected to the storage controller.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | string optional | The adapter number or switch name and the port number (together, called the channel). If missing, then information for all shelves on all channels will be presented. If missing, then shelf-id input is not allowed. Examples: 8a, switch:5 |
| **node-name** | | string optional | This field is only valid when the request is sent to the Admin Vserver LIF. If node-name is not specified when the request is sent to Admin VserverLIF, then all matching shelves in the cluster will be returned. This is the storage system name the command will be executed on. |
| **shelf-id** | **[0..99]** | integer optional | shelf-id is the shelf number for which shelf data is requested. This input requires that channel-name input also be specified. If a channel-name and shelf-id are both specified then information for the specified shelf will be presented (a single shelf). If channel-name is specified, but shelf-id is missing, then information for all shelves on the channel will be presented. If channel-name is not specified then shelf-id is not supported and an error will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **shelf-bay-list** | | shelf-bay-list-info[] | Each instance of shelf-list contains available bay information on a shelf. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ECHANNELNOTFOUND** | |
| **ESHELFNOTFOUND** | |
| **EINVALIDINPUTERROR** | |

## storage-shelf-environment-list-info

[top]

Returns the environmental information for a selected number of shelves, or optionally all shelves connected to the storage controller.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | string optional | Get environment information for shelves on this channel. shelf-id parameter can be specified to request data on a single shelf. If a channel-name is not specified, then data on all shelves on all channels will be returned. If an invalid channel-name is specified, then error code ECHANNELNOTFOUND will be returned. |
| **node-name** | | string | This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on. |
| | | | Get environment information for the specified shelf-id on the specified channel-name. This parameter requires channel-name parameter as well. |

| | | | |
|---|---|---|---|
| **shelf-id** | **[0..99]** | integer optional | If shelf-id is specified without channel-name then the error code EINVALIDINPUTERROR will be returned. If shelf-id is not specified and a channel-name is specified, then data for all shelves on the channel-name is returned. If an invalid shelf-id is specified, then error code ESHELFNOTFOUND will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **shelf-environ-channel-list** | | shelf-environ-channel-info[] | List of channels and associated environment information on the shelves in the channel. Only on-line channels that have shelves attached will be reported. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ECHANNELNOTFOUND** | |
| **ESHELFNOTFOUND** | |
| **EINVALIDINPUTERROR** | |

## storage-shelf-get-channel-list

[top]

Get the list of SES channels present on this system.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **channel-list** | | channel-info[] | The channel-list is a list of the names of channels to which enclosure services are connected. These channel names can be used by other commands, including storage-shelf-set-led-state. |

## storage-shelf-get-shelf-info

[top]

This returns information about an identified shelf. The information is the number of bays present (bay-count), and which shelf bays have drives (bay-list). Shelf bays are numbered from 0 to bay-count minus 1. Shelf bay 0 is always on the right when looking at the front of the shelf. Incidentally, the bay-list may be empty indicating the absence of any drives. However, there are some shelf designs which require a disk drive in bay 0 or 1 for any SES functionality to operate (e.g., DS14 and DS14-Mk2-FC). In these cases, shelves without drives in bay 0 or 1 will not be listed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | string | The adapter number or switch name and theport number (together, called the channel). Examples are 8a and switch:5 |
| **node-name** | | string | This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name name the command will be executed on. |
| **shelf-id** | | integer | The shelf id specifies the shelf for which a list of disk bays is desired. Range : [0..2^24-1] |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **bay-count** | **[0..255]** | integer optional | Disk bays are the slots into which disks are placed. The bays are numbered from 0 to bay-count-1. Bay 0 is the right most bay (when looking at the front of the shelf) and bay bay-count-1 is left most. These bay numbers can be used by other commands, including storage-shelf-set-led-state. Range : [0..255] |
| **bay-list** | | bay-info[] | A list of shelf-bay numbers which have disk drives. The bay-list field is not optional, but it may contain zero bay-info elements. |
| **disk-count** | **[0..255]** | integer optional | The total number of disks that are present in the shelf. |
| **firmware-rev-A** | | string optional | Shelf Module A firmware revision. |
| **firmware-rev-B** | | string optional | Shelf Module B firmware revision. |

| | | | |
|---|---|---|---|
| **firmware-revision** | | string | Shelf firmware revision. |
| **node-name** | | string optional | This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name. |
| **shelf-type** | | string optional | Shelf module type. Some examples are: "esh2", and "at-fcx". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EAPIMISSINGARGUMENT** | |
| **EINVALIDINPUTERROR** | |

## storage-shelf-get-shelf-list

[top]

Get the list of SES shelves present on a channel. Use storage-shelf-get-channel-list to determine all the channels to which shelves are connected. Note that some shelves may be connected to multiple channels.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | string | The adapter number or switch name and the port number (together, called the channel). Examples are 8a and switch:5. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **shelf-list** | | shelf-id-info[] | The shelf-list is list of the shelf-ids of the shelves connected to the supplied channel. These shelf-ids can be used by other commands, including storage-shelf-set-led-state. This list may be empty if there are no shelves attached to the specified channel. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EAPIMISSINGARGUMENT** | |
| **EINVALIDINPUTERROR** | |

## storage-shelf-list-info

[top]

This interface returns information about one or more shelves.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | string optional | The adapter number or switch name and the port number (together, called the channel). If missing, then information for all shelves on all channels will be presented. If missing, then shelf-id input is not allowed. Examples are 8a and switch:5 |
| **node-name** | | string | This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on. |
| **shelf-id** | [0..99] | integer optional | shelf-id is the shelf number for which shelf data is requested. This input requires that channel-name input also be specified. If a channel-name and shelf-id are both specified then information for the specified shelf will be presented (a single shelf). If channel-name is specified, but shelf-id is missing, then information for all shelves on the channel will be presented. If channel-name is not specified then shelf-id is not supported. In such case information for all shelves on all channels will be presented. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **shelf-list** | | shelf-info[] | Each instance of shelf-list contains all available information on a shelf hub. This can be empty if there are no shelves attached or if shelves do not support hubs. Also a partner shelf can be reported. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EAPIMISSINGARGUMENT** | |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |

## storage-shelf-set-led-state

[top]

Set or clear the LED for a disk, shelf of disks or loop of shelves. LEDs to affect can be specified as: {channel-name}, {channel-name, shelf-id}, {channel-name, shelf-id, shelf-bay}, {channel-name, shelf-id, shelf-bay}, {channel-name, shelf-id, shelf-bay, lun}.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **action** | | string required | This specifies the action to apply. Possible values are: on, and off. on: Turn the LED(s) on indefinitely. off: Turn the LED(s) off. |
| **channel-name** | | string | The channel to which the shelf or drive LED to be affected is connected. A channel-name is the adapter number or switch name and the port number (together, called the channel). Examples are 8a and switch:5. |
| **duration** | | integer optional | This parameter allows the caller to specify the duration (in seconds) that the action will be applied. Note that the action 'on' is indefinite, while 'test' uses duration. 'blink' also uses duration. |
| **identify** | | boolean optional | This parameter allows the caller to specify the identify LED. The default is for the command to affect the fault LED. Not all disks have identify LEDs. In that case, the identify option is ignored and the fault LED is affected. |
| **lun** | | integer optional | Some targets have a logical unit number. In that case, the lun will be required to uniquely specify the LED to affect. Range : [0..255] |
| **shelf-bay** | | integer optional | If present, the shelf-bay indicates the specific drive where the LED affected resides. If shelf-id is supplied but shelf-bay is not, then the LEDs for all drives in the shelf will be affected. Range : [0..255] |
| **shelf-id** | | integer optional | If present, the shelf-id indicates which shelf has the drive or drives where the LEDs to affect reside. Range : [0..2^24-1] |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDISKNOTFOUND** | |
| **EAPIMISSINGARGUMENT** | |
| **EINVALIDINPUTERROR** | |

## storage-shelf-update-fw

[top]

Start shelf firmware download process to update firmware on disk shelves. This operation is asynchronous, and therefore returns no errors that might occur during the download process. This operation will only update firmware on shelves that do not have the latest firmware revision. The firmware revision on the shelves can be monitored via the storage-shelf-get-shelf-info API. NOT IMPLEMENTED YET.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | string optional | If present, will only update firmware on all shelves (or a single shlef depending on shelf-id) on the given channel. If not present, then all shelves on all channels are updated. Example: To update firmware on 2a.shelf1, channel should be 2a and shelf should be 1. |
| **shelf-id** | | string optional | If present, will only update firmware on the given shelf on specified channel. If not present, and a channel-name is specified, then all shelves on the channel will be updated. Example: To update firmware on 2a.shelf1, channel should be 2a and shelf should be 1. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# Element definition: **bay-info**

[top]

A list of shelf bay numbers which have disks.

| Name | Range | Type | Description |
|---|---|---|---|
| **drawer-bay-slot-number** | | integer optional | Indicates which slot in the drawer the shelf-bay belongs to. Range: [0..254] |
| **drawer-number** | | integer optional | Some shelves have drawers, drawer-number indicates which drawer the shelf-bay belongs to. Range: [0..254] |
| **lun** | | integer optional | The logical unit number within the target. This field will be present in some storage configurations. In some cases, devices with a logical unit number will have LEDs that can be affected. Range : [0..255] |
| **shelf-bay** | | integer | A shelf-bay number indicates the presence of a drive in that bay. Shelf bays are numbered starting at 0 which is the right most drive bay in the shelf when viewing the shelf from the front. Range: [0..255] |

## Element definition: **channel-info**

[top]

Interconnect channel information

| Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | ha-ic-channel optional | High-availability interconnect channel name. Attributes: non-creatable, non-modifiable Possible values:<br>• "kstat" - HA Interconnect KSTAT Channel,<br>• "ofw" - HA Interconnect OFW Channel,<br>• "kill" - HA Interconnect KILL Channel,<br>• "wafl" - HA Interconnect WAFL NV Channel,<br>• "raid" - HA Interconnect RAID NV Channel,<br>• "misc" - HA Interconnect MISC NV Channel,<br>• "stream0" - HA Interconnect STREAM0 Channel,<br>• "stream1" - HA Interconnect STREAM1 Channel,<br>• "stream2" - HA Interconnect STREAM2 Channel,<br>• "stream3" - HA Interconnect STREAM3 Channel,<br>• "drsom" - HA Interconnect MCC DRSOM Channel,<br>• "drckill" - HA Interconnect MCC DRC KILL Channel,<br>• "control" - HA Interconnect CONTROL Channel,<br>• "sldiag" - HA Interconnect SLDIAG Channel,<br>• "traffic" - HA Interconnect TRAFFIC Channel,<br>• "hb" - HA Interconnect HB Channel,<br>• "ftfs" - FTFS PMEM Channel,<br>• "stream4" - HA Interconnect STREAM4 Channel,<br>• "stream5" - HA Interconnect STREAM5 Channel,<br>• "stream6" - HA Interconnect STREAM6 Channel,<br>• "stream7" - HA Interconnect STREAM7 Channel,<br>• "wafl1" - HA Interconnect WAFL1 NV Channel,<br>• "wafl2" - HA Interconnect WAFL2 NV Channel,<br>• "wafl3" - HA Interconnect WAFL3 NV Channel,<br>• "wafl4" - HA Interconnect WAFL4 NV Channel,<br>• "wafl5" - HA Interconnect WAFL5 NV Channel,<br>• "wafl6" - HA Interconnect WAFL6 NV Channel,<br>• "wafl7" - HA Interconnect WAFL7 NV Channel |
| **channel-state** | | ha-ic-channel-state optional | High-availability interconnect channel state. Attributes: non-creatable, non-modifiable Possible values:<br>• "connecting" - HA Interconnect Entity Connecting State,<br>• "established" - HA Interconnect Entity Established State,<br>• "disconnecting" - HA Interconnect Entity Disconnecting State,<br>• "disconnected" - HA Interconnect Entity Disconnected State,<br>• "unknown" - HA Interconnect Entity Unknown State |
| **handle** | **[0..2^64-1]** | integer optional | Remote entity handle associated with the channel. Attributes: non-creatable, non-modifiable |
| **ipaddress** | | string optional | IP address associated with the channel. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **link-number** | | string<br>optional | Link number on which the channel is established. Attributes: non-creatable, non-modifiable |
| **port-name** | | string<br>optional | Port name on which the channel is established. Attributes: non-creatable, non-modifiable |
| **transport** | | ha-ic-transport<br>optional | Transport type of the channel. Attributes: non-creatable, non-modifiable Possible values:<br>• "infiniband" - HA Interconnect Infiniband Transport,<br>• "fcvi" - HA Interconnect FCVI Transport,<br>• "mvia" - HA Interconnect M-VIA Transport,<br>• "unknown" - HA Interconnect Unknown Transport,<br>• "iwarp" - HA Interconnect iWARP Transport,<br>• "roce" - HA Interconnect RoCE Transport |

## Element definition: **shelf-bay-list-info**

[top]

Bay and port information on a shelf module.

| Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | string | The channel the shelf (hub) is attached to. Example: 0c. |
| **module** | | string | The shelf module attachment. Possible values: "a", "b". |
| **node-name** | | string<br>optional | This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name. |
| **port-list** | | shelf-bay-port-info[]<br>optional | Shelf bay specific information. |
| **shelf-id** | **[0..99]** | integer | The shelf id switch setting. This is the shelf id switch that is used to uniquely identify the shelf on the filer node. |
| **shelf-name** | | string | Shelf name that the hub is attached to. This can also be considered as hub name. Example: 0c.shelf1. |
| **shelf-state** | | string | Current state of the shelf. Possible values are: "no_status", "init_required", "online", "missing", "failed", "unknown". |
| **shelf-type** | | string | Shelf module type. Possible values: "edm", "vem", "esp", "lrc", "esh", "esh2", "esh4", "eshfx", "eshtx", "emu", "efh", "at-fc", "at-fc2", "at-fcx", "at-fcx2", "sas", "esas", "sas-fc", "iom3", "iom6", "iom6e". |
| **shelf-uid** | | string | Shelf unique identifier that distinguishes it from other shelves manufactured. Example: 50:05:0c:c0:02:10:64:26. |

## Element definition: **shelf-environ-channel-info**

[top]

Shelf environment information.

| Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | string | Storage controller channel the shelf is connected to. |
| **is-channel-monitor-enabled** | | boolean | Indicates whether monitoring is enabled on this channel. |
| **is-shelf-channel-failure** | | boolean | Indicates whether any shelves on this channel have experienced a failure. |
| **node-name** | | string<br>optional | This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name. |
| **shelf-environ-channel-address** | | shelf-environ-channel-address-map[]<br>optional | A list of all the shelf assigned addresses assigned on this channel. |
| **shelf-environ-shelf-list** | | shelf-environ-shelf-info[] | List of shelves in the channel and associated environment information. |
| **shelves-present** | **[0-** | integer | Number of shelves present on this channel. |

| | | | |
|---|---|---|---|
| | **99]** | | |

## Element definition: **shelf-id-info**

[top]

A list of shelf-ids that can be used in other storage-shelf interface calls.

| Name | Range | Type | Description |
|---|---|---|---|
| **shelf-id** | | integer | The shelf id itself. shelf-id's are only unique within a particular channel. An example shelf-id is 1. A channel-name and shelf-id pair are required to uniquely identify a shelf on a system. Range : [0..2^24-1] |

## Element definition: **shelf-info**

[top]

Describes a shelf.

| Name | Range | Type | Description |
|---|---|---|---|
| **channel-name** | | string | The channel/port-number the shelf (hub) is attached to. If it is the partner node that is being reported, the value will be shown as "PARTNER". Examples: "0c" or "PARTNER". |
| **firmware-rev-A** | | string optional | Shelf Module A firmware revision. When the channel-name field is "PARTNER" this field will not be present. |
| **firmware-rev-B** | | string optional | Shelf Module B firmware revision. When the channel-name field is "PARTNER" this field will not be present. |
| **module** | | string | The shelf module attachment. Possible values are: "a", "b". |
| **module-state** | | string optional | Current state of the IO module attached to the shelf port (if any). Possible values are: "no_status", "ok", "missing", "transport error", "critical", "unreachable", "unknown". |
| **node-name** | | string | This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name. |
| **phy-expander-list** | | phy-expander-info[] optional | Each instance of phy-expander-list contains PHY (physical layer) expander information about each port. This applies to direct attached shelves with SAS modules only. |
| **port-hub-list** | | port-hub-info[] optional | Each instance of port-hub-list contains hub information about each port. This applies to shelves with ESH modules only. |
| **shelf-bay-info** | | shelf-bay-info optional | Detailed information on populated shelf bays. When the channel-name field is "PARTNER" this field will not be present. |
| **shelf-id** | **[0..99]** | integer | The shelf id switch setting. This is the shelf id switch that is used to uniquely identify the shelf on the filer node. |
| **shelf-name** | | string | Shelf name that the hub is attached to. This can also be considered as hub name. Example: 0c.shelf1. |
| **shelf-state** | | string | Current state of the shelf. Possible values are: "no status", "init required", "online", "missing", "unknown". |
| **shelf-type** | | string | Shelf module type. Some examples are: "esh2", and "at-fcx". |
| **shelf-uid** | | string | Similar to serial number, this is the shelf unique identifier that distinguishes it from any other shelf manufactured. Example: 50:05:0c:c0:02:10:64:26. |
| **termination-switch** | | string optional | State of the termination switch on the shelf. Possible values are: "on", "off" and "n/a". |

## Element definition: **ha-ic-channel**

[top]

kstat|ofw|kill|wafl|raid|misc|stream0|stream1|stream2|stream3|drsom|drckill|control|sldiag|traffic|hb|ftfs|stream4|stream5|stream6|stream7|wafl1|wafl2|wafl3|wafl4|wafl5|wafl6|wafl7
Possible values:

- "kstat" - HA Interconnect KSTAT Channel,
- "ofw" - HA Interconnect OFW Channel,
- "kill" - HA Interconnect KILL Channel,

- "wafl" - HA Interconnect WAFL NV Channel,
- "raid" - HA Interconnect RAID NV Channel,
- "misc" - HA Interconnect MISC NV Channel,
- "stream0" - HA Interconnect STREAM0 Channel,
- "stream1" - HA Interconnect STREAM1 Channel,
- "stream2" - HA Interconnect STREAM2 Channel,
- "stream3" - HA Interconnect STREAM3 Channel,
- "drsom" - HA Interconnect MCC DRSOM Channel,
- "drckill" - HA Interconnect MCC DRC KILL Channel,
- "control" - HA Interconnect CONTROL Channel,
- "sldiag" - HA Interconnect SLDIAG Channel,
- "traffic" - HA Interconnect TRAFFIC Channel,
- "hb" - HA Interconnect HB Channel,
- "ftfs" - FTFS PMEM Channel,
- "stream4" - HA Interconnect STREAM4 Channel,
- "stream5" - HA Interconnect STREAM5 Channel,
- "stream6" - HA Interconnect STREAM6 Channel,
- "stream7" - HA Interconnect STREAM7 Channel,
- "wafl1" - HA Interconnect WAFL1 NV Channel,
- "wafl2" - HA Interconnect WAFL2 NV Channel,
- "wafl3" - HA Interconnect WAFL3 NV Channel,
- "wafl4" - HA Interconnect WAFL4 NV Channel,
- "wafl5" - HA Interconnect WAFL5 NV Channel,
- "wafl6" - HA Interconnect WAFL6 NV Channel,
- "wafl7" - HA Interconnect WAFL7 NV Channel

[none]

## Element definition: **ha-ic-channel-state**

[top]

connecting|established|disconnecting|disconnected|unknown Possible values:

- "connecting" - HA Interconnect Entity Connecting State,
- "established" - HA Interconnect Entity Established State,
- "disconnecting" - HA Interconnect Entity Disconnecting State,
- "disconnected" - HA Interconnect Entity Disconnected State,
- "unknown" - HA Interconnect Entity Unknown State

[none]

## Element definition: **ha-ic-transport**

[top]

infiniband|fcvi|mvia|unknown|iwarp|roce Possible values:

- "infiniband" - HA Interconnect Infiniband Transport,
- "fcvi" - HA Interconnect FCVI Transport,
- "mvia" - HA Interconnect M-VIA Transport,
- "unknown" - HA Interconnect Unknown Transport,
- "iwarp" - HA Interconnect iWARP Transport,
- "roce" - HA Interconnect RoCE Transport

[none]

# Element definition: **phy-expander-info**

[top]

Expander PHY (physical layer) information of an individual port.

| Name | Range | Type | Description |
|---|---|---|---|
| **bay-number** | **[0..99]** | integer optional | Bay port number. Unique bay-number for each type of phy-type. Present when multiple phy's for a phy-type exist in the shelf, such as phy-type "disk", "P0", "P1". |
| **crc-error-count** | **[0..2^32-1]** | integer | This field presents the number of CRC errors that have been seen in any address or data frames. The value will be the count kept by the expander since either power-on or since the counts have been reset. |
| **dongle-data** | | dongle-info optional | dongle information, if there's a dongle installed. Will be missing if not supported or not available. Present for drive phy only. |
| **invalid-dword-count** | **[0..2^32-1]** | integer | The number of invalid double words seen outside of the phy reset sequence. The value will be the count kept by the expander since either power-on or since the counts have been reset. |
| **link-rate** | | string optional | If port-state is "ok", then this is a floating number, representing SAS-1.1 defined negotiated link rate value for the phy in Gb/s. Example: 3.0. For all other port states, this field will not be available. |
| **loss-dword-count** | **[0..2^32-1]** | integer | This field presents the number of times the phy has lost double-word synchronization and restarted the link reset sequence of the phy reset sequence. The value will be the count kept by the expander since either power-on or since the counts have been reset. |
| **pathway-timeout** | **[0..2^32-1]** | integer | This field the partial pathway timeout value, in microseconds, being used for the phy. |
| **phy-change-count** | **[0..2^32-1]** | integer | This field the number of times this logical phy has changed state. This count increments when the logical phy transitions from disabled to enabled. This count also increments when the logical phys transitions from enabled to disabled. The value will be the count kept by the expander since either power-on or since the counts have been reset. |
| **phy-number** | **[0..99]** | integer optional | PHY number. Unique phy-number in the shelf, regardless of phy-type. |
| **phy-power-status** | | string optional | Current power status. Possible values: "on", "off". Will be missing if not supported or not available. Present for drive phy only. |
| **phy-reset-problem** | **[0..2^32-1]** | integer | This field presents the number of times the phy reset sequence has failed. The value will be the count kept by the expander since either power-on or since the counts have been reset. |
| **phy-state** | | string optional | State of the phy. Possible values: "rate_unknown", "disabled", "speed_negotiation_failed", "sata_oob_failed", "1.5_gbps", "3.0_gbps", "6.0_gbps", "12.0_gbps", "state_unknown", |
| **phy-type** | | string optional | PHY type. Possible values: "disk", "p0", "p1", "v255", "v99". |
| **port-id** | | string | Possible values are: port id in range [0..19] or "in0", "in1", "in2", "in3", "out0", "out1", "out2", "out3", representing one of the input or output ports. |
| **port-state** | | string | Current port state. Possible values are: "ok", "unkwn_lnk", "unused", "unkwn", "empty", "dis_man", "dis_smp", "dis_loswd", "dis_dispa", "dis_invwd", "dis_reset", "dis_phchg", "dis_mir", "dis_crc", "dis_clk", "dis_resv", "dis_unusd", "unknown", "no_signal", |
| **power-cycle-count** | **[0..255]** | integer optional | This field presents the number of times the driver has been power cycled via this phy. Will be missing if not supported or not available. Present for drive phy only. |
| **release-count** | **[0..255]** | integer optional | This field presents the number of times the driver has been released (unreserved) via this phy. Will be missing if not supported or not available. Present for drive phy only. |
| **reserve-count** | **[0..255]** | integer optional | This field presents the number of times the driver has been reserved via this phy. Will be missing if not supported or not available. Present for drive phy only. |
| **running-disparity-count** | **[0..2^32-1]** | integer | The number of Dwords with a running disparity error seen outside the phy reset sequence. The value will be the count kept by the expander since either power-on or since the counts have been reset. |

# Element definition: **port-hub-info**

[top]

Hub information for an individual port.

| Name | Range | Type | Description |
|---|---|---|---|
| **clock-delta** | **[-2^31..2^31-1]** | integer | The clock delta between this port in respect to ESH clock and other ports in the ESH. |
| **disk-bay** | **[0..23]** | integer optional | If port-id is "in", "out", "aux1" or "aux2" then this is not populated, otherwise, it represents the shelf bay that the disk resides in. |
| **insert-count** | **[0..2^32-1]** | integer | Number of times this port has been inserted into the loop. |
| **invalid-crc-count** | **[0..2^32-1]** | integer | Number of times this port has seen a CRC error. |
| **invalid-word-count** | **[0..2^32-1]** | integer | Number of times this port has seen invalid FC-AL words transmitted. |
| **lip-count** | **[0..2^32-1]** | integer optional | Lip count, number of times loop initialization primitive has been generated. This field is not available on all shelf modules. |
| **loop-up-count** | **[0..2^32-1]** | integer | Number of times this port has seen the loop come up/transition to up. |
| **port-id** | | string | Possible values are: port number in the range of 0 to 255 or "in", "out", "aux1" or "aux2" representing input, output or one of auxiliary ports. This is the same as FCAL ALPA for the port. |
| **port-state** | | string | Current port state. Possible values are: "ok", "empty", "byp_init", "byp_gen", "byp_man", "byp_xmit", "byp_lipf8", "byp_dto", "byp_rlos", "byp_clos", "byp_tbi", "byp_rprt", "byp_stall", "byp_wrd", "byp_crc", "byp_lip", "byp_osc", "byp_clk", "byp_mir", "byp_lipf7", "byp_bzr", "byp_self", "byp_flt", "byp_pwr", "byp_pcycl", "warn_lip", "warn_wrdb", "warn_wrd", "warn_crc", "warn_clk", "unknown", "term-err", "term", "autoterm". |
| **stall-count** | **[0..2^32-1]** | integer | Number of times this port exceeded the OPN/CLS maximum threshold. |
| **utilization-percentage** | **[0..100]** | integer | Relative utilization of this port vs. other ports in the ESH. |

## Element definition: **shelf-bay-info**

[top]

Shelf bay information.

| Name | Range | Type | Description |
|---|---|---|---|
| **bay-count** | **[0..255]** | integer optional | Disk bays are the slots into which disks are placed. The bays are numbered from 0 to bay-count-1. Bay 0 is the right most bay (when looking at the front of the shelf) and bay bay-count-1 is left most. These bay numbers can be used by other commands, including storage-shelf-set-led-state. |
| **bay-list** | | bay-info[] | A list of shelf-bay numbers which have disk drives. The bay-list field is not optional, but it may contain zero bay-info elements. |

## Element definition: **shelf-bay-port-info**

[top]

Shelf bay port specific information.

| Name | Range | Type | Description |
|---|---|---|---|
| **bay-no** | **[0..23]** | integer optional | Disk bay number or port number, if applicable. In some instances bay numbers do apply and will not be present. An example is an ESH shelf with a single "in" and a single "out" port. |
| **disk-name** | | string optional | if port-designator is "disk_bay" and there is a disk installed in the bay, then this will be the disk name. Otherwise the field will be missing. |
| **disk-uid** | | string optional | if port-designator is "disk_bay" and there is a disk installed in the bay, then this will be UID of the disk. Otherwise the field will be missing. |
| **port-designator** | | string optional | Shelf bay port designator. Possible values: "in", "out", "aux", "sqr", "cir", "sil", "hi_ho", "a_to_b", "b_to_a", "disk_bay" and "dcm#.#" where the the first # ranges from 0 to 5 and the second # ranges from 0 to 3. |

| | | | |
|---|---|---|---|
| **port-state** | | string optional | Current port state. Possible values are: "ok", "empty", "unkwn_lnk", "no_signal", "unused", "unkwn", "unknown", "dis_man", "dis_unusd", "dis_smp", "dis_loswd", "dis_dispa", "dis_invwd", "dis_reset", "dis_phchg", "dis_mir", "dis_crc", "dis_clk", "byp_init", "byp_gen", "byp_man", "byp_xmit", "byp_lipf8", "byp_dto", "byp_rlos", "byp_clos", "byp_tbi", "byp_rprt", "byp_stall", "byp_wrd", "byp_crc", "byp_lip", "byp_osc", "byp_clk", "byp_mir", "byp_lipf7", "byp_bzr", "byp_self", "byp_flt", "byp_pwr", "byp_pcycl", "warn_lip", "warn_wrdb", "warn_wrd", "warn_crc", "warn_clk", "term-err", "term", "autoterm". |

## Element definition: **shelf-environ-channel-address-map**

[top]

A list of all the shelf assigned addresses assigned on this channel.

| Name | Range | Type | Description |
|---|---|---|---|
| **address-map** | | string | A comma separated list of addresses assigned on this channel by the shelf specified in shelf-no output above. |
| **drawer-address-map-list** | | drawer-address-map[] optional | A list of all the drawers in the shelf and the addresses assigned to each drawer devices. |
| **shelf-id** | **[0..255]** | integer | Shelf number for presented address map. |

## Element definition: **shelf-environ-shelf-info**

[top]

Shelf environment information.

| Name | Range | Type | Description |
|---|---|---|---|
| **alternate-control-path-information** | | alternate-control-path-info[] optional | Available information on the alternate control path (ACP) to the shelf. |
| **ariodata-specific-info** | | ariodata-specific-info optional | Vendor specific enclosure system information for Ariodata shelves. |
| **attached-shelf-bay-error-list** | | string optional | A list of bays numbers in this shelf that have disk devices with errors. All bays with error devices will be listed. This is a comma separated list from high to low. Example: "13, 10, 4, 1". |
| **attached-shelf-bay-list** | | string | A list of bays numbers in this shelf that have disk devices installed. All bays with disks installed will be listed. This is a comma separated list from high to low. Example: "13, 11, 10, 4, 3, 2, 1". |
| **attached-shelf-drawer-bay-error-list** | | shelf-drawer-bay-error[] optional | A list of bay numbers in this shelf drawer that have disk devices with errors. |
| **attached-shelf-drawer-bay-list** | | shelf-drawer-bay[] optional | A list of bay numbers in this shelf drawer that have disk devices installed. |
| **connector-information** | | connector-info[] optional | Cable and connector information if available and supported by the hardware. Will not be present if the feature is not supported in the hardware. |
| **control-writes-attempted** | **[0..2^32-1]** | integer | Number of times attempted to write shelf controls. |
| **control-writes-failed** | **[0..2^32-1]** | integer | Number of times failed to write shelf controls. |
| **controller-device-path** | | string | Device path to the shelf controller. Possible values: "embedded_access", "local_access", "unknown", "not_available". |
| **controller-device-path-port** | | string optional | If controller-device-path is "local_access", then this presents the local access port number. |
| | | cooling- | |

| | | | |
|---|---|---|---|
| **cooling-element-list** | | element-info[] optional | Information on installed cooling elements in the shelf. |
| **current-sensor-list** | | current-sensor-info[] optional | Information on current sensors in the shelf. |
| **dcm-list** | | dcm-info optional | Information on the installed drawer control module (dcm). This will be presented for shelves that have drawers built in. |
| **enclosure-information** | | enclosure-info optional | Information on the enclosure type. This information will be presented for ESH and SAS shelves only. |
| **es-electronics-list** | | es-electronics-info[] optional | Information on the installed enclosure services electronics. |
| **eurologic-specific-info** | | eurologic-specific-info optional | Vendor specific enclosure system information for Eurologic shelves. |
| **is-shelf-monitor-enabled** | | boolean | Indicates whether monitoring is enabled on this shelf. |
| **power-control-failure-state** | | string optional | Extension to the power-control-status to provide more information in case of shelf failures. Possible values: "dual_esh4_modules_not_present", "power_control_fault_detected", "incompatible_power_control_implementation", "power_control_function_not_available", "backplane_cpld_fault_detected". |
| **power-control-status** | | string optional | Power control element status. This is generalization of the ESH4 shelf power status. Currently available on ESH 4 shelves only. Possible values: "ok", "not_supported", "critical", "non_critical", "unknown". |
| **power-supply-list** | | power-supply-info[] optional | Information on installed power supplies in the shelf. |
| **processor-complex-information** | | processor-complex-info[] optional | Available information on the processor complex modules (PCMs) in the shelf. |
| **sas-specific-info** | | sas-specific-info optional | Vendor specific enclosure system information for SAS shelves. |
| **ses-generic-info** | | ses-generic-info | Generic SES (scsi enclosure services) information. |
| **shelf-id** | **[0-99]** | integer | Shelf number. |
| **shelf-status** | | string | Current shelf status. Possible values: "unrecoverable", "critical", "non_critical", "informational", "normal". |
| **shelf-type** | | string | Shelf type. Possible values: "edm", "vem", "esp", "lrc", "lrc2", "esh", "esh2", "esh4", "eshfx", "emu", "efh", "eshtx", "sas", "esas", "sas_fc", "iom3", "at_fcx", "at_fcx2", "iom6", "iom6e". |
| **status-reads-attempted** | **[0..2^32-1]** | integer | Number of times attempted to read shelf status. |
| **status-reads-failed** | **[0..2^32-1]** | integer | Number of times failed to read shelf status. |
| **temp-sensor-list** | | temp-sensor-info[] optional | Information on installed temperature sensors in the shelf. |
| **voltage-sensor-list** | | voltage-sensor-info[] optional | Information on voltage sensors in the shelf. |
| **xyratex-specific-info** | | xyratex-specific-info optional | Vendor specific enclosure system information for Xyratex shelves. |

## Element definition: **alternate-control-path-info**

[top]

Available information on the alternate control path (ACP) to the shelf.

| Name | Range | Type | Description |
|---|---|---|---|
| **acp-element-no** | **[1..2]** | integer | ACP element number |
| **controller-acp-connection-status** | | string optional | Storage controller's ACP connection status. Possible values: "no_connectivity", "partial_connectivity", "full_connectivity", "additional_connectivity", "unknown", "not_available", "not_applicable". |
| **controller-acp-domain** | | string optional | This fields presents the ACP's domain on the storage controller. Example: 255.255.255.0 |
| **controller-acp-ethernet-port** | | string optional | This fields presents the ACP's ethernet port on the storage controller. Example: e0a, e4d. |
| **controller-acp-ip-address** | | string optional | This fields presents the ACP's IP address on the storage controller. Example: 172.168.4.4 |
| **controller-acp-netmask** | | string optional | This fields presents the ACP's netmask on the storage controller. Example: 172.168.4.1 |
| **is-acp-element-error** | | boolean optional | Indicates if there has been a failure in the ACP block. Will not be present if an ACP element is not installed. |
| **is-acp-element-not-installed** | | boolean optional | Indicates if ACP element has been installed. Will be present only if the element is not installed, in which case no further information will be provided. |
| **is-controller-acp-active** | | boolean optional | Indicates whether the ACP function is active on the storage controller. Inactive ACP unually means there is configuration or connection error that needs to be resolved. |
| **is-controller-acp-enabled** | | boolean optional | Indicates if ACP functionality is enabled in the storage controller. If the ACP funtion is not enalbed the following fields will not be presented. |
| **module-firmware-revision** | | string optional | Firmware version of the ACP controller. This field will not be present if the value is unknown or not available, or if an ACP element is not installed. |
| **module-ip-address** | | string optional | IP address that is used by this ACP shelf module. This field will not be present if the IP address is unknown or not available, or if an ACP element is not installed. |
| **module-mac-address** | | string optional | MAC address that is used by this module's ACPP. This field will not be present if the MAC address is unknown or not available, or if an ACP element is not installed. |
| **module-name** | | string optional | Shelf module for this ACPP. Possible Values: "A", "B" This field will not be present if it is unknown or not available, or if an ACP element is not installed. |
| **module-reset-count** | **[0..2^32-1]** | integer optional | Number of times the corresponding shelf I/O module has been reset using this ACPP. This field will not be present if it is unknown or not available, or if an ACP element is not installed. |
| **module-status** | | string optional | ACP status of this shelf module. This field will not be present if it is unknown or not available, or if an ACP element is not installed. Possible values: "active", "inactive_not_ready", "inactive_waiting_for_inband_info", "inactive_no_inband_connectivity", "inactive_not_responding", "inactive_updating_firmware", "inactive_initializing", "inactive_unknown". |
| **module-status-time** | | string optional | Time of last contact with the ACP controller. This is only valid if the value of module-status field is inactive_not_responding. |

## Element definition: **ariodata-specific-info**

[top]

Vendor specific enclosure system information for Ariodata shelf.

| Name | Range | Type | Description |
|---|---|---|---|
| **ariodata-serial-no** | | string | Serial number for Ariodata shelf. |

## Element definition: **bay-info**

[top]

A list of shelf bay numbers which have disks.

| Name | Range | Type | Description |
|---|---|---|---|
| **drawer-bay-slot-number** | | integer optional | Indicates which slot in the drawer the shelf-bay belongs to. Range: [0..254] |
| **drawer-number** | | integer optional | Some shelves have drawers, drawer-number indicates which drawer the shelf-bay belongs to. Range: [0..254] |
| **lun** | | integer optional | The logical unit number within the target. This field will be present in some storage configurations. In some cases, devices with a logical unit number will have LEDs that can be affected. Range : [0..255] |
| **shelf-bay** | | integer | A shelf-bay number indicates the presence of a drive in that bay. Shelf bays are numbered starting at 0 which is the right most drive bay in the shelf when viewing the shelf from the front. Range: [0..255] |

## Element definition: **connector-info**

[top]

Information on cables and/or connectors connected to the shelf

| Name | Range | Type | Description |
|---|---|---|---|
| **sas-connector-list** | | sas-connector-info[] optional | Information on SAS connectors & cables. |

## Element definition: **cooling-element-info**

[top]

Information on individual cooling elements (fans).

| Name | Range | Type | Description |
|---|---|---|---|
| **cooling-element-is-error** | | boolean optional | Indicated whether cooling elements has failed or reported any errors. Will not be present if cooling element is not installed. |
| **cooling-element-is-not-installed** | | boolean optional | Indicates the cooling elements is not installed. This will only be present if the element is missing, in such case no further data for this element will be presented. |
| **cooling-element-number** | **[0..255]** | integer | Cooling element number. |
| **rpm** | **[0..32766]** | integer optional | Current RPM (revolutions per minutes) of the fan. Will not be present if RPM is not available at the time API is executed or if RPM detection hardware is not supported by the shelf or if cooling element is not installed. |

## Element definition: **current-sensor-info**

[top]

Presents the electrical current sensor information, if implemented on the system.

| Name | Range | Type | Description |
|---|---|---|---|
| **current-sensor-no** | **[1..20]** | integer | Current sensor number. |
| **is-sensor-error** | | boolean optional | Will indicate whether the sensor has encountered an error. |
| **is-sensor-not-installed** | | boolean optional | Indicates the current sensor elements is not installed. This will only be present if the element is missing, in such case no further data for this element will be presented. |

| | | | |
|---|---|---|---|
| **sensor-condition** | | string optional | A Text string describing whether the sensor-reading field is within normal operating range. This field is present only if sensor-reading field is also present. Possible values are: "overcurrent_failure", "overcurrent_warning", "normal_operating_range". |
| **sensor-reading** | | string optional | Current reading of the sensor. This field will be not be present if unable to read the sensor value properly. |

## Element definition: **dcm-info**

[top]

The shelf drawer control module information (dcm).

| Name | Range | Type | Description |
|---|---|---|---|
| **dcm-firmware-version** | | string optional | The firmware version of the dcm. |
| **dcm-number** | **[0..254]** | integer | The DCM number. |
| **dcm-part-number** | | string optional | The part number of the dcm. |
| **dcm-serial-number** | | string optional | The serial number of the dcm. |
| **dcm-type** | | string optional | The dcm type. |
| **dcm-vendor** | | string optional | The dcm vendor. |
| **is-dcm-error** | | boolean optional | Indicates whether this module has encountered an error. |
| **is-dcm-installed** | | boolean optional | Indicates the dcm for this element is installed. |

## Element definition: **dongle-info**

[top]

dongle information

| Name | Range | Type | Description |
|---|---|---|---|
| **disable-reason** | | string optional | If phy-state is "disabled", then this will give explanation as to the reason. Possible values: "manual", "no_drive", "brst_los", "los", "brst_rdd", "rdd", "brst_idd", "idd", "brst_prp", "prp", "brst_pcd", "pcd", "brst_crc", "crc", "osc", "mir", "rsrv", "man_smp", "clk_flt", "unknown". |
| **dongle-firmware-revision** | | string optional | Dongle firmware revision. Will be missing if not supported or not available. |
| **dongle-type** | | string optional | Dongle type. Possible values: "ss1300b", "sas", "sps3g", Will be missing if not supported or not available. |

## Element definition: **drawer-address-map**

[top]

The shelf drawer devices address map.

| Name | Range | Type | Description |
|---|---|---|---|
| **address-map** | | string | A list of addresses assigned to this channel for the drawer on the shelf specified in the shelf-id output above. |
| **drawer-number** | **[0..254]** | integer | The DCM number. |

## Element definition: **enclosure-info**

[top]

Information on the enclosure type. This information will be presented for ESH and SAS shelves only.

| Name | Range | Type | Description |
|---|---|---|---|
| **enclosure-type** | | string | Enclosure type. Possible values: "sas_expander_module", "embedded_switching_hub". |
| **module-list** | | module-info[] | Information on the enclosure modules. |

## Element definition: **es-electronics-info**

[top]

Information on the installed enclosure services (ES) electronics.

| Name | Range | Type | Description |
|---|---|---|---|
| **es-electronics-element-no** | **[0..255]** | integer | Enclosure services electronics element number. |
| **es-electronics-is-error** | | boolean optional | indicates whether this enclosure services electronics has reported any errors. Will not be present if the element is not installed. |
| **es-electronics-is-not-installed** | | string optional | Indicates this enclosure services electronics is not installed. This will only be presented when the element is missing, no further data for this element will be presented. |
| **es-electronics-is-reporting-element** | | boolean optional | Indicated whether this is the element reporting. Even though there might be more than one element installed, only will be reporting at any time. Will not be present if the element is not installed. |
| **es-electronics-serial-no** | | string optional | Serial number for the enclosure services electronics. Will not be present if the element is not installed. |
| **es-part-number** | | string optional | Part number for the ES electronics. Field will be missing if the information is not available or if the element is not installed. |
| **es-revision** | | string optional | CPLD revision of the ES electronics, if applicable. This field will not be present if the information is not available, not implemented, or if the element is not installed. |
| **es-swap-count** | **[0..255]** | integer optional | Number of times, since last boot, that this ES electronics elements has been swapped. Will not be present if the element is not installed. |
| **esh-list** | | esh-info[] optional | Information on attached embedded switched hub, if any. |

## Element definition: **eurologic-specific-info**

[top]

Vendor specific enclosure system information for Eurologic shelf.

| Name | Range | Type | Description |
|---|---|---|---|
| **eurologic-application-version** | | string | Application version for Eurologic shelf. |
| **eurologic-backplane-byte** | | string | Backplane byte for Eurologic shelf. |
| **eurologic-backplane-function** | | string | Backplane function for Eurologic shelf. |
| **eurologic-backplane-id** | | string | Backplane identifier for Eurologic shelf. |
| **eurologic-cabinet-id** | | string | Cabinet id for the Eurologic shelf. |
| **eurologic-kernel-version** | | string | Kernel version for Eurologic shelf. |
| **eurologic-serial-no** | | string optional | Serial number for the Eurologic shelf. |

## Element definition: **power-supply-info**

[top]

Power supply information

| Name | Range | Type | Description |
|---|---|---|---|
| **is-auto-power-reset-enabled** | | boolean optional | Indicates whether the auto power reset of the supply is enabled. This field will not be present if the power supply is missing. |
| **is-power-reset-capable** | | boolean optional | Indicates whether the power supply can be reset via software control. This field will not be present if power supply is missing. |
| **power-supply-element-number** | **[0..255]** | integer | Element number the power supply. |
| **power-supply-firmware-revision** | | string optional | Power supply firmware revision. This field will not be present if firmware rev is unavailable or feature not implemented, or if the power supply is missing. |
| **power-supply-is-error** | | boolean optional | Indicates whether the power supply has reported any errors. This field will not be present if the power supply is missing. |
| **power-supply-is-not-installed** | | boolean optional | Indicates the power supply for this element is not installed. This will only be presented if the power supply is missing, in which case no further information for the element will be available. |
| **power-supply-part-no** | | string optional | Power supply part number. The field will not be present if part number is unavailable or not implemented or if the power supply is missing. |
| **power-supply-serial-no** | | string optional | Power supply serial number. This field will not be present if the power supply is missing. |
| **power-supply-swap-count** | **[0..255]** | integer optional | Number of power supply swap counts since boot. This field will not be present if the power supply is missing. |
| **power-supply-type** | | string optional | Power supply type. This field will not be present if power supply type is unavailable or feature is not implemented, or if the power supply is missing. |

## Element definition: **processor-complex-info**

[top]

Available information on the processor complex modules (PCMs) in the shelf.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-pcm-element-error** | | boolean optional | Indicates if there has been a failure in the PCM. Will not be present if a PCM element is not installed. |
| **is-pcm-element-not-installed** | | boolean optional | Indicates if PCM element has been installed. Will be present only if the element is not installed, in which case no further information will be provided. |
| **pcm-element-no** | **[1..2]** | integer | PCM element number |

## Element definition: **sas-specific-info**

[top]

Vendor specific enclosure system information for SAS shelf.

| Name | Range | Type | Description |
|---|---|---|---|
| **serial-no** | | string | Shelf backplane serial number. |

## Element definition: **ses-generic-info**

[top]

Generic SES (SCSI enclosure services) information.

| Name | Range | Type | Description |
|---|---|---|---|
| **ses-chassis-part-number** | | string optional | Chassis part number. The field will not be present if the part number is unavailable or not implemented. |
| **ses-config-access** | | string optional | The method shelf configuration was obtained. Possible values: "via_embedded_ses", "via_scsi_from_shelf", "via_loop_from_shelf", "remote_access_via_controller", "not_available". |
| **ses-config-access-controller-name** | | string optional | If the value of ses-config-access field is "remote_access_via_controller" then this field will return the name of storage controller the configuration was obtained from. This field will not be present if storage controller name is not available or if the value of ses-config-access field is not "remote_access_via_controller". |
| **ses-config-access-shelf-id** | | string optional | If ses-config-access is either "via_scsi_from_shelf" or "via_loop_from_shelf" then this would be the shelf id of the device the configuration was obtained from. |
| **ses-config-access-source-id** | | integer optional | If ses-config-access is either "via_scsi_from_shelf" or "via_loop_from_shelf" then this would be the SCSI or loop id of the device that the configuration was obtained from. |
| **ses-contact-state** | | string | Enclosure contact state. Possible values are: "active", "initializing", "transitioning", "inactive", "reconfiguring", "non_existent". |
| **ses-logical-id** | | string | Enclosure logical identifier. |
| **ses-midplane-part-number** | | string optional | Enclosure midplane part number. The field will not be present if the midplane is not present. |
| **ses-midplane-serial-number** | | string optional | Enclosure midplane serial number. The field will not be present if the midplane is not present. |
| **ses-product-id** | | string optional | Enclosure product identifier. Not available on all shelf types. |
| **ses-product-revision** | | string | Enclosure product revision. |
| **ses-vendor-id** | | string | Enclosure vendor identifier. |

## Element definition: **shelf-drawer-bay**

[top]

The list of bays in the drawer that has a device.

| Name | Range | Type | Description |
|---|---|---|---|
| **attached-drawer-bay-list** | | string | A list of bay numbers in this shelf drawer that have disk devices installed. All bays with disks installed will be listed. This is a comma separated list. |
| **drawer-number** | **[0..254]** | integer | The DCM number. |

## Element definition: **shelf-drawer-bay-error**

[top]

The list of bays in the drawer that has devices with error.

| Name | Range | Type | Description |
|---|---|---|---|
| **attached-drawer-bay-list-with-error** | | string | A list of bay numbers in this shelf that have disk devices with errors. All bays with error devices will be listed. This is a comma separated list. |
| **drawer-number** | **[0..254]** | integer | The DCM number. |

## Element definition: **temp-sensor-info**

[top]

information on the temperature sensors installed in the shelf.

| Name | Range | Type | Description |
|---|---|---|---|
| **temp-sensor-current-condition** | | string optional | Current temperature condition for this sensor. One of: "under_temperature_warning", "under_temperature_failure", "over_temperature_warning", "over_temperature_failure", "normal_temperature_range". |
| **temp-sensor-current-temperature** | **[0..255]** | integer optional | Current temperature reading in degrees Celsius. |
| **temp-sensor-element-no** | **[0..255]** | integer | Element number for the temperature sensor. |
| **temp-sensor-hi-critical** | **[0..255]** | integer optional | High critical temperature in degree Celsius. |
| **temp-sensor-hi-warning** | **[0..255]** | integer optional | High warning temperature in degree Celsius. |
| **temp-sensor-is-ambient** | | boolean optional | Indicates whether the temp-sensor-current-temp is the ambient temperature. |
| **temp-sensor-is-error** | | boolean optional | Indicates whether the sensor has indicated an error in temperature. |
| **temp-sensor-is-not-installed** | | boolean optional | Indicates the sensor for this element is not installed. This will only be presented if the sensor is missing, and no further data for this sensor will be presented. |
| **temp-sensor-low-critical** | **[0..255]** | integer optional | Low critical temperature in degree Celsius. |
| **temp-sensor-low-warning** | **[0..255]** | integer optional | Low warning temperature in degree Celsius. |

## Element definition: **voltage-sensor-info**

[top]

Presents the voltage sensor information, if implemented on the system.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-sensor-error** | | boolean optional | Indicates whether the sensor has encountered an error. |
| **is-sensor-not-installed** | | boolean optional | Indicates the voltage sensor elements is not installed. This will only be present if the element is missing, in such case no further data for this element will be presented. |
| **sensor-condition** | | string optional | A Text string describing whether the sensor-reading field is within normal operating range. This field is present only if sensor-reading field is also present. Possible values are: "overvoltage_failure", "overvoltage_warning", "undervoltage_warning", "undervoltage_failure", "normal_operating_range". |
| **sensor-reading** | | string optional | Voltage reading of the sensor. This field will be not be present if unable to read the sensor value properly. |
| **voltage-sensor-no** | **[1..20]** | integer | Voltage sensor number. |

## Element definition: **xyratex-specific-info**

[top]

Vendor specific enclosure system information for Xyratex shelf.

| Name | Range | Type | Description |
|---|---|---|---|
| **xyratex-option-setting** | | string | Option setting for the Xyratex shelf. |
| **xyratex-serial-no** | | string | serial number for Xyratex shelf. |

## Element definition: **esh-info**

[top]

Information on individual ESH modules in the shelf.

| Name | Range | Type | Description |
|---|---|---|---|
| **esh-element-no** | **[0..255]** | integer | ESH element number of installed ESH module |
| **esh-is-error** | | string | Indicates whether the ESH module has reported any errors. |

## Element definition: **module-info**

[top]

Shelf enclosure module info.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-module-error** | | boolean | Indicated whether this module has encountered an error. |
| **is-sas-expander-master-module** | | boolean optional | When the value of enclosure-type field of enclosure-type-info is sas-expander-module, then this field indicates whether this module is the SAS expander master module. This field will only be present for sas-expander-module values. |
| **module-connector-wwn** | | string optional | WWN of the module connector, example "500A0980017D373F". |
| **module-number** | **[0..1]** | integer | shelf module number. |

## Element definition: **sas-connector-info**

[top]

Detailed information on SAS cables and connectors connected to the shelf. Only information on the connectors with cables attached will be presented.

| Name | Range | Type | Description |
|---|---|---|---|
| **attached-serial-no** | | string optional | Serial number of the attached cable as assigned by the cable manufacturer. This field will not be present if the information is not available, or if a cable is not connected at this connector. Note that depending on the cable, the serial number at the two ends of the cable may or may not match. An example of this is SAS optical cables that do not have integrated QSFP's, which will show different attached serial numbers at the ends of cable. Cables with integrated QSFP's will have matching serial numbers at both ends. |
| **cable-end-identifier** | | string optional | Each cable has two ends. This field shows which end of the cable is connected to the shelf. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector. Possible values: "end_0", "end_1". |
| **cable-length** | | string optional | Cable length. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector. |
| **cable-local-conn-wwn** | | string optional | WWN of the local connector that the cable is attached to, example "500A0980017D373F". |
| **cable-manufacturer** | | string optional | Manufacturer of the cable. Will not be present if a cable is not connected at this connector. |
| **cable-part-no** | | string optional | Part number of the cable as assigned by the cable manufacturer. This field will not be present if the information is not available, or if a cable is not connected at this connector. |
| **cable-remote-conn-wwn** | | string optional | WWN of the remote connector that the cable is attached to, example "300A0980052ED2B2". |
| **cable-serial-no** | | string optional | This is actually not serial number, but rather cable identifier. For backwards compatibility this is reported as cable-serial-no. For the actual serial number see attached-serial-no. The connectors at both ends of the same cable will report the same value for this field. This field can be used to generate topology. This field will not be present if a cable is not connected to the connector or if the cable is not connected to a functioning device. |
| **cable-technology** | | string optional | Cable technology. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector. Possible values: "cupper", "optical". |
| **cable-type** | | string | Type of the cable being used. This field will not be present if the information is not available or accessible, or if a cable is not connected at this |

| | | | |
|---|---|---|---|
| | | optional | connector. Possible values: "qsfp". |
| **connector-designator** | | string optional | Connector desiagnator.<br>• "sqr" - The port is marked with a square on the shelf connector panel,<br>• "cir" - The port is marked with a circle on the shelf connector panel.<br>Will be missing if unknown or not available. |
| **connector-no** | **[0..4]** | integer | Connector number. |
| **is-cable-connected** | | boolean | Indicates whether a cable is connected at this connector location. No further information will be provided if a cable is not connected at this connector location. Note that a cable connection does not necessarily mean that the shelf is connected to a storage cointroller. This will also depend on the other end of the cable. |
| **is-connector-error** | | boolean optional | Indicates whether the connector element has encountered an error. |
| **shelf-module** | | string optional | Shelf module for this connector<br>• "a" - Presenting data for shelf module A.<br>• "b" - Presenting data for shelf module B. |
| **swap-count** | **[0..255]** | integer optional | Number of times, since last boot, a cable has been inserted into this connector |

# APIs in Category: **sis**


sis-disable
sis-disable-async
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sis-stop-async


These APIs can be used to manage deduplication and compression on flexible volumes. In the following API descriptions, these space saving technologies are collectively referred to as "sis".

A "sis volume" refers to a flexible volume on which deduplication and/or compression has been enabled. It can also refer to volumes where deduplication and/or compression are currently disabled (say, temporarily), but the volume has compressed and/or shared data. Currently, compression can be enabled on a volume, only when deduplication is also enabled on the volume.

A "sis operation" refers to a background operation that is running on a volume to deduplicate and/or compress data in the volume.

In future, the sis APIs may be extended to support other storage entities like aggregates. Hence, all sis APIs accept a "path" argument instead of a volume name.

## sis-disable

[top]

Disable sis on a volume. If the sis operation is active on the volume, it needs to be stopped by "sis-stop" API before disabling.

This API is not supported for FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | The full path of the sis volume, /vol/<vol_name>. Only one path can be specified at a time. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_EINVAL** | |
| **EAPIERROR** | |
| **EVOLUMENOTONLINE** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_OLV_FG_EFFICIENCY_OP_FAILED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# sis-disable-async

[top]

Disable sis on a FlexGroup or an Infinite Volume. If the sis operation is active on the volume, it needs to be stopped by "sis-stop-async" API before disabling.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string | Name of the volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values:<br>• "succeeded",<br>• "in_progress",<br>• "failed" |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_EINVAL** | |
| **EAPIERROR** | |
| **EVOLUMENOTONLINE** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_OLV_FG_EFFICIENCY_OP_FAILED** | |

# sis-enable

[top]

Enable sis on a volume.

On a non-SnapVault secondary volume, the sis operation will be started periodically according to a per-volume schedule. By default, this schedule is sun-sat@0. (Everyday at 0:00 hours) On a SnapVault secondary volume, the sis operation will be kicked off at the end of the SnapVault transfer. This API does not enable compression on the volume. See the "sis-set-config" API for options to enable compression and for modifying the default schedule set on the volume. A sis operation can also be manually started using the sis-start API.

This API is not supported for FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | The full path of the sis volume, /vol/<vol_name>. Only one path can be specified at a time. The volume must be online to enable sis on the volume. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EAPIERROR** | |
| **EONTAPI_EINVAL** | |
| **EINTERNALERROR** | |
| **EVOLUMENOTONLINE** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_OLV_FG_EFFICIENCY_OP_FAILE** | |

| Vfiler-enabled |
|---|
| **Yes** |

# sis-enable-async

[top]

Enable sis on a FlexGroup or an Infinite Volume.

This is similar to 'sis-enable' API except that it operates on a FlexGroup or Infinite Volume. Read about 'sis-enable' API for specific details.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string | Name of the volume. The volume must be online to enable sis. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values:<br>• "succeeded",<br>• "in_progress",<br>• "failed" |

| Errno | Description |
|---|---|
| EAPIMISSINGARGUMENT | |
| EAPIERROR | |
| EONTAPI_EINVAL | |
| EINTERNALERROR | |
| EVOLUMENOTONLINE | |
| EOBJECTNOTFOUND | |
| EVSERVERNOTFOUND | |
| EVSERVER_OP_NOT_ALLOWED | |
| EINVALIDINPUTERROR | |
| EVOLUME_TYPE_NOT_SUPPORTED | |
| E_OLV_FG_EFFICIENCY_OP_FAILED | |

# sis-get

[top]

Get status of a sis volume.

This API is not supported on Infinite Volumes that are managed by storage services.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | sis-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| path | | volume-path | Volume for which sis information is returned. Path is of the format /vol/<vol_name>. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | sis-status-info | The attributes to return with this call. |

| Errno | Description |
|---|---|
| EAPIMISSINGARGUMENT | |
| EONTAPI_EINVAL | |
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EVSERVERNOTFOUND | |
| EVSERVER_OP_NOT_ALLOWED | |
| EINVALIDINPUTERROR | |

# sis-get-iter

[top]

Iterate over a list of sis volumes.

This API is not supported on Infinite Volumes that are managed by storage services.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | sis-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. |
| **query** | | sis-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes. All sis objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | sis-status-info[] optional | The list of attributes of sis objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more sis objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_EINVAL** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |

# sis-policy-create

[top]

Create a new sis policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **changelog-threshold-percent** | **[0..100]** | integer optional | Percentage at which the changelog will be processed for a threshold type of policy, tested once each hour. |
| **comment** | | string optional | A brief description of the policy. |
| **duration** | | string optional | The duration in hours for which the scheduled sis operation should run. After this time expires, the sis operation will be stopped even if the operation is incomplete. If '-' is specified as the duration, the sis operation will run till it completes. Otherwise, the duration has to be an integer greater than 0. By default, the operation runs till it completes. |
| | | | If the value is true, the sis policy is active in this cluster. If the value is |

| | | | |
|---|---|---|---|
| **enabled** | | boolean<br>optional | false this policy will not be activated by the schedulers and hence will be inactive. A policy can be assigned to managed objects although it is disabled. Default value: "true" |
| **policy-name** | | string | sis policy name. |
| **policy-type** | | string<br>optional | The policy type reflects the reason a volume using this policy will start processing a changelog. (Changelog processing is identifying and eliminating duplicate blocks which were written since the changelog was last processed.)<br>• "threshold" - Changelog processing occurs once the changelog reaches a certain percent full.<br>• "scheduled" - Changelog processing will be triggered by time.<br><br>Default value: "scheduled" |
| **qos-policy** | | string<br>optional | QoS policy for the sis operation. Possible values:<br>• "background" - sis operation will run in background with minimal or no impact on data serving client operations,<br>• "best-effort" - sis operations may have some impact on data serving client operations.<br><br>Default value: "best-effort" |
| **schedule** | | string<br>optional | Cron type job schedule name. When the associated policy is set on a volume, the sis operation will be triggered for the volume on this schedule. These schedules can be created using the job-schedule-cron-create API. Existing schedules can be queried using the job-schedule-cron-get-iter API. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |

# sis-policy-delete

[top]

Delete a sis policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | string | sis policy name. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |

# sis-policy-get

[top]

Get attributes of a sis policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | sis-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy-name** | | string | sis policy name. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | sis-policy-info | The attributes of the sis-policy. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |

# sis-policy-get-iter

[top]

Iterate over a list of sis policy objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | sis-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. |
| **query** | | sis-policy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the sis policy. All sis policy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | sis-policy-info[] optional | The list of attributes of sis policy objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more sis policy objects to return. |
| | | | |

| | | | |
|---|---|---|---|
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |

# sis-policy-modify

[top]

Modify the attributes of a sis policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **changelog-threshold-percent** | **[0..100]** | integer optional | Percentage at which the changelog will be processed for a threshold type of policy, tested once each hour. |
| **comment** | | string optional | A brief description of the policy. If a value is not provided the current settings are retained. An empty string can be used to clear the current settings. |
| **duration** | | string optional | The duration in hours for which the scheduled sis operation should run. After this time expires, the sis operation will be stopped even if the operation is incomplete. If '-' is specified as the duration, the sis operation will run till it completes. If duration is not provided the current setting is not modified. |
| **enabled** | | boolean optional | If the value is true, the sis policy is active in this cluster. If the value is false this policy will not be activated by the schedulers and hence will be inactive. A policy can be assigned to managed objects although it is disabled. If the value is not specified, the current settings are retained. |
| **policy-name** | | string | sis policy name. Attributes: key, non-modifiable |
| **policy-type** | | string optional | The policy type reflects the reason a volume using this policy will start processing a changelog. (Changelog processing is identifying and eliminating duplicate blocks which were written since the changelog was last processed.)<br>• "threshold" - Changelog processing occurs when the changelog reaches a certain percent full.<br>• "scheduled" - Clog processing will be triggered by time. |
| **qos-policy** | | string optional | QoS policy for the sis operation. Possible values:<br>• "background" - sis operation will run in background with minimal or no impact on data serving client operations,<br>• "best-effort" - sis operations may have some impact on data serving client operations.<br><br>Default value: "best-effort" |
| **schedule** | | string optional | Cron type job schedule name. When the associated policy is set on a volume, the sis operation will be triggered for the volume on this schedule. If this field is not set, the existing value is not modified. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |

# sis-set-config

[top]

Setup or modify sis policy, schedule or options for a volume.

This API is not supported for FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application-io-size** | | string optional | Specifies the compression settings on volume with adaptive compression. Possible values: "8K", "16K", "32K", "auto". Adaptive compression allows different compression settings on the volume based on possible IO sizes the volume can have. The larger the volume's IO size, the better the compression savings will be. If application IO size is larger than 32K, one should pass 32K as compression caps its setting to max 32K value. If specified as "auto", data written will be compressed at 8K size and inactive data will be compressed at 32K size later automatically in background. |
| **compression-algorithm** | | string optional | Specifies the compression algorithm on volume. Possible values:<br>• 0 - none<br>• 1 - lzopro<br>• 2 - gzip<br>• 3 - lzrw1a |
| **compression-type** | | string optional | Specifies the compression type on the volume. Possible values: "adaptive", "secondary". Attributes: non-creatable, non-modifiable. |
| **enable-compression** | | boolean optional | Enable compression on the sis volume. If true, compression will be enabled on the sis volume. If false, compression will be disabled on the volume. If the value is not specified compression state will be unchanged.<br><br>Enabling compression on a secondary volume is strongly discouraged. If compression is enabled on a secondary volume, storage efficiency present on the source will not be preserved during replication. The destination system needs to run offline storage efficiency scanner (compression and dedupe) to achieve storage savings. Additional compression savings on the destination comes at a cost of extra computation resources. In environments where there is a lot of shared data present on the source, (e.g., virtualized environments employing file clones), data inflation during transfer may lead to failed backups due to lack of space on the secondary volume. |
| **enable-cross-volume-background-dedupe** | | boolean optional | Enable cross volume background deduplication on the sis volume. If true, cross volume background deduplication will be enabled on the sis volume. If false, cross volume background deduplication will be disabled on the volume. If the value is not specified, cross volume background deduplication state will be unchanged. |
| **enable-cross-** | | boolean | Enable cross volume inline deduplication on the sis volume. If true, cross volume inline deduplication will be enabled on the sis volume. |

| | | | |
|---|---|---|---|
| **volume-inline-dedupe** | | optional | If false, cross volume inline deduplication will be disabled on the volume. If the value is not specified, cross volume inline deduplication state will be unchanged. |
| **enable-data-compaction** | | boolean optional | Enable data compaction on the sis volume. If true, data-compaction will be enabled on the volume. If false, data-compaction will be disabled on the volume. If the value is not specified, data-compaction state will be unchanged. |
| **enable-idd** | | boolean optional | This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. This enables file level incompressible data detection and quick check incompressible data detection for large files. This is per volume option. Once this set to true, inline compression will do a 4k compression quick check for large files before proceeding with full CG compression. If quick check finds a 4k within a CG as incompressible, inline compression won't attempt to compress the CG. And the blocks are written in uncompressed form to disk. Also once this is enabled, if inline compression encounters a incompressible CG within small files, it will mark the file with do not compress flag. As long as this flag is set on a small file, inline compression won't attempt further compression on the file. Default value is 'false'. |
| **enable-inline-compression** | | boolean optional | Enable inline compression on the sis volume. To enable inline compression, compression must be enabled either in this API call or by a previous call to sis-set-config. If true, inline-compression will be enabled on the sis volume. If false, inline-compression will be disabled on the volume. If the value is not specified, inline-compression state will be unchanged. |
| **enable-inline-dedupe** | | boolean optional | Enable inline deduplication on the sis volume. If true, inline-deduplication will be enabled on the sis volume. If false, inline-deduplication will be disabled on the volume. If the value is not specified, inline-deduplication state will be unchanged. |
| **path** | | string | The full path of the sis volume, /vol/<vol_name>. |
| **policy-name** | | string optional | The sis policy name to be attached to the volume. The policy name will determine which M-Host sis policy will trigger the scheduled sis operations. In Data ONTAP Cluster-Mode, policy-name and schedule must not be specified together in the same API call. If policy-name is passed, any previous schedule set on the volume is automatically reset. |
| **quick-check-fsize** | **[0..2^64-1]** | integer optional | This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Quick check file size for Incompressible Data Detection. If Incompressible data detection is enabled and if the file size is >= quick-check-fsize, inline compression will do a 4k quick check before doing full CG compression. |
| | | string | The schedule string for the sis operation.<br><br>The format of the schedule:<br><br>day_list[@hour_list] or hour_list[@day_list] or - or auto or manual<br><br>The day_list specifies which days of the week the sis operation should run. It is a comma-separated list of the first three letters of the day: sun, mon, tue, wed, thu, fri, sat. The names are not case sensitive. Day ranges such as mon-fri can also be given. The default day_list is sun-sat.<br><br>The hour_list specifies which hours of the day the sis operation should run on each scheduled day. The hour_list is a comma-separated list of the integers from 0 to 23. Hour ranges such as 8-17 are allowed. Step values can be used in conjunction with ranges. For example, 0-23/2 means "every two hours". The default hour_list |

| | | | |
|---|---|---|---|
| **schedule** | | optional | is 0, i.e. midnight on the morning of each scheduled day.<br><br>If "-" is specified, no schedule is set. In Data ONTAP Cluster-Mode, policy-name and schedule must not be specified together in the same API call. If schedule is passed, any previous policy-name set on the volume is automatically reset.<br><br>The "auto" schedule string means the sis operation will be triggered by the amount of new data written to the volume. The criterion is subject to being changed later.<br><br>The "manual" schedule string prevents SIS from automatically triggering any operations and disables change-logging. This schedule string can only be used on SnapVault destination volumes. The use of this schedule is mainly desirable when inline compression is enabled on a SnapVault destination volume and background processing is not necessary. |
| **storage-efficiency-mode** | | string optional | Specifies the efficiency mode for the volume. default value will set 8K adaptive compression on the volume. efficient will set auto adaptive compresion on the volume. Possible values:<br><br>• 1 - default<br>• 2 - efficient |

| Errno |
|---|
| **EAPIMISSINGARGUMENT** |
| **EONTAPI_EINVAL** |
| **EAPIERROR** |
| **EVOLUMENOTONLINE** |
| **EOBJECTNOTFOUND** |
| **EVSERVERNOTFOUND** |
| **EVSERVER_OP_NOT_ALLOWED** |
| **EINVALIDINPUTERROR** |
| **EVOLUME_TYPE_NOT_SUPPORTED** |
| **E_OLV_FG_EFFICIENCY_OP_FAILED** |

| Vfiler-enabled |
|---|
| **Yes** |

# sis-set-config-async

[top]

Setup or modify sis policy, schedule or options for a volume.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **application-** | | string | Specifies the compression settings on volume with adaptive compression. Possible values: "8K", "16K", "32K", "auto". Adaptive compression allows different compression settings on the volume based on possible IO sizes the volume can have. The larger the volume's IO size, the better the compression savings will be. If |

| | | | |
|---|---|---|---|
| **io-size** | | optional | application IO size is larger than 32K, one should pass 32K as compression caps its setting to max 32K value. If specified as "auto", data written will be compressed at 8K size and incative data will be compressed at 32K size later automatically in background. |
| **compression-algorithm** | | string optional | Specifies the compression algorithm on volume. Possible values:<br>• 0 - none<br>• 1 - lzopro<br>• 2 - gzip<br>• 3 - lzrw1a |
| **compression-type** | | string optional | Specifies the compression type on the volume. Possible values: "adaptive", "secondary". Attributes: non-creatable, non-modifiable. |
| **enable-compression** | | boolean optional | Enable compression on the sis volume. If true, compression will be enabled on the sis volume. If false, compression will be disabled on the volume. If the value is not specified compression state will be unchanged. |
| **enable-cross-volume-background-dedupe** | | boolean optional | Enable background deduplication on the sis volume. If true, cross volume background deduplication will be enabled on the sis volume. If false, cross volume background deduplication will be disabled on the volume. If the value is not specified, cross volume background deduplication state will be unchanged. |
| **enable-cross-volume-inline-dedupe** | | boolean optional | Enable inline deduplication on the sis volume. If true, cross volume inline deduplication will be enabled on the sis volume. If false, cross volume inline deduplication will be disabled on the volume. If the value is not specified, cross volume inline deduplication state will be unchanged. |
| **enable-data-compaction** | | boolean optional | Enable data compaction on the volume. If true, data-compaction will be enabled on the volume. If false, data-compaction will be disabled on the volume. If the value is not specified, data-compaction state will be unchanged. |
| **enable-idd** | | boolean optional | This parameter is no longer suppported and is ignored as of Data ONTAP 9.1.0. This enables file level incompressible data detection and quick check incompressible data detection for large files. This is per volume option. Once this set to true, inline compression will do a 4k compression quick check for large files before proceeding with full CG compression. If quick check finds a 4k within a CG as incompressible, inline compression won't attempt to compress the CG. And the blocks are written in uncompressed form to disk. Also once this is enabled, if inline compression encounters a incompressible CG within small files, it will mark the file with do not compress flag. As long as this flag is set on a small file, inline compression won't attempt further compression on the file. Default value is 'false'. |
| **enable-inline-compression** | | boolean optional | Enable inline compression on the sis volume. To enable inline compression, compression must be enabled either in this API call or by a previous call to sis-set-config. If true, inline-compression will be enabled on the sis volume. If false, inline-compression will be disabled on the volume. If the value is not specified, inline-compression state will be unchanged. |
| **enable-inline-dedupe** | | boolean optional | Enable inline deduplication on the sis volume. If true, inline-deduplication will be enabled on the sis volume. If false, inline-deduplication will be disabled on the volume. If the value is not specified, inline-deduplication state will be unchanged. |
| **policy-name** | | string optional | The sis policy name to be attached to the volume. The policy name will determine which M-Host sis policy will trigger the scheduled sis operations. The policy-name and schedule must not be specified together in the same API call. If policy-name is passed, any previous |

| | | | |
|---|---|---|---|
| | | | schedule set on the volume is automatically reset. |
| **quick-check-fsize** | **[0..2^64-1]** | integer optional | This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Quick check file size for Incompressible Data Detection. If Incompressible data detection is enabled and if the file size is >= quick-check-fsize, inline compression will do a 4k quick check before doing full CG compression. |
| **schedule** | | string optional | The schedule string for the sis operation.<br><br>The format of the schedule:<br><br>day_list[@hour_list] or hour_list[@day_list] or - or auto or manual<br><br>The day_list specifies which days of the week the sis operation should run. It is a comma-separated list of the first three letters of the day: sun, mon, tue, wed, thu, fri, sat. The names are not case sensitive. Day ranges such as mon-fri can also be given. The default day_list is sun-sat.<br><br>The hour_list specifies which hours of the day the sis operation should run on each scheduled day. The hour_list is a comma-separated list of the integers from 0 to 23. Hour ranges such as 8-17 are allowed. Step values can be used in conjunction with ranges. For example, 0-23/2 means "every two hours". The default hour_list is 0, i.e. midnight on the morning of each scheduled day.<br><br>If "-" is specified, no schedule is set. In Data ONTAP Cluster-Mode, policy-name and schedule must not be specified together in the same API call. If schedule is passed, any previous policy-name set on the volume is automatically reset.<br><br>The "auto" schedule string means the sis operation will be triggered by the amount of new data written to the volume. The criterion is subject to being changed later.<br><br>If "manual" is specified, sis operation will never be triggered automatically. Only the user can manually execute the sis operation. |
| **volume-name** | | string | Name of the volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values:<br><br>• "succeeded",<br>• "in_progress",<br>• "failed" |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_EINVAL** | |
| **EAPIERROR** | |
| **EVOLUMENOTONLINE** | |

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_OLV_FG_EFFICIENCY_OP_FAILED** | |

# sis-start

[top]

Start a sis operation on a volume. The volume must have sis enabled, before starting a sis operation. If the sis operation is already active on the volume, this API will fail.

This API is not supported for FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **build-metadata** | | boolean optional | If this argument is "true", scanner will scan the entire volume and generate fingerprint database without attempting the sharing. This argument is valid only if scan argument is set to "true". Look at the documentation for scan parameter for more details. Default value: "false" |
| **delete-checkpoint** | | boolean optional | If this is "true", the sis operation will delete existing checkpoint and start the sis operation from the beginning. Default value: "false" |
| **path** | | string | The full path of the sis volume, /vol/<vol_name>. The volume must be online in order to start the sis operation. |
| **qos-policy** | | string optional | QoS policy for the sis operation. Possible values are:<br>• "background" - sis operation will run in background with minimal or no impact on data serving client operations,<br>• "best-effort" - sis operations may have some impact on data serving client operations.<br><br>Default value: "best-effort" |
| **queue-operation** | | boolean optional | If this is "true", the requested sis operation will be queued if a sis operation is already running on the volume, and the running operation is in the fingerprint verification phase. Default value: "false" |
| **restart-checkpoint** | | boolean optional | If this is "true", the sis operation will restart from previous checkpoint without checking for validity. This option should be used along with "scan" option. Default value: "false" |
| **run-compaction-scan** | | boolean optional | If this argument is "true", the compaction scanner will be started on the volume. This argument is valid only if scan argument is set to "true". Default Value: "false" |
| **scan** | | boolean optional | If this is "true", the sis operation will scan the file system to process all the existing data.<br><br>The scan will include whatever is enabled on the volume. For example: If compression is not enabled on the volume, the scan will not include compression. This default behavior can be changed by using the run-dedupe-scan and run-compression-scan parameters.<br><br>If scan is false only data added since the last sis operation will be processed. Default value: "false" |
| **scan-all** | | boolean optional | If this argument is "true", scanner will scan entire volume without applying shared block optimization. This argument is valid only if scan argument is set to "true". Look at the documentation for scan parameter |

| | | | |
|---|---|---|---|
| | | | for more details. Default value: "false" |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_EINVAL** | |
| **EAPIERROR** | |
| **EVOLUMEBUSY** | |
| **EVOLUMENOTONLINE** | |
| **EDENSE_CONCURRENT_LIMIT** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EDENSE_DROPPED_AUTO** | |
| **E_OLV_FG_EFFICIENCY_OP_FAILED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# sis-start-async

[top]

Start a sis operation on FlexGroup or an Infinite Volume. The volume must have sis enabled, before starting a sis operation. If the sis operation is already active on the volume, this API will fail.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **build-metadata** | | boolean optional | If this argument is "true", scanner will scan the entire volume and generate fingerprint database without attempting the sharing. This argument is valid only if scan argument is set to "true". Look at the documentation for scan parameter for more details. Default Value: "false" |
| **delete-checkpoint** | | boolean optional | If this is "true", the sis operation will delete existing checkpoint and start the sis operation from the beginning. Default value: "false" |
| **qos-policy** | | string optional | QoS policy for the sis operation. Possible values:<br>• "background" - sis operation will run in background with minimal or no impact on data serving client operations,<br>• "best-effort" - sis operations may have some impact on data serving client operations.<br><br>Default value: "best-effort" |
| **queue-operation** | | boolean optional | If this is "true", the requested sis operation will be queued if a sis operation is already running on the Infinite Volume, and the running operation is in the fingerprint verification phase. Default value: "false" |
| **restart-checkpoint** | | boolean optional | If this is "true", the sis operation will restart from previous checkpoint without checking for validity. This option should be used along with "scan" option. Default value: "false" |

| | | | |
|---|---|---|---|
| **run-compaction-scan** | | boolean optional | If this argument is "true", the compaction scanner will be started on the volume. This argument is valid only if scan argument is set to "true". Default Value: "false" |
| **scan** | | boolean optional | If this is "true", the sis operation will scan the file system to process all the existing data.<br><br>The scan will include whatever is enabled on the volume. For example: If compression is not enabled on the volume, the scan will not include compression. This default behavior can be changed by using the run-dedupe-scan and run-compression-scan parameters.<br><br>If scan is false only data added since the last sis operation will be processed. Default value: "false" |
| **scan-all** | | boolean optional | If this argument is "true", scanner will scan entire volume without applying shared block optimization. This argument is valid only if scan argument is set to "true". Look at the documentation for scan parameter for more details. Default Value: "false" |
| **volume-name** | | string | The name of the volume. The volume must be online in order to start the sis operation. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values:<br><br>• "succeeded",<br>• "in_progress",<br>• "failed" |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_EINVAL** | |
| **EAPIERROR** | |
| **EVOLUMEBUSY** | |
| **EVOLUMENOTONLINE** | |
| **EDENSE_CONCURRENT_LIMIT** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_OLV_FG_EFFICIENCY_OP_FAILED** | |

# sis-status

[top]

Get Status of a sis volume This API is not optimal for use in Data ONTAP Cluster-Mode systems, and is

deprecated. Use sis-get and sis-get-iter APIs for Data ONTAP Cluster Mode systems. This API is still supported for Data ONTAP 7-Mode systems.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string optional | The full path of the sis volume, /vol/<vol_name>. Only one path can be specified at a time. The volume must be online if not then an error will be returned. If path variable is not used then the status for all online sis volumes in the filer will be returned. |
| **verbose** | | boolean optional | If set to true the output is detailed. Default value: "false" |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **sis-object** | | dense-status[] | sis status objects returned. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EAPIERROR** | |
| **EONTAPI_EINVAL** | |
| **EVOLUMENOTONLINE** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# sis-stop

[top]

Abort currently active sis operation on the volume. The sis operation will remain paused and the operation can be resumed by "sis-start", SnapVault transfer, or the scheduler.

This API is not supported for FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **all-operations** | | boolean optional | If this is "true", both active and queued sis operation will be stopped. Default value: "false" |
| **path** | | string | The full path of the sis volume, /vol/<vol_name>. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_EINVAL** | |
| **EAPIERROR** | |
| **EVOLUMENOTONLINE** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |

| | |
|---|---|
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_OLV_FG_EFFICIENCY_OP_FAILED** | |

| Vfiler-enabled |
|---|
| Yes |

## sis-stop-async

[top]

Abort currently active sis operation on the FlexGroup or Infinite Volume. The sis operation will remain paused and the operation can be resumed by "sis-start-async" or the scheduler.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volume constituents, or Infinite Volumes that are managed by storage services.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **all-operations** | | boolean optional | If this is "true", both active and queued sis operation will be stopped. Default value: "false" |
| **volume-name** | | string | The name of the volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values:<br>• "succeeded",<br>• "in_progress",<br>• "failed" |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_EINVAL** | |
| **EAPIERROR** | |
| **EVOLUMENOTONLINE** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_OLV_FG_EFFICIENCY_OP_FAILED** | |

## Element definition: **dense-status**

[top]

| Name | Range | Type | Description |
|---|---|---|---|
| **application-io-size** | | string optional | Specifies the application IO size used by compression. Possible values: "8K", "16K", "32K", "auto". Attributes: non-creatable, non-modifiable. |
| **auto-state** | | string | Possible values:<br>• "Not auto" - Auto is not enabled,<br>• "Auto" - Auto policy is enabled,<br>• "Deprioritized" - Volume is deprioritized |
| **blocks-skipped-sharing** | **[0..2^32-1]** | integer optional | Number of blocks not considered for sharing because contiguous duplicate blocks were less than the value set for minimum-blocks-shared. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **changelog-used-percent** | **[0..2^32-1]** | integer optional | Percentage of changelog used. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **checkpoint-op-type** | | string optional | Checkpoint Operation Type. Possible values:<br>• "-",<br>• "Scan",<br>• "Start",<br>• "Check",<br>• "Undo",<br>• "Downgrade"<br><br>Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes. |
| **checkpoint-progress** | | string optional | Checkpoint Stage Progress with information as to which stage of sis is checkpointed and how much data is processed for that stage. For example: 25 MB Scanned, 20 MB Searched, 40 MB (20%) Done, 30 MB Verified. Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes. |
| **checkpoint-stage** | | string optional | Checkpoint Stage information. Possible values:<br>• "-",<br>• "Gathering",<br>• "Sorting",<br>• "Saving_pass1",<br>• "Saving_pass2",<br>• "Checking",<br>• "Checking_pass1",<br>• "Checking_pass2",<br>• "Compress_preproc",<br>• "Compressing",<br>• "Saving_sharing",<br>• "Saving_end",<br>• "Unknown_stage"<br><br>Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes. |
| | | | Checkpoint Sub Stage information. Possible values:<br>• "-",<br>• "Sort_pass1",<br>• "Sort_p1merge", |

| | | | |
|---|---|---|---|
| **checkpoint-sub-stage** | | string optional | "Sort_pass2",<br>• "Bucket_sort_init",<br>• "Bucket_sort",<br>• "Bucket_sort_done"<br><br>Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes. |
| **checkpoint-time** | **[0..2^63-1]** | integer optional | Checkpoint creation timestamp. The value is in seconds since January 1, 1970. Returned only if verbose option is set. This field is deprecated in Data ONTAP 8.1 and later. This parameter is not supported on Infinite Volumes. |
| **compression-algorithm** | | string optional | Specifies the algorithm used for compression. Possible values:<br><br>• 0 - none<br>• 1 - lzopro<br>• 2 - gzip 3 - lzrw1a<br><br>Attributes: non-creatable, non-modifiable. |
| **compression-type** | | string optional | Specifies the compression type on the volume. Possible values: "adaptive", "secondary". Attributes: non-creatable, non-modifiable. |
| **has-cross-volume-sharing** | | boolean optional | Volume has cross volume sharing Attributes: non-creatable, non-modifiable |
| **has-extended-compressed-data** | | boolean optional | Specifies whether the volume has extended compressed data. Attributes: non-creatable, non-modifiable |
| **is-compression-enabled** | | boolean optional | compression state of the volume Attributes: non-creatable, non-modifiable |
| **is-content-available** | | boolean | This indicates if the value of other elements in this dense-status object are valid. Attributes: non-creatable, non-modifiable This parameter is not supported on Infinite Volumes.<br><br>A "true" value for this field indicates a normal case when everything went fine while fetching the status values for this volume. All values returned are valid. A "false" value for this field indicates something went wrong while fetching the status values for this volume. Not all values returned are valid. The volume returned may not be a sis volume. |
| **is-cross-volume-background-dedupe-enabled** | | boolean optional | Cross volume background deduplication state of the volume Attributes: non-creatable, non-modifiable |
| **is-cross-volume-inline-dedupe-enabled** | | boolean optional | Cross volume inline deduplication state of the volume Attributes: non-creatable, non-modifiable |
| **is-data-compaction-enabled** | | boolean optional | Data compaction state of the volume Attributes: non-creatable, non-modifiable |
| | | | This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Indicates incompressible data detection is enabled. Possible values: |

| | | | |
|---|---|---|---|
| **is-idd-enabled** | | boolean optional | "true",<br>• "false"<br><br>Once this set to 'true', inline compression will do a 4k compression quick check for large files before proceeding with full CG compression. If quick check finds a 4k within a CG as incompressible, inline compression won't attempt to compress the CG. Also indicates file level incompressible data detection is enabled for small files. Once this is enabled, when inline compression encounters a incompressible CG within a small file, it will mark the file with do not compress flag. As long as this flag is set on a small file, inline compression won't attempt to compress the file. This parameter is not supported on Infinite Volumes. |
| **is-inline-compression-enabled** | | boolean optional | inline compression state of the volume Attributes: non-creatable, non-modifiable |
| **is-inline-dedupe-enabled** | | boolean optional | Inline deduplication state of the volume Attributes: non-creatable, non-modifiable |
| **last-operation-begin-timestamp** | **[0..2^31-1]** | integer optional | Start timestamp of the last sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **last-operation-end-timestamp** | **[0..2^31-1]** | integer optional | End timestamp of the last sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **last-operation-error** | | string optional | A human readable error message of the last sis operation. Present when there was an error. Returned only if verbose option is set. and when there is a valid error. This parameter is not supported on Infinite Volumes. |
| **last-operation-size** | | string optional | The size of the last sis operation in human readable format. This output element is deprecated in Data ONTAP 8.1. Please use the last-operation-size-bytes output element instead. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **last-operation-size-bytes** | **[0..2^63-1]** | integer optional | The size in bytes of the last sis operation. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **last-operation-state** | | string optional | Completion status for the last operation. Possible values:<br><br>• "success",<br>• "failure"<br><br>Returned only if verbose option is set and when there is last completed operation. This parameter is not supported on Infinite Volumes. |
| **last-success-operation-begin-timestamp** | **[0..2^31-1]** | integer optional | Start timestamp of the last successful sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set and when there is last successfully completed operation. This parameter is not supported on Infinite Volumes. |
| **last-success-operation-end-timestamp** | **[0..2^31-1]** | integer optional | End timestamp of the last successful sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set and when there is last successfully completed operation. This parameter is not supported on Infinite Volumes. |
| **logical-data** | | sis-logical-data | This contains logical size attributes of a volume. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |

| | | | |
|---|---|---|---|
| | | optional | |
| **minimum-blocks-shared** | **[0..2^32-1]** | integer optional | The minimum number of contiguous blocks in a file that will be considered for block sharing. If the number of contiguous duplicate blocks is less than this number, then they won't be considered for sharing. Returned only if verbose option is set. |
| **path** | | string | Volume for which sis information is returned. |
| **policy** | | string optional | sis policy name. Returned only if verbose option is set. |
| **progress** | | string | The progress of the current sis operation with information as to which stage is currently in progress and how much data is processed for that stage. For example: 25 MB Scanned, 20 MB Searched, 40 MB (20%) Done, 30 MB Verified. This parameter is not supported on Infinite Volumes. |
| **queued-job-type** | | string optional | Type of sis operation that is queued for the volume. Possible values:<br>• "-" - No sis operation is queued for the volume,<br>• "Scan",<br>• "Start",<br>• "Check",<br>• "Downgrade"<br><br>Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **quick-check-fsize** | **[0..2^64-1]** | integer optional | This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Quick check file size for Incompressible Data Detection. If Incompressible data detection is enabled and if the file size is >= quick-check-fsize, inline compression will do a 4k quick check before doing full CG compression. This parameter is not supported on Infinite Volumes. |
| **schedule** | | string optional | The schedule for sis operation on the volume. See sis-set-config for the format of the schedule. Returned only if verbose option is set. |
| **stale-fingerprint-percentage** | **[0..2^32-1]** | integer optional | Percentage of fingerprints that are stale in the fingerprint database. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **state** | | string | Possible values:<br>• "Enabled",<br>• "Disabled",<br>• "Mixed" -For FlexGroups, if sis is not Enabled or Disabled consistently across all constituents. |
| **status** | | string | Possible values:<br>• "Idle" - No sis operations are happening on this volume,<br>• "Initializing" - sis operation is being initialized,<br>• "Active" - sis operation is active on the volume,<br>• "Undoing" - sis is being undone on the volume,<br>• "Pending" - sis operations are scheduled for the volume,<br>• "Downgrading" - The sis operation necessary to downgrade the volume is active,<br>• "Disabled" - sis operation is disabled on the volume.<br><br>This parameter is not supported on Infinite Volumes. |
| **type** | | string optional | Possible values:<br>• "Regular",<br>• "SnapVault"<br><br>Any sis volume with Snapvault qtree in it would be marked as |

| | | | |
|---|---|---|---|
| | | | Snapvault and all others would be returned as type Regular. Returned only if verbose option is set. |
| **vserver** | | vserver-name optional | Vserver Name |

# Element definition: **sis-policy-info**

[top]

sis-policy-info typedef When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **changelog-threshold-percent** | **[0..100]** | integer optional | Percentage at which the changelog will be processed for a threshold type of policy, tested once each hour. Attributes: optional-for-create, modifiable |
| **comment** | | string optional | A brief description of the policy. Attributes: optional-for-create, modifiable |
| **duration** | | string optional | The duration in hours for which the scheduled sis operation should run. After this time expires, the sis operation will be stopped even if the operation is incomplete. If there is no duration set on the volume, the operation will run till it completes. Attributes: optional-for-create, modifiable |
| **enabled** | | boolean optional | If the value is true, the sis policy is active and sis operations will be triggered on the volume on the specified schedule. If the value is false, the sis policy will be inactive and sis operations will not be triggered on the volume on the specified schedule. Attributes: optional-for-create, modifiable |
| **policy-name** | | string optional | sis policy name. Attributes: key, required-for-create, non-modifiable |
| **policy-owner** | | string optional | Owner of the policy. Possible values:<br>• "cluster_admin" - Policy is owned by the cluster admin. This policy can be applied to volumes owned by any Vserver.<br>• "vserver_admin" - Policy is owned by the Vserver admin. This policy can only be applied to volumes owned by the same Vserver. |
| **policy-type** | | string optional | The policy type reflects the reason a volume using this policy will start processing a changelog. (Changelog processing is identifying and eliminating duplicate blocks which were written since the changelog was last processed.)<br>• "threshold" - Changelog processing occurs once the changelog reaches a certain percent full.<br>• "scheduled" - Clog processing will be triggered by time.<br>•<br>Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **qos-policy** | | string optional | QoS policy for the sis operation. Possible values:<br>• "background" - sis operation will run in background, with minimal or no impact on data aserving client operations,<br>• "best-effort" - sis operations may have some impact on data serving client operations.<br><br>Attributes: optional-for-create, modifiable |
| **schedule** | | string optional | Cron type job schedule name. When the associated policy is set on a volume, the sis operation will be triggered for the volume on this schedule. These schedules can be created using the job-schedule-cron-create API. Existing schedules can be queried using the job-schedule-cron-get-iter API. Attributes: required-for-create, modifiable |
| **vserver** | | vserver-name optional | Vserver name. Attributes: key, non-creatable, non-modifiable |

# Element definition: **sis-status-info**

[top]

When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **application-io-size** | | string optional | Specifies the application IO size used by compression. Possible values: "8K", "16K", "32K", "auto". Attributes: non-creatable, non-modifiable. |
| **auto-state** | | string optional | Possible values:<br>• "Not auto" - Auto is not enabled,<br>• "Auto" - Auto policy is enabled,<br>• "Deprioritized" - Volume is deprioritized |
| **blocks-skipped-sharing** | **[0..2^32-1]** | integer optional | Number of blocks not considered for sharing because contiguous duplicate blocks were less than the value set for minimum-blocks-shared. This parameter is not supported on Infinite Volumes. |
| **changelog-size** | **[0..2^64-1]** | integer optional | Size of changelog in bytes. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **changelog-used-percent** | **[0..2^32-1]** | integer optional | Percentage of changelog used. This parameter is not supported on Infinite Volumes. |
| **checkpoint-op-type** | | sis-checkpoint-op-type optional | Checkpoint operation Type. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable Possible values:<br>• "Scan" - Scanning volume for fingerprints,<br>• "Start" - Starting a sis operation,<br>• "Check" - Checking for stale data in the fingerprint database, |

| | | | |
|---|---|---|---|
| | | | "Undo" - Undoing sis on the volume,<br>• "Downgrade" - Downgrading sis metafiles to a previous Data ONTAP release. |
| **checkpoint-progress** | | string optional | Checkpoint Stage Progress with information as to which stage of deduplication is checkpointed and how much data is processed for that stage. For ex: 25 MB Scanned, 20 MB Searched, 40 MB (20%) Done, 30 MB Verified. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable |
| **checkpoint-stage** | | sis-checkpoint-stage optional | Checkpoint stage information. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable Possible values:<br>• "Gathering" - Scanning the volume for fingerprints,<br>• "Sorting" - Sorting the gathered fingerprints,<br>• "Compress_preproc" - Preprocessing volume data for compression,<br>• "Compressing" - Compressing the volume data,<br>• "Saving_pass1" - Creating duplicate list from the newly gathered fingerprints,<br>• "Saving_pass2" - Creating duplicate list from the fingerprint database,<br>• "Saving_sharing" - Creating shared data structures in the volume,<br>• "Saving_end" - Completing sis operations,<br>• "Checking_pass0" - Organizing data in the fingerprint database for block sharing,<br>• "Checking_pass1" - Organizing data in the fingerprint database for block sharing,<br>• "Checking_pass2" - Organizing data in the fingerprint database for block sharing,<br>• "Unknown_stage" - Invalid stage |
| **checkpoint-sub-stage** | | sis-checkpoint-substage optional | Checkpoint sub-stage information. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable Possible values:<br>• "-" - No sub stage check point present,<br>• "Sort_pass1" - Sorting the fingerprints for deduplication,<br>• "Sort_p1merge" - Merging the fingerprints for deduplication,<br>• "Sort_pass2" - Merging the fingerprints for deduplication,<br>• "Bucket_sort_init" - Sorting the fingerprints for deduplication,<br>• "Bucket_sort" - Sorting the fingerprints for deduplication,<br>• "Bucket_sort_done" - Sorting the fingerprints for deduplication completed |
| **checkpoint-time** | **[0..2^63-1]** | integer optional | Checkpoint creation timestamp. The value is in seconds since January 1, 1970. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable |
| **compression-algorithm** | | string optional | Specifies the algorithm used for compression. Possible values:<br>• 0 - none<br>• 1 - lzopro<br>• 2 - gzip<br>• 3 - lzrw1a<br>Attributes: non-creatable, non-modifiable. |
| **compression-** | **[0..2^64-** | integer | Size of compression log in bytes. Returned only if verbose option |

| | | | |
|---|---|---|---|
| **changelog-size** | **1]** | optional | is set. This parameter is not supported on Infinite Volumes. |
| **compression-type** | | string optional | Specifies the compression type on the volume. Possible values: "adaptive", "secondary". Attributes: non-creatable, non-modifiable. |
| **file-compression-application-io-size** | | string optional | Specifies the last application IO size used by compression. Possible values: "8K", "16K", "32K", "-". Attributes: non-creatable, non-modifiable. |
| **has-auto-adaptive-compression-savings** | | boolean optional | Volume has auto adaptive compression savings Attributes: non-creatable, non-modifiable |
| **has-extended-compressed-data** | | boolean optional | Specifies whether the volume has extended compressed data. Attributes: non-creatable, non-modifiable |
| **is-auto-adaptive-compression-existing-volume** | | boolean optional | Auto adaptive compression state of already existing volume Attributes: non-creatable, non-modifiable |
| **is-compression-enabled** | | boolean optional | Compression state of the volume Attributes: non-creatable, modifiable |
| **is-constituent** | | boolean optional | True implies that the volume is a constituent of an Infinite Volume. |
| **is-content-available** | | boolean optional | When returned as part of the output, this indicates if the value of other elements in this sis-info object are valid. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable<br><br>A "true" value for this field indicates a normal case when everything went fine while fetching the status values for this volume. All values returned are valid. A "false" value for this field indicates something went wrong while fetching the status values for this volume. Not all values returned are valid. The volume returned may not be a sis volume. Default: true |
| **is-cross-volume-background-dedupe-enabled** | | boolean optional | Cross volume background deduplication state of the volume Attributes: non-creatable, non-modifiable |
| **is-cross-volume-inline-dedupe-enabled** | | boolean optional | Cross volume Inline deduplication state of the volume Attributes: non-creatable, non-modifiable |
| **is-data-compaction-enabled** | | boolean optional | Data compaction state of the volume Attributes: non-creatable, non-modifiable |
| | | | This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Indicates incompressible data detection is enabled. Possible values:<br><br>• "true",<br>• "false" |

| | | | |
|---|---|---|---|
| **is-idd-enabled** | | boolean optional | Once this set to 'true', inline compression will do a 4k compression quick check for large files before proceeding with full CG compression. If quick check finds a 4k within a CG as incompressible, inline compression won't attempt to compress the CG. Also indicates file level incompressible data detection is enabled for small files. Once this is enabled, when inline compression encounters a incompressible CG within a small file, it will mark the file with do not compress flag. As long as this flag is set on a small file, inline compression won't attempt to compress the file. This parameter is not supported on Infinite Volumes. |
| **is-inline-compression-enabled** | | boolean optional | Inline compression state of the volume Attributes: non-creatable, modifiable |
| **is-inline-dedupe-enabled** | | boolean optional | Inline deduplication state of the volume Attributes: non-creatable, non-modifiable |
| **is-using-auto-adaptive-compression** | | boolean optional | Auto adaptive compression state of volume Attributes: non-creatable, non-modifiable |
| **last-op-begin-timestamp** | **[0..2^63-1]** | integer optional | Start timestamp of the last sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is requested. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable |
| **last-op-end-timestamp** | **[0..2^63-1]** | integer optional | End timestamp of the last sis operation. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable |
| **last-op-error** | | string optional | A human readable error message of the last sis operation. Present when there was an error. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable |
| **last-op-size** | | size optional | The amount of data processed in bytes for the last sis operation. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable |
| **last-op-state** | | string optional | Completion status for the last operation. Possible values:<br>• "success",<br>• "failure"<br><br>Returned only if verbose option is set and when there is last completed operation. This parameter is not supported on Infinite Volumes. |
| **last-success-op-begin-timestamp** | **[0..2^31-1]** | integer optional | Start timestamp of the last successful sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set and when there is last successfully completed operation. This parameter is not supported on Infinite Volumes. |
| **last-success-op-end-timestamp** | **[0..2^31-1]** | integer optional | End timestamp of the last successful sis operation. The value is in seconds since January 1, 1970. Returned only if verbose option is set and when there is last successfully completed operation. This parameter is not supported on Infinite Volumes. |
| **logical-data-limit** | **[0..2^63-1]** | integer optional | Dedupe logical data limit in bytes. This parameter is not supported on Infinite Volumes. |
| **logical-data-size** | **[0..2^63-1]** | integer optional | The size of logical data in the volume in bytes. This is calculated as [size-saved + size-used + + compressed-data bytes]. This parameter is not supported on Infinite Volumes. |
| **minimum-** | | | The minimum number of contiguous blocks in a file that will be |

| | | | |
|---|---|---|---|
| **blocks-shared** | **[0..2^32-1]** | integer optional | considered for block sharing. If the number of contiguous duplicate blocks is less than this number, then they won't be considered for sharing. |
| **path** | | volume-path optional | Volume for which sis information is returned. Path is of the format /vol/<vol_name>. Attributes: key, non-creatable, non-modifiable |
| **policy** | | string optional | sis policy name. Attributes: non-creatable, modifiable |
| **progress** | | string optional | The progress of the current sis operation with information as to which stage of sis process is currently in progress and how much data is processed for that stage. For ex: 25 MB Scanned, 20 MB Searched, 40 MB (20%) Done, 30 MB Verified. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable |
| **queued-job-type** | | string optional | Type of sis operation that is queued for the volume. Possible values:<br>• "-" - No sis operation is queued for the volume,<br>• "Scan",<br>• "Start",<br>• "Check",<br>• "Downgrade"<br><br>This parameter is not supported on Infinite Volumes. |
| **quick-check-fsize** | **[0..2^64-1]** | integer optional | This parameter is no longer supported and is ignored as of Data ONTAP 9.1.0. Quick check file size for Incompressible Data Detection. If Incompressible data detection is enabled and if the file size is >= quick-check-fsize, inline compression will do a 4k quick check before doing full CG compression. This parameter is not supported on Infinite Volumes. |
| **schedule** | | string optional | The schedule for sis operation on the volume. See sis-set-config for the format of the schedule. Attributes: non-creatable, modifiable |
| **stale-fingerprint-percentage** | **[0..2^32-1]** | integer optional | Percentage of fingerprints that are stale in the fingerprint database. This parameter is not supported on Infinite Volumes. |
| **state** | | sis-state optional | State of sis configured on the volume. Attributes: non-creatable, non-modifiable Possible values:<br>• "Disabled",<br>• "Enabled" |
| **status** | | sis-op-status optional | Status of any sis operation running on the volume. This parameter is not supported on Infinite Volumes. Attributes: non-creatable, non-modifiable Possible values:<br>• "Idle" - No sis operations are happening on this volume,<br>• "Initializing" - sis operation is being initialized,<br>• "Active" - sis operation is active on the volume,<br>• "Undoing" - sis is being undone on the volume,<br>• "Pending" - sis operations are scheduled for the volume,<br>• "Downgrading" - The sis operation necessary to downgrade the volume is active,<br>• "Disabled" - sis operation is disabled on the volume. |
| **storage-efficiency-mode** | | string optional | Storage efficiency mode of the volume Possible values: "default", "efficienct", "-". Attributes: non-creatable, non-modifiable. |
| | | | Any sis volume with Snapvault qtree in it would be marked as |

| | | | |
|---|---|---|---|
| **type** | | sis-type optional | Snapvault and all others would be returned as type Regular. Attributes: non-creatable, non-modifiable Possible values:<br>• "Regular" ,<br>• "Snapvault" |
| **vault-transfer-log-size** | **[0..2^64-1]** | integer optional | Size of vault transfer log in bytes. Returned only if verbose option is set. This parameter is not supported on Infinite Volumes. |
| **vserver** | | vserver-name optional | A string identifying the Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **volume-path**

[top]

Volume path name

[none]

# Element definition: **sis-checkpoint-op-type**

[top]

sis checkpoint type Possible values:

- "Scan" - Scanning volume for fingerprints,
- "Start" - Starting a sis operation,
- "Check" - Checking for stale data in the fingerprint database,
- "Undo" - Undoing sis on the volume,
- "Downgrade" - Downgrading sis metafiles to a previous Data ONTAP release.

[none]

# Element definition: **sis-checkpoint-stage**

[top]

sis checkpoint stage Possible values:

- "Gathering" - Scanning the volume for fingerprints,
- "Sorting" - Sorting the gathered fingerprints,
- "Compress_preproc" - Preprocessing volume data for compression,
- "Compressing" - Compressing the volume data,
- "Saving_pass1" - Creating duplicate list from the newly gathered fingerprints,
- "Saving_pass2" - Creating duplicate list from the fingerprint database,
- "Saving_sharing" - Creating shared data structures in the volume,
- "Saving_end" - Completing sis operations,
- "Checking_pass0" - Organizing data in the fingerprint database for block sharing,
- "Checking_pass1" - Organizing data in the fingerprint database for block sharing,
- "Checking_pass2" - Organizing data in the fingerprint database for block sharing,
- "Unknown_stage" - Invalid stage

[none]

## Element definition: **sis-checkpoint-substage** [top]

sis checkpoint sub-stage Possible values:

- "Sort_pass2" - Sorting the fingerprints for deduplication

[none]

## Element definition: **sis-logical-data** [top]

This contains logical size attributes of a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **logical-data-limit** | **[0..2^63-1]** | integer | Dedupe logical data limit in bytes. This parameter is not supported on Infinite Volumes. |
| **logical-data-size** | **[0..2^63-1]** | integer | The size of logical data in the volume in bytes. This is calculated as [size-saved + size-used + compressed-data bytes]. This parameter is not supported on Infinite Volumes. |

## Element definition: **sis-op-status** [top]

Efficiency status Possible values:

- "idle" - No storage efficiency operations are happening on this volume,
- "initializing" - The storage efficiency operation is being initialized,
- "active" - The storage efficiency operation is active on the volume,
- "undoing" - The storage efficiency is being undone on the volume,
- "pending" - The storage efficiency operation is scheduled for the volume,
- "downgrading" - Storage efficiency actions necessary to downgrade the volume are being carried out,
- "disabled" - Storage efficiency disabled on the volume

[none]

## Element definition: **sis-state** [top]

Disabled|Enabled|Mixed Possible values:

- "disabled" ,
- "enabled" ,

- "mixed" - For FlexGroups, if SIS is not enabled or disabled consistently across all constituents,
- "custom" - Only supported on FSx for ONTAP and Cloud Volumes ONTAP, denotes user-defined efficiency features are enabled

[none]

## Element definition: **sis-type**

[top]

Regular|SnapVault Possible values:

- "regular" ,
- "snapvault"

[none]

## Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **snapdiff**


snapdiff-rpc-server-create
snapdiff-rpc-server-destroy
snapdiff-rpc-server-disable
snapdiff-rpc-server-enable
snapdiff-rpc-server-get
snapdiff-rpc-server-get-create-defaults
snapdiff-rpc-server-get-iter
snapdiff-rpc-server-modify


This set of functions is used to retrieve the set of changed files and directory entries between two snapshots for the same volume. The difference operation will scan the two snapshots and return a list of files and directory entries that have changed since the base snapshot. It will indicate files created, modified, or deleted. The basic sequence is:

1. snapdiff-iter-start
2. snapdiff-iter-status (repeated until session status is in active state)
3. snapdiff-iter-next (repeated until 100% of changes are retrieved or an error is returned. snapdiff-iter-end is the next function expected from the client when either of these conditions occur.)
4. snapdiff-iter-end

Snapdiff APIs require the volume to have Inode to Path(I2P) option turned on.

## snapdiff-rpc-server-create

[top]

Create a new SnapDiff RPC Server configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **return-record** | | boolean optional | If set to true, returns the SnapDiff RPC Server on successful creation. Default: false |
| **state** | | boolean | Specifies whether the SnapDiff RPC Server is enabled on a Vserver. Default: true. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | sd-info optional | The SnapDiff RPC Server created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

## snapdiff-rpc-server-destroy

[top]

Delete an SnapDiff RPC Server configuration.

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# snapdiff-rpc-server-disable

[top]

Stop the SnapDiff RPC Server

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapdiff-rpc-server-enable

[top]

Start the SnapDiff RPC Server

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapdiff-rpc-server-get

[top]

Get the SnapDiff RPC Server configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | sd-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | sd-info | The attributes of the SnapDiff RPC Server. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# snapdiff-rpc-server-get-create-defaults

[top]

Obtain the default values for SnapDiff RPC Server configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | sd-info optional | Optionally specify the value for attributes if available. The default values for some attributes may depend on the values specified for some other attribute. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **defaults** | | sd-info | The default attributes for the SnapDiff RPC Server. |

# snapdiff-rpc-server-get-iter

[top]

Iterate over the list of SnapDiff RPC Server configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | sd-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | sd-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the SnapDiff RPC Server object. All SnapDiff RPC Server objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | sd-info[] optional | The list of attributes of SnapDiff RPC Server objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more SnapDiff RPC Server objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapdiff-rpc-server-modify

[top]

Modify an SnapDiff RPC Server configuration. If no values are given, the configuration is not modified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **state** | | boolean optional | Specifies whether the SnapDiff RPC Server is enabled on a Vserver. Default: true. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# Element definition: **sd-info**

[top]

Information about SnapDiff RPC Server configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **state** | | boolean<br>optional | Specifies whether the SnapDiff RPC Server is enabled on a Vserver. Default: true. Attributes: required-for-create, modifiable |
| **vserver** | | string<br>optional | Specifies the name of the Vserver Attributes: key, non-creatable, non-modifiable |

# APIs in Category: **snaplock**


file-get-snaplock-retention-time
file-get-snaplock-retention-time-list-info-max
file-set-snaplock-retention-time
file-snaplock-retention-time-list-info
snaplock-archive-vserver-log
snaplock-create-vserver-log
snaplock-destroy-vserver-log
snaplock-download-check-version
snaplock-event-retention-abort
snaplock-event-retention-apply-start
snaplock-event-retention-get-iter
snaplock-event-retention-policy-create
snaplock-event-retention-policy-destroy
snaplock-event-retention-policy-get-iter
snaplock-event-retention-policy-modify
snaplock-file-privileged-delete
snaplock-get-clock-ntp-sync
snaplock-get-compliance-clock
snaplock-get-file-retention
snaplock-get-node-compliance-clock
snaplock-get-system-compliance-clock
snaplock-get-volume-compliance-clock
snaplock-get-vserver-active-log-files-iter
snaplock-get-vserver-log-iter
snaplock-legal-hold-abort
snaplock-legal-hold-begin-start
snaplock-legal-hold-dump-files-start
snaplock-legal-hold-dump-litigations-start
snaplock-legal-hold-end-start
snaplock-legal-hold-get-iter
snaplock-modify-clock-ntp-sync
snaplock-modify-vserver-log
snaplock-set-file-retention
snaplock-set-node-compliance-clock
snaplock-set-system-compliance-clock
snaplock-volume-set-privileged-delete
volume-get-snaplock-attrs
volume-set-snaplock-attrs


## file-get-snaplock-retention-time

[top]

Get the SnapLock retention attributes of a file.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Absolute path of the file to query. The value must be prefixed with |

| | | | |
|---|---|---|---|
| | | | "/vol/". |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **retention-time** | | integer | Retention time in seconds since 01/01/1970 00:00:00. A zero value indicates that the file is not in WORM state. Range: [0..2^64-1] |

| Errno | Description |
|---|---|
| **EONTAPI_ENXIO** | |
| **EONTAPI_EIO** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EVOLUMEOFFLINE** | |
| **EFILENOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEQUIESCED** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# file-get-snaplock-retention-time-list-info-max

[top]

Get the maximum number of entries that can be processed and returned in one call to the zapi file-snaplock-retention-time-list-info.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **max-list-entries** | | integer | The maximum number of pathnames that can be processed in one call to file-snaplock-retention-time-list-info. This limit is imposed to prevent taking up too much CPU/memory for a ZAPI call. If the number of input pathnames for file-snaplock-retention-time-list-info is more than this number, it returns the error EAPITOOMANYENTRIES. Range: [0..2^64-1] |

| Vfiler-enabled |
|---|
| **Yes** |

# file-set-snaplock-retention-time

[top]

Set the SnapLock retention attributes of a file. In some cases, even if the call to file-set-snaplock-retention-time fails (that is the file could not be committed to worm successfully), it is possible that the atime of the file would be modified. One can specify either only retention-time or only set-infinite-retention or only set-unspecified-retention for a given file path while calling this api. If neither the retention-time nor set-infinite-retention is specified, the file is committed to worm as read-only. If the expiry time of the file has been set explicitly, the expiry time is the atime of the file, otherwise the expiry time is calculated using the default retention of the volume as follows: Expiry time = current time + snaplock_default_period

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Absolute path of the file. The value must be prefixed with "/vol/<volume-name>". |
| **retention-time** | **[0..2^63-1]** | integer optional | Expiry time in seconds since 01-Jan-1970 00:00:00 at which time the file will be eligible for deletion. If the expiry time specified does not comply with the snaplock_minimum_period and snaplock_maximum_period of the volume, the expiry time will be increased or decreased to do so. |
| **set-infinite-retention** | | boolean optional | Indicates if the retention period on the file needs to be set or extended to the infinite retention period. This field is available in Data ONTAP 8.1 and later. Default is false. |
| **set-unspecified-retention** | | boolean optional | Indicates if the retention period on the file needs to be set to the 'unspecified' retention period. This field is available in Data ONTAP 9.8 and later. Default is false. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_ERANGE** | |
| **EONTAPI_ENXIO** | |
| **EONTAPI_EIO** | |
| **EVOLUMEOFFLINE** | |
| **EFILENOTFOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEQUIESCED** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# file-snaplock-retention-time-list-info

[top]

Get the Snaplock retention attributes for a list of files.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **pathnames** | | snaplock-pathname-info[] | List of pathnames to query. The function returns the file-retention-information for each of these pathnames. If this ZAPI function is called without any input parameter, the error EAPIMISSINGARGUMENT is returned If number of input pathnames exceeds max-list-entries an error of EAPITOOMANYENTRIES is returned. The value of max-list-entries can be retrieved using the zapi call file-get-snaplock-retention-time-list-info-max. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **file-retention-details** | | file-retention-info[] | information about retention period for each file in the list |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |

| EAPITOOMANYENTRIES | |
|---|---|

| Vfiler-enabled |
|---|
| Yes |

# snaplock-archive-vserver-log

[top]

Archive the active worm log file. This will close the current log file for furthur updates and it will open a new log file to write future log updates A job will be spawned to operate on the snaplock and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **base-name** | | string optional | Base Name of Log File |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EOFFLINE** | |
| **E_AUDIT_LOG_NOT_CONFIGURED** | |

# snaplock-create-vserver-log

[top]

Create audit log configuration for a Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **default-retention-period** | | snaplock-minmax-period optional | Specifies the allowed minimum retention period for SnapLock log files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in <number> <suffix>' format. Valid values of the suffix are :<br>• 'seconds'<br>• 'minutes'<br>• 'hours'<br>• 'days'<br>• 'months' |

| | | | |
|---|---|---|---|
| | | | • 'years'<br><br>For example, a value if **6months** represents a retention period of 6 months. |
| **max-log-size** | | size<br>optional | Max log file size (in bytes). |
| **volume** | | volume-name | Log Volume Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | snaplock-vserver-log-config<br>optional | The snaplock created (keys or the entire object if requested) |
| **result-error-code** | **[0..2^32-1]** | integer<br>optional | Error code, if the operation caused an error. |
| **result-error-message** | | string<br>optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer<br>optional | The ID of the job that was spawned to create this snaplock. |
| **result-status** | | string<br>optional | The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EOFFLINE** | |
| **E_AUDIT_LOG_ALREADY_CONFIGURED** | |
| **E_AUDIT_LOG_VOL_NOT_SLC** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| License |
|---|
| **SnapLock** |

# snaplock-destroy-vserver-log

[top]

Delete audit log configuration for a Vserver.

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EOFFLINE** | |

| |
|---|
| **E_AUDIT_LOG_ALREADY_CONFIGURED** |
| **EVSERVER_LOCKED_FOR_BASELINE** |
| **EVSERVER_OPERATION_NOT_PERMITTED** |

| **License** |
|---|
| **SnapLock** |

# snaplock-download-check-version

[top]

Check version being downloaded for snaplock compliance.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **version** | | string | The version of the kernel being installed |

# snaplock-event-retention-abort

[top]

The snaplock-event-retention-abort API can be used to abort an ongoing Event Based Retention operation. This API only aborts operations that have started and not finished. The operation ID of the operation must be specified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **operation-id** | **[0..2^32-1]** | integer | Operation ID of SnapLock Event Based Retention operation to be aborted. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |

# snaplock-event-retention-apply-start

[top]

The snaplock-event-retention-apply-start API can be used to apply an Event Based Retention policy to files present under the specified path. Use the snaplock-event-retention-show API to display the status of the operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **path** | | string | Path of the form '/' relative to output volume root. The Event Based Retention policy will be applied to all files under the path. |
| **policy-name** | | string | Name of the SnapLock Event Based Retention policy. |
| **volume** | | string | Name of the SnapLock Volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | **[0..2^32-1]** | integer | Operation ID of the SnapLock Event Based Retention operation. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |

# snaplock-event-retention-get-iter

[top]

This API can be used to display the status of an Event Based Retention operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snaplock-event-retention-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snaplock-event-retention-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock object. All snaplock objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snaplock-event-retention-info[] optional | The list of attributes of snaplock objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snaplock objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EONTAPI_ENOENT** | |

| | |
|---|---|
| **EONTAPI_EINVAL** | |

# snaplock-event-retention-policy-create

[top]

Create SnapLock Event Based Retention policies.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the SnapLock Event Based Retention policy. |
| **retention-period** | | snaplock-minmax-period | Retention period of the SnapLock Event Based Retention policy. |
| **return-record** | | boolean optional | If set to true, returns the snaplock-event-retention-policy on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | snaplock-event-retention-policy-info optional | The snaplock-event-retention-policy created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EDUPLICATEENTRY** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# snaplock-event-retention-policy-destroy

[top]

Delete SnapLock Event Based Retention policies.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the SnapLock Event Based Retention policy. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# snaplock-event-retention-policy-get-iter

[top]

Get SnapLock Event Based Retention policies.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snaplock-event-retention-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snaplock-event-retention-policy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock-event-retention-policy object. All snaplock-event-retention-policy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snaplock-event-retention-policy-info[] optional | The list of attributes of snaplock-event-retention-policy objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snaplock-event-retention-policy objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snaplock-event-retention-policy-modify

[top]

Modify SnapLock Event Based Retention policies.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the SnapLock Event Based Retention policy. |
| **retention-period** | | snaplock-minmax-period optional | Retention period of the SnapLock Event Based Retention policy. |

| Errno | Description |
|---|---|
| | |

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# snaplock-file-privileged-delete

[top]

Executes a privileged delete on a SnapLock file A job will be spawned to operate on the snaplock and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **file** | | string | Full path of the file that needs to be deleted |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EONTAPI_ENXIO** | |
| **EONTAPI_EIO** | |
| **EONTAPI_EINVAL** | |
| **EINTERNALERROR** | |
| **EAPIERROR** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EOFFLINE** | |
| **EONTAPI_ENOMEM** | |
| **EOPNOTSUPPORTED** | |
| **EONTAPI_EPERM** | |
| **EONTAPI_EACCES** | |
| **EONTAPI_EWORMNOCLOCK** | |

# snaplock-get-clock-ntp-sync

[top]

Display the NTP sync option setting.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snaplock-clock-ntp-sync optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snaplock-clock-ntp-sync | The attributes of the snaplock. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snaplock-get-compliance-clock

[top]

Older API to get the system complaince Clock time. Now depricated. Use snaplock-get-system-compliance-clock and snaplock-get-volume-compliance-clock.

| Errno | Description |
|---|---|
| **EAPINOTIMPLEMENTED** | |

# snaplock-get-file-retention

[top]

Get retention time of a file protected by SnapLock.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snaplock-file-retention-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **file** | | string | Specifies the absolute path of the file. The value begins with /vol/. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snaplock-file-retention-info | The attributes of the snaplock. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# snaplock-get-node-compliance-clock

[top]

Get the SnapLock Node ComplianceClock date and time.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Name of the node on which the ComplianceClock needs to be fetched. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snaplock-node-compliance-clock** | | compliance-clock-info | Node ComplianceClock |

| Errno | Description |
|---|---|
| **ESNAPLOCKNOTLICENSED** | |
| **ECOMPLIANCECLOCKNOTSET** | |

# snaplock-get-system-compliance-clock

[top]

Get the SnapLock System Compliance Clock date and time.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **system-compliance-clock** | | compliance-clock-info | System Compliance Clock. |

| Errno | Description |
|---|---|
| **EONTAPI_EWORMVOLNOTWORM** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snaplock-get-volume-compliance-clock

[top]

Get the SnapLock Volume Compliance Clock date and time.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume whose ComplianceClock needs to be obtained. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **system-compliance-clock** | | compliance-clock-info | System Compliance Clock. |
| **volume-compliance-clock** | | compliance-clock-info | Volume Compliance Clock for input volume list. |

| Vfiler-enabled |
|---|
| |

| Yes |
|---|

# snaplock-get-vserver-active-log-files-iter

[top]

Display Status of Active SnapLock Log Files.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snaplock-vserver-log-file optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snaplock-vserver-log-file optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock object. All snaplock objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snaplock-vserver-log-file[] optional | The list of attributes of snaplock objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snaplock objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snaplock-get-vserver-log-iter

[top]

Display audit Log configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snaplock-vserver-log-config optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | snaplock-vserver- | A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock object. All |

| | | | |
|---|---|---|---|
| **query** | | log-config optional | snaplock objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snaplock-vserver-log-config[] optional | The list of attributes of snaplock objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snaplock objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snaplock-legal-hold-abort

[top]

This API is used to abort an ongoing legal-hold operation. This API only aborts legal-hold operations that have started and not finished. The operation ID of the legal-hold operation must be specified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **operation-id** | **[0..2^32-1]** | integer | Operation ID of snaplock legal-hold operation. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **EONTAPI_ENOENT** | |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# snaplock-legal-hold-begin-start

[top]

This API starts an operation to put files in user specified path under legal-hold. The progress of the operation can be monitored using snaplock-legal-hold-get-iter api.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **litigation-name** | | string | Name of the litigation. |
| **path** | | string | Path of the form '/' relative to volume root. Legal-hold operation will be performed on all files under this path. |
| **volume** | | string | Name of the SnapLock compliance volume, on which legal-hold |

| | | | |
|---|---|---|---|
| | | | operation is to be performed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | **[0..2^32-1]** | integer | Operation ID of the legal-hold operation. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVSERVERNOTFOUND** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |

# snaplock-legal-hold-dump-files-start

[top]

Dump the list of files under legal hold for a given volume and litigation to a user specified output path. The progress of the operation can be monitored using snaplock-legal-hold-get-iter api.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **litigation-name** | | string | Name of the litigation, for which the list of files is to be dumped. |
| **output-directory-path** | | string | Path of the form '/' relative to output volume root, where list of files is to be dumped. |
| **output-volume** | | string | Name of the output volume, containing the path where list of files is to be dumped. |
| **volume** | | string | Name of the SnapLock compliance volume, for which the list of files is to be dumped. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | **[0..2^32-1]** | integer | operation ID of Dump Files Operation |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVSERVERNOTFOUND** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |

# snaplock-legal-hold-dump-litigations-start

[top]

Dump the list of litigations to a user specified output path. The progress of the operation can be monitored using job-get api. A job will be spawned to operate on the snaplock and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **output-directory-path** | | string | Path of the form '/' relative to volume root, where list of litigations is to be dumped. |
| **output-volume** | | string | Name of the output volume, containing the path where list of litigations is to be dumped. |
| **volume** | | string optional | Name of the SnapLock compliance volume for which the list of litigations is to be dumped. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVSERVERNOTFOUND** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EINVAL** | |

# snaplock-legal-hold-end-start

[top]

This API starts an operation to release legal-hold on files in user specified path. The progress of the operation can be monitored using snaplock-legal-hold-get-iter api.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **litigation-name** | | string | Name of the litigation. |
| **path** | | string | Path of the form '/' relative to volume root. Legal-hold operation will be performed on all files under this path. |
| **volume** | | string | Name of the SnapLock compliance volume, on which legal-hold operation is to be performed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | **[0..2^32-1]** | integer | Operation ID of the legal-hold operation. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EVOLUMENOTONLINE | |
| EVOLUMEDOESNOTEXIST | |
| EVSERVERNOTFOUND | |
| EONTAPI_ENOENT | |
| EONTAPI_EINVAL | |

# snaplock-legal-hold-get-iter

[top]

This API is used to retrieve the status of legal-hold operations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | snaplock-legal-hold-attributes-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | snaplock-legal-hold-attributes-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snaplock object. All snaplock objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | snaplock-legal-hold-attributes-info[] optional | The list of attributes of snaplock objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more snaplock objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EVOLUMENOTONLINE | |
| EVOLUMEDOESNOTEXIST | |
| EVSERVERNOTFOUND | |
| EONTAPI_ENOENT | |

| | |
|---|---|
| **EONTAPI_EINVAL** | |

# snaplock-modify-clock-ntp-sync

[top]

Modify the NTP sync option.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-sync-enabled** | | boolean optional | Specifies whether the ComplianceClock can be synced to the system time when NTP has been configured |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |

# snaplock-modify-vserver-log

[top]

Modify audit log configuration for a Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **default-retention-period** | | snaplock-minmax-period optional | Specifies the allowed minimum retention period for SnapLock log files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in <number> <suffix>' format. Valid values of the suffix are :<br>• 'seconds'<br>• 'minutes'<br>• 'hours'<br>• 'days'<br>• 'months'<br>• 'years'<br>For example, a value if **6months** represents a retention period of 6 months. |
| **max-log-size** | | size optional | Max log file size (in bytes). |
| **volume** | | volume-name optional | Log Volume Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the modification operation caused an error. |
| **result-error-message** | | string optional | Error description, if the modification operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EONTAPI_ENOENT | |
| EONTAPI_EINVAL | |
| EONTAPI_EOFFLINE | |
| E_AUDIT_LOG_NOT_CONFIGURED | |
| E_AUDIT_LOG_VOL_NOT_SLC | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

| License |
|---|
| SnapLock |

# snaplock-set-file-retention

[top]

Set retention time of a file. User can specify either retention-time or set-infinite-retention or set-unspecified-retention. If none of the retention time parameters are specified, the file will get committed to WORM with default retention period.

| Input Name | Range | Type | Description |
|---|---|---|---|
| file | | string | Specifies the absolute path of the file. The value begins with /vol/. |
| retention-time | | integer optional | Specifies the retention time of the file in seconds since 1 January 1970 00:00:00. |
| set-infinite-retention | | boolean optional | Indicates if the retention time on the file needs to be extended to infinite retention time. |
| set-unspecified-retention | | boolean optional | Indicates that the retention time is unspecified. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |
| EONTAPI_ENOENT | |
| EONTAPI_EINVAL | |
| EONTAPI_EOFFLINE | |
| E_AUDIT_LOG_NOT_CONFIGURED | |

# snaplock-set-node-compliance-clock

[top]

Set the ComplianceClock of the node equal to the current system clock.

| Input Name | Range | Type | Description |
|---|---|---|---|
| node | | node-name | Name of the node on which the ComplianceClock needs to be set. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **ESNAPLOCKNOTLICENSED** | |
| **EALREADYSTARTED** | |
| **ECOMPLIANCECLOCKNOTSET** | |
| **EONTAPI_EIO** | |

# snaplock-set-system-compliance-clock

[top]

Set the Compliance Clock of the system equal to the current system clock.

| Errno | Description |
|---|---|
| **ESNAPLOCKNOTLICENSED** | |
| **EALREADYSTARTED** | |
| **ECOMPLIANCECLOCKNOTSET** | |
| **EONTAPI_EIO** | |

# snaplock-volume-set-privileged-delete

[top]

The volume-set-privileged-delete API is used to set the SnapLock privileged-delete attibute on a Snaplock enterprise volume. The privileged-delete attibute can be set to one of the following values:

- enabled
- disabled
- permanently-disabled

If privileged-delete is 'enabled' on a SnapLock enterprise volume, the user is allowed to perform privileged-delete operation on that volume. If privileged-delete is set to 'disabled' on a SnapLock enterprise volume, the user is not allowed to perform privileged-delete operation on that volume. If privileged-delete is 'permanently-disabled' on a SnapLock enterprise volume, the user is not allowed to perform privileged-delete operation or further change the privileged-delete attribute on that volume. A job will be spawned to operate on the snaplock and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **state** | | string | Privileged-delete attribute on the SnapLock enterprise volume. The privileged-delete can be set to one of the following:<br>• enabled<br>• disabled<br>• permanently-disabled |
| **volume** | | string | Specifies the name of the SnapLock enterprise volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| | **[0..2^64-** | integer | |

| | | | |
|---|---|---|---|
| **result-jobid** | **1]** | optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **EONTAPI_ENOENT** | |
| **EONTAPI_EIO** | |
| **EONTAPI_EOFFLINE** | |
| **EINTERNALERROR** | |

| License |
|---|
| **SnapLock** |

# volume-get-snaplock-attrs

[top]

Returns snaplock attributes of a given snaplock volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | volume-name | Name of the snaplock volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snaplock-attrs** | | snaplock-attrs-info | Snaplock attributes of the volume. |

# volume-set-snaplock-attrs

[top]

Sets the given snaplock attributes of a snaplock volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **autocommit-period** | | snaplock-autocommit-period optional | Specifies the autocommit-period for the snaplock volume. All files which are not modified for a period greater than the autocommit-period of the volume are committed to WORM state. This option can be specified as a number followed by suffix in "" format. Valid values of the suffix are :<br>• "minutes"<br>• "hours"<br>• "days"<br>• "months"<br>• "years"<br>For example, a value if **2hours** represents a autocommit period of 2 hours. This option can also be specified as "none" indicating that autocommit is disabled on the snaplock volume Attributes: non-creatable, modifiable |
| | | | Specifies the default retention period that will be applied to files when committed to WORM state if files has no explicit retention |

| | | | |
|---|---|---|---|
| **default-retention-period** | | snaplock-default-period optional | retention time set. If this option is specified as "min", then minimum-retention-period will be used as the default retention period. If this option is specified as "max", then maximum-retention-period will be used as the default retention period. If this attribute is specified as "infinite", the infinite retention period as the default retention period. If this attribute is specified as "unspecified", then unspecified retention period will be set as default retention period. This option can also be specified as a number followed by suffix in "" format. Valid values of the suffix are :<br>• "seconds"<br>• "minutes"<br>• "hours"<br>• "days"<br>• "months"<br>• "years"<br>For example, a value if **6months** represents a retention period of 6 months. Attributes: non-creatable, modifiable |
| **is-volume-append-mode-enabled** | | boolean optional | Specifies if the volume append mode must be enabled or disabled. It can be modified only when the volume is not mounted and does not have any data or Snapshot copy. Volume append mode is not supported on SnapLock audit log volumes. When it is enabled, all files created with write permissions on the volume will be WORM appendable files by default. All WORM appendable files not modified for a period greater than the autocommit period of the volume are also committed to WORM read-only state. Attributes: non-creatable, modifiable |
| **maximum-retention-period** | | snaplock-minmax-period optional | Specifies the allowed maximum retention period for files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in "" format. Valid values of the suffix are :<br>• "seconds"<br>• "minutes"<br>• "hours"<br>• "days"<br>• "months"<br>• "years"<br>For example, a value if **6months** represents a retention period of 6 months. This option can also be specified as "infinite" indicating that files will have maximum retention period as infinite. This attribute is not applicable while extending retention period of an already committed WORM file. Attributes: non-creatable, modifiable |
| **minimum-retention-period** | | snaplock-minmax-period optional | Specifies the allowed minimum retention period for files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in "" format. Valid values of the suffix are :<br>• "seconds"<br>• "minutes"<br>• "hours"<br>• "days"<br>• "months"<br>• "years"<br>For example, a value if **6months** represents a retention period of 6 months. This option can also be specified as "infinite" indicating that files will have minimum retention period as infinite. This attribute is not applicable while extending retention period of an already |

| | | | |
|---|---|---|---|
| | | | committed WORM file. Attributes: non-creatable, modifiable |
| **volume** | | volume-name | Name of the snaplock volume. |

## Element definition: **compliance-clock-info**

[top]

Compliance Clock

| Name | Range | Type | Description |
|---|---|---|---|
| **formatted-snaplock-compliance-clock** | | string | If Compliance Clock is initialized then human readable time :: is displayed. A value of "Not Initalized" indicates that Compliance Clock has not been initialized. |
| **snaplock-compliance-clock** | | integer optional | If Compliance Clock is initialized then time in seconds in the standard UNIX format (since 01/01/1970 00:00:00) is displayed. Range:[0..2^64-1]. |

## Element definition: **file-retention-info**

[top]

retention information for each file

| Name | Range | Type | Description |
|---|---|---|---|
| **formatted-retention-time** | | string optional | expiry date of the worm file formatted in a human-readable format. This takes care of wrap-around dates and prints the expiry date of the file in the the format :: A value of "INFINITE" indicates that this file has infinite retention-time. A value of "unspecified" indicates that this file has unspecified retention-time. This field is not included in non-worm files (when snaplock-type is NONE). |
| **is-wraparound** | | boolean optional | True if the date represented in retention-time is a wrap-around date. This field is not included in case the file is not a worm file or if it has infinite retention. |
| **pathname** | | string | pathname of the file. This will always have the same format and values as the input pathname-info array. |
| **retention-time** | | integer optional | retention time in seconds in the standard UNIX format (since 01/01/1970 00:00:00). SnapLock wraps around the retention time to indicate dates after 01/19/2038. It remaps 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071 This field is not included in case the file is not a worm file or if the file has infinite retention. The flag is-wraparound indicates if this date is in the normal format or is wrapped around. The field formatted-retention-time represents the date as understood by SnapLock for retention of the file. Range: [0..2^64-1] |
| **snaplock-error** | | snaplock-error optional | This value is only present if there is an error for a specific pathname entry. Error numbers returned EFILENOTFOUND, EINVALIDINPUTERROR, EVOLUMEOFFLINE, EVOLUMEDOESNOTEXIST, EVOLUMEQUIESCED, EINTERNALERROR |
| **snaplock-type** | | string optional | type of snaplock license applicable for this file Possible values "SLC" - indicates it is a worm file with snaplock compliance restrictions applying to it. "SLE" - indicates it is a worm file with snaplock enterprise restrictions applying to it. "NONE" - Not a worm file |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **snaplock-attrs-info**

[top]

SnapLock Attributes

| Name | Range | Type | Description |
|---|---|---|---|
| **autocommit-period** | | snaplock-autocommit-period optional | Specifies the autocommit period for the SnapLock volume. All files which are not modified for a period greater than the autocommit period of the volume are committed to WORM state. Attributes: non-creatable, modifiable |
| **default-retention-period** | | snaplock-default-period optional | Specifies the default retention period that will be applied to files when committed to WORM state if files has no explicit retention retention time set. Attributes: non-creatable, modifiable |
| **is-audit-log-volume** | | boolean optional | Specifies if volume is a SnapLock audit volume. Attributes: non-creatable, non-modifiable |
| **is-volume-append-mode-enabled** | | boolean optional | Specifies if the volume append mode is enabled or disabled. Attributes: non-creatable, modifiable |
| **is-volume-expiry-time-indefinite** | | boolean optional | Indicates if the volume expiry time is indefinite or not. Attributes: non-creatable, non-modifiable |
| **is-volume-expiry-time-infinite** | | boolean optional | Indicates if the volume expiry time is infinite or not. Attributes: non-creatable, non-modifiable |
| **litigation-count** | | string optional | Specifies the number of litigations on Snaplock Volume. Attributes: non-creatable, non-modifiable |
| **maximum-retention-period** | | snaplock-minmax-period optional | Specifies the allowed maximum retention period for files to be committed to WORM state on the volume. Attributes: non-creatable, modifiable |
| **minimum-retention-period** | | snaplock-minmax-period | Specifies the allowed minimum retention period for files to be committed to WORM state on the volume. Attributes: non-creatable, modifiable |

| | | | |
|---|---|---|---|
| | | optional | |
| **privileged-delete-state** | | string optional | Specifies the prvileged delete state on Snaplock Volume. |
| **type** | | snaplocktype optional | SnapLock Type of the given volume. Attributes: non-creatable, non-modifiable Possible values:<br>• "non_snaplock" ,<br>• "compliance" ,<br>• "enterprise" |
| **unspecified-retention-file-count** | | string optional | Specifies the number of files with unspecified retention time. Attributes: non-creatable, non-modifiable |
| **volume-compliance-clock** | | compliance-clock-info optional | Specifies the volume ComplianceClock of the volume. Attributes: non-creatable, non-modifiable |
| **volume-expiry-time** | | string optional | Specifies the expiry time of the volume. Attributes: non-creatable, non-modifiable |
| **volume-expiry-time-secs** | | integer optional | Specifies the expiry time of the volume in seconds. if the expiry time is infinite or indefinite, then no value will be returned. Attributes: non-creatable, non-modifiable |

# Element definition: **snaplock-autocommit-period**

[top]

Snaplock Autocommit Period

[none]

# Element definition: **snaplock-clock-ntp-sync**

[top]

Information about ComplianceClock sync setting. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-sync-enabled** | | boolean optional | Specifies whether the ComplianceClock can be synced to the system time when NTP has been configured Attributes: non-creatable, modifiable |

# Element definition: **snaplock-default-period**

[top]

Snaplock default retention period

[none]

# Element definition: **snaplock-event-retention-info**

[top]

SnapLock Event Based Retention operation information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **num-files-failed** | **[0..2^32-1]** | integer optional | Number of files on which the application of Event Based Retention policy failed. Attributes: non-creatable, non-modifiable |
| **num-files-processed** | **[0..2^32-1]** | integer optional | Number of files on which the Event Based Retention policy has been applied successfully. Attributes: non-creatable, non-modifiable |
| **num-files-skipped** | **[0..2^32-1]** | integer optional | Number of files on which the application of Event Based Retention policy was skipped. Attributes: non-creatable, non-modifiable |
| **num-inodes-ignored** | **[0..2^32-1]** | integer optional | The total count of inodes which were ignored during application of Event Based Retention policy because they are not regular files. Attributes: non-creatable, non-modifiable |
| **operation-id** | **[0..2^32-1]** | integer optional | Operation ID of SnapLock Event Based Retention operation. Attributes: key, non-creatable, non-modifiable |
| **operation-status** | | wormopstatus optional | Status of the SnapLock Event Based Retention operation. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "in_progress" ,<br>• "failed" ,<br>• "aborting" ,<br>• "completed" |
| **path** | | string optional | Path of the form '/' relative to output volume root. The Event Based Retention policy will be applied to all files under the path. Attributes: non-creatable, non-modifiable |
| **policy-name** | | string optional | Name of the SnapLock Event Based Retention policy. Attributes: non-creatable, non-modifiable |
| **retention-period** | | snaplock-minmax-period optional | Retention period of the SnapLock Event Based Retention policy. Attributes: non-creatable, non-modifiable |
| **status-details** | | string optional | Status details of the SnapLock Event Based Retention operation. Attributes: non-creatable, non-modifiable |
| **volume** | | volume-name optional | Name of the SnapLock Volume. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Name of the Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **snaplock-event-retention-policy-info**

[top]

Information about SnapLock Event Based Retention policies. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | Name of the SnapLock Event Based Retention policy. Attributes: key, required-for-create, non-modifiable |
| **retention-period** | | snaplock-minmax-period optional | Retention period of the SnapLock Event Based Retention policy. Attributes: required-for-create, modifiable |
| **vserver** | | vserver-name optional | Name of the Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **snaplock-file-retention-info**

[top]

Information about retention time of a file protected by SnapLock. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **file** | | string optional | Specifies the absolute path of the file. The value begins with /vol/. Attributes: key, non-creatable, non-modifiable |
| **formatted-retention-time** | | string optional | Specifies the expiry date of the file in a human-readable format. This takes care of wraparound dates and prints the expiry date of the file in the format :: in GMT timezone. A value of 'infinite' indicates that this file has infinite retention time. A value of 'indefinite' indicates that this file has indefinite retention time. A value of 'unspecified' indicates that this file has unspecified retention time. Attributes: non-creatable, non-modifiable |
| **is-wraparound** | | boolean optional | Specifies the value true if the date represented in retention time is in wraparound format. The wraparound format indicates that dates after 19 January 2038 are mapped from 1 January 1970 - 31 December 2002 to 19 January 2038 - 19 January 2071. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **retention-time** | **[0..2^64-1]** | integer optional | Specifies the retention time of the file in seconds since 1 January 1970 00:00:00. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Specifies the name of the Vserver which has the file. Attributes: key, non-creatable, non-modifiable |

# Element definition: **snaplock-legal-hold-attributes-info**

[top]

SnapLock legal-hold attributes. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **litigation-name** | | string optional | Name of the litigation. Attributes: non-creatable, non-modifiable |
| **num-files-failed** | **[0..2^32-1]** | integer optional | The total count of files for which legal-hold operation failed. Attributes: non-creatable, non-modifiable |
| **num-files-processed** | **[0..2^32-1]** | integer optional | The total count of files for which legal-hold operation was performed. Attributes: non-creatable, non-modifiable |
| **num-files-skipped** | **[0..2^32-1]** | integer optional | The total count of files for which legal-hold operation was skipped. Attributes: non-creatable, non-modifiable |
| **num-inodes-ignored** | **[0..2^32-1]** | integer optional | The total count of inodes which were ignored by legal-hold operation because they are not regular files. Attributes: non-creatable, non-modifiable |
| **operation-id** | **[0..2^32-1]** | integer optional | Operation ID of the legal-hold operation. Attributes: key, non-creatable, non-modifiable |
| **operation-status** | | wormopstatus optional | Status of the legal-hold operation. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "in_progress" ,<br>• "failed" ,<br>• "aborting" ,<br>• "completed" |
| **operation-type** | | wormlegalop optional | Type of the legal-hold operation. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "begin" ,<br>• "end" ,<br>• "dump_files" |
| **path** | | string optional | Path of the form '/' relative to volume root. Attributes: non-creatable, non-modifiable |
| **status-details** | | string optional | Completion string of the legal-hold operation. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **volume** | | volume-name optional | Name of the SnapLock compliance volume, on which legal-hold operation is running. Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Name of the vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **snaplock-minmax-period**

[top]

SnapLock Min and Max retention period

[none]

# Element definition: **snaplock-pathname-info**

[top]

pathname info for each file

| Name | Range | Type | Description |
|---|---|---|---|
| **snaplock-pathname** | | string | pathname of the file. Pathname must be of the format /vol// |

# Element definition: **snaplock-vserver-log-config**

[top]

Information about Audit log congfiguration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **default-retention-period** | | snaplock-minmax-period optional | Specifies the allowed minimum retention period for SnapLock log files to be committed to WORM state on the volume. This option can be specified as a number followed by suffix in <number><suffix>' format. Valid values of the suffix are :<br>• 'seconds'<br>• 'minutes'<br>• 'hours'<br>• 'days'<br>• 'months'<br>• 'years'<br><br>For example, a value if **6months** represents a retention period of 6 months. Attributes: optional-for-create, modifiable |
| **max-log-size** | | size optional | Max log file size (in bytes). Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **volume** | | volume-name optional | Log Volume Name Attributes: required-for-create, modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **snaplock-vserver-log-file**

[top]

Information about Audit log file. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **base-name** | | snaplock-log-base optional | Base Name of Log File Attributes: key, non-creatable, non-modifiable<br>Possible values:<br>• "privileged_delete" ,<br>• "system" ,<br>• "legal_hold" |
| **expiry-time** | | string optional | Log File Expiry Time Attributes: non-creatable, non-modifiable |
| **file-path** | | string optional | Log File Path Attributes: non-creatable, non-modifiable |
| **file-size** | | size optional | File Size Attributes: non-creatable, non-modifiable |
| **volume** | | volume-name optional | Log Volume Name Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

## Element definition: **compliance-clock-info** [top]

Compliance Clock

| Name | Range | Type | Description |
|---|---|---|---|
| **formatted-snaplock-compliance-clock** | | string | If Compliance Clock is initialized then human readable time :: is displayed. A value of "Not Initalized" indicates that Compliance Clock has not been initialized. |
| **snaplock-compliance-clock** | | integer optional | If Compliance Clock is initialized then time in seconds in the standard UNIX format (since 01/01/1970 00:00:00) is displayed. Range:[0..2^64-1]. |

## Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **snaplock-error** [top]

Information about a single quota error.

| Name | Range | Type | Description |
|---|---|---|---|
| **errno** | | integer | The error number Range: [0..2^64-1] |
| **reason** | | string | A human-readable concise reason for the error. |

## Element definition: **snaplock-log-base** [top]

privileged-delete | system | legal-hold Possible values:

- "privileged_delete" ,
- "system" ,
- "legal_hold"

[none]

## Element definition: **snaplock-minmax-period** [top]

SnapLock Min and Max retention period

[none]

## Element definition: **snaplocktype** [top]

non-snaplock|compliance|enterprise Possible values:

- "non_snaplock" - Non SnapLock,
- "compliance" - SnapLock Compliance,
- "enterprise" - SnapLock Enterprise

[none]

## Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

## Element definition: **wormlegalop** [top]

unknown|begin|end|dump-files Possible values:

- "unknown" ,
- "begin" ,
- "end" ,
- "dump_files"

[none]

## Element definition: **wormopstatus** [top]

Unknown|In-Progress|Failed|Aborting|Completed Possible values:

- "unknown" ,
- "in_progress" ,
- "failed" ,
- "aborting" ,
- "completed"

[none]

# APIs in Category: **snapmirror**


snapmirror-abort
snapmirror-abort-async
snapmirror-abort-iter
snapmirror-break
snapmirror-break-async
snapmirror-break-iter
snapmirror-capabilities-get
snapmirror-capabilities-get-iter
snapmirror-check
snapmirror-check-iter
snapmirror-config-replication-cluster-storage-configuration-get
snapmirror-config-replication-cluster-storage-configuration-modify
snapmirror-cr-status-aggregate-eligibility-get
snapmirror-cr-status-aggregate-eligibility-get-iter
snapmirror-cr-status-comm-get
snapmirror-cr-status-comm-get-iter
snapmirror-cr-status-get
snapmirror-create
snapmirror-delete-connection
snapmirror-delete-schedule
snapmirror-delete-sync-schedule
snapmirror-destroy
snapmirror-destroy-async
snapmirror-destroy-iter
snapmirror-get
snapmirror-get-destination
snapmirror-get-destination-iter
snapmirror-get-dp-personality
snapmirror-get-iter
snapmirror-get-status
snapmirror-get-total-records
snapmirror-get-volume-status


This set of APIs allows to manage SnapMirror relationships on Data ONTAP operating in 7-Mode or in Cluster-Mode. This includes the creation, initialization, update, resynchronization, modification of configuration parameters, and information query.

The user's role determines the APIs that can be issued. In general APIs that simply query status information about SnapMirror relationships only require that the user has read access. APIs that modify the state of the system require write access. This includes creation, destruction, modification or update of relationships.

A valid SnapMirror license is necessary to be able to use APIs that create, initialize, or destroy SnapMirror relationships. Most of the APIs require that you specify at least one of the endpoints of the SnapMirror relationship. On Data ONTAP operating in 7-Mode, the endpoint can be a volume or a qtree. On Data ONTAP operating in Cluster-Mode the endpoint can only be a volume.

An endpoint can be specified by providing its location in a path format. The format depends on the version of Data ONTAP and the mode it is operating in:

On Data ONTAP operating in 7-Mode the format is: <system>:/vol/<volume>[/<qtree>] where 'system' is the name of the storage system; 'volume' is the name of the volume, and 'qtree' the name of the qtree.

On Data ONTAP 8.1 operating in Cluster-Mode, the format is: [<cluster>:]//<vserver>/<volume> where 'cluster' is the name of the cluster, 'vserver' the name of the Vserver, 'volume' is the name of the volume.

On Data ONTAP 8.2 or later operating in Cluster-Mode, the format of the path is: [<vserver>:]<volume> where 'vserver' is the name of the Vserver, 'volume' is the name of the volume. Note that this requires the Vserver peering capability, which handles the mapping of a Vserver to the right cluster. The control plane for these relationship is specific to Data ONTAP 8.2 and later. The progress of long operations such as initialize, update, resync, or restore is monitored via the snapmirror-get API. The relationship-control-plane field is set to 'v2'. For backward compatibility with Data ONTAP 8.1 operating in Cluster-Mode, and to accommodate load-sharing relationships which are only supported in a Data ONTAP 8.1 compatible way, the relationships that match one of the following conditions are managed as on Data ONTAP 8.1 operating Cluster-Mode. The control plane of these relationships is compatible with Data ONTAP 8.1 operating Cluster-Mode.

- Load-sharing relationship.
- Cross-cluster relationship with the source endpoint on Data ONTAP 8.1 operating in Cluster-Mode.
- Relationship existed before the local cluster was upgraded from Data ONTAP 8.1 operating in Cluster-Mode and has not yet been converted to one with Data ONTAP 8.2 capabilities.

snapmirror-history-get
snapmirror-history-get-iter
snapmirror-initialize
snapmirror-initialize-iter
snapmirror-initialize-ls-set
snapmirror-list-connections
snapmirror-list-destinations
snapmirror-list-schedule
snapmirror-list-sync-schedule
snapmirror-list-unprotected
snapmirror-modify
snapmirror-modify-iter
snapmirror-off
snapmirror-on
snapmirror-promote
snapmirror-promote-iter
snapmirror-protect
snapmirror-quiesce
snapmirror-quiesce-iter
snapmirror-release
snapmirror-release-iter
snapmirror-restore
snapmirror-resume
snapmirror-resume-iter
snapmirror-resync
snapmirror-resync-iter
snapmirror-set-connection
snapmirror-set-schedule
snapmirror-set-sync-schedule
snapmirror-snapshot-owner-create
snapmirror-snapshot-owner-destroy
snapmirror-snapshot-owner-get
snapmirror-snapshot-owner-get-snapshots
snapmirror-throttle
snapmirror-update
snapmirror-update-iter
snapmirror-update-ls-set

The path format of Data ONTAP 8.1 operating in Cluster-Mode must be used. Long operations such as initialize, update, resync, restore spawn a job. The job API must be used to track the progress of the operation. The relationship-control-plane field is set to 'v1' for these relationships. On Data ONTAP operating in Cluster-Mode, it is also possible to specify the endpoint by providing the names of the cluster, Vserver, and volume of the endpoint separately.

In general it is mandatory to specify the destination endpoint.

Beginning with ONTAP 9.1, you can no longer create new load-sharing mirrors for data volumes. Existing load-sharing mirrors for data volumes are supported through the ONTAP 9.4 release. Load-sharing mirrors for Vserver root volume protection continue to be supported as a NetApp best practice.

# snapmirror-abort

[top]

The snapmirror-abort API stops ongoing transfers for a SnapMirror relationship. The relationship is identified by its destination endpoint. You must specify the destination endpoint when using snapmirror-abort. On Data ONTAP operating in Cluster-Mode, the snapmirror-abort API stops all of the active transfers to each associated volume on the receiving side in a set of load-sharing mirrors. Load-sharing mirrors are either up to date and serving data to clients, or they are lagging and not serving data to clients. If the snapmirror-abort API identifies an up-to-date load-sharing mirror, then SnapMirror transfers to associated up-to-date load-sharing mirrors in the set of load-sharing mirrors are also aborted. If the snapmirror-abort API identifies a lagging load-sharing mirror, then only the SnapMirror transfer associated with the lagging load-sharing mirror is aborted. After the snapmirror-abort API successfully completes its operation, the volume on the receiving side of the transfer might contain a restart checkpoint. The restart checkpoint can be used by a subsequent transfer to restart and continue the aborted SnapMirror transfer. Snapmirror-abort API must be used from the destination storage system on Data ONTAP operating in 7-Mode, from the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, from the destination Vserver or cluster on Data ONTAP 8.2 or later operating in Cluster-Mode.

This API is not supported if the destination end point is an Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **check-only** | | boolean optional | If this option is specified true, only snapmirror-check operations active on the relationship will be aborted. |
| **clear-checkpoint** | | boolean optional | If true, the restart checkpoint is cleared. The default is false, not cleared. This parameter is not supported for relationships with non_Data ONTAP endpoints. |
| **destination-cluster** | | string optional | Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination endpoint.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint.<br><br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume. This parameter is mandatory on Data ONTAP operating in 7-mode. This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. |
| | | | Specifies the destination volume of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified: |

| | | | |
|---|---|---|---|
| **destination-volume** | | string optional | • The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br><br>• The name of the destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory if destination-location is not specified. |
| **source-cluster** | | string optional | Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. This parameter is not supported if the source is a non-Data ONTAP endpoint. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the following formats:<br><br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source endpoint.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source endpoint.<br><br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume. |
| **source-volume** | | string optional | Specifies the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br><br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-vserver** | | string optional | Specifies the source Vserver of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br><br>• The name of the source volume. |

| | | | |
|---|---|---|---|
| | | | • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | | string optional | Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. |

| Errno | Description |
|---|---|
| **ESNAPMIRRORERR** | |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EDEST_ISNOT_LS_VOLUME** | |
| **EANOTHER_OP_ACTIVE** | |
| **ENOTRANSFER_IN_PROGRESS** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapmirror-abort-async

[top]

The snapmirror-abort-async API stops ongoing transfer for a SnapMirror relationship on Infinite Volume. The relationship is identified by its destination endpoint. You must specify the destination endpoint when using the snapmirror-abort-async API. The destination endpoint could be a

- Infinte volume in case of a SnapMirror relationship between Infinite volumes.
- Vserver in case of a Vserver level SnapMirror relationship on Data ONTAP 8.3 or later.

Snapmirror-abort-async API must be used from the destination cluster on Data ONTAP Cluster-Mode. For Infinite volume SnapMirror relationships,

- after the snapmirror-abort-async API successfully aborted the transfer, the volume on the receiving side of the transfer might contain a restart checkpoint. The restart checkpoint can be used by a subsequent transfer to restart and continue the aborted SnapMirror transfer.
- this API is not supported if the destination end point is a flexible volume or an Infinite Volume constituent.

A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **check-only** | | boolean optional | If this option is specified true, only snapmirror-check operations active on the relationship will be aborted. |
| | | | If this option is specified true, the restart checkpoint is discarded and the destination volume is restored to the last Snapshot copy |

| | | | |
|---|---|---|---|
| **clear-checkpoint** | | boolean optional | that was successfully transferred. You can use the clear-checkpoint option to discard the restart checkpoint of a previous transfer attempt which forces the subsequent transfer to start with a fresh Snapshot copy on the destination volume. This parameter is not supported for relationships with non-Data ONTAP endpoints. |
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| | | | |

| | | | |
|---|---|---|---|
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **source-cluster** | | string optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br><br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |

| | | | |
|---|---|---|---|
| | | | • This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE** | |
| **EVSERVERDR_QUEUEING_TO_PROCESS_FAILED** | |

# snapmirror-abort-iter

[top]

The snapmirror-abort-iter API aborts SnapMirror transfers for one or more SnapMirror relationships. This API is not supported on Infinite Volume constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **check-only** | | boolean optional | If this option is specified true, only snapmirror-check operations active on the relationship will be aborted. |
| **clear-checkpoint** | | boolean optional | If this option is specified true, the restart checkpoint is discarded and the destination volume is restored to the last Snapshot copy that was successfully transferred. You can use the clear-checkpoint option to discard the restart checkpoint of a previous transfer attempt which forces the subsequent transfer to start with a fresh Snapshot copy on the destination volume. This |

| | | | |
|---|---|---|---|
| | | | parameter is not supported for relationships with non-Data ONTAP endpoints. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-abort-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed. |
| **success-list** | | snapmirror-abort-iter-info[] optional | The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-break

[top]

Breaks a SnapMirror relationship between a source and destination volume data protection mirror. When Data ONTAP breaks the relationship, the destination volume is made a read-write volume and can diverge from the source volume, client redirection is turned off on the destination volume, the restart checkpoint is cleared, and the clients can see the latest Snapshot copy.

On Data ONTAP operating in 7-Mode, no check is done to determine whether the operation is legal or successful. You need to query the status afterward by using the snapmirror-get-status API.

Subsequent manual or scheduled SnapMirror updates to the broken relationship will fail until the SnapMirror relationship is re-established using the snapmirror-resync API.

On Data ONTAP operating in Cluster-Mode, this API applies only to data protection mirrors and not to load-sharing mirrors.

The snapmirror-break API must be issued on destination storage system on Data ONTAP operating in 7-Mode, and on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and on the destination cluster or Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

This API is not supported if the destination end point is an Infinite Volume.

This API is not supported if the destination is a non-Data ONTAP endpoint.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume. On Data ONTAP operating in 7-Mode, If the destination endpoint is a qtree, it must be quiesced using snapmirror-quiesce. This parameter is mandatory on Data ONTAP 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. |
| **destination-volume** | | string optional | Specifies the destination volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'. |

| | | | |
|---|---|---|---|
| | | | This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the destination Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br>• The name of the destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory if destination-location is not specified. |
| **recover** | | boolean optional | When a SnapMirror break operation fails on a FlexGroup relationship, a subset of the consituents could have been made writable and subsequently user data could have been written to these constituents. To recover from this failure, the break command can be executed again specifying the recover parameter. All constituents will be restored to the latest Snapshot copy, and any writes to the read-write constituents will be lost. This parameter is applicable only for SnapMirror relationships with FlexGroup endpoints. This field only applies on Data ONTAP 9.1 or later. |
| **restore-destination-to-snapshot** | | string optional | Specifies the Snapshot copy to which the destination volume is restored after a successful break operation. If the parameter is not specified, the destination is restored to the latest Snapshot copy. This parameter is not supported for FlexGroup relationships. |
| **source-cluster** | | string optional | Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. |
| **source-location** | | string optional | Specifies source endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br><br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume. |
| **source-volume** | | string optional | Specifies the source volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-vserver** | | string optional | Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br>• The name of the source volume.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster- |

| | | | |
|---|---|---|---|
| | | | Mode if the relationship control plane is 'v1'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | | string optional | Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. |

| Errno | Description |
|---|---|
| **ESNAPMIRRORERR** | |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **EDEST_IS_LS_VOLUME** | |
| **EDEST_IS_EXISTING_SOURCE_VOLUME** | |
| **EANOTHER_OP_ACTIVE** | |
| **EDEST_VOL_LOCKED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EPUSHMSG_ABORTED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapmirror-break-async

[top]

The snapmirror-break-async API breaks a SnapMirror relationship between a source Infinite Volume and a destination Infinte volume or a source Vserver and destination Vserver. For Infinite volume SnapMirror relationship, when Data ONTAP breaks the relationship, the destination volume is made a read-write volume and can diverge from the source volume, client redirection is turned off on the destination volume, the restart checkpoint is cleared, and the clients can see the latest Snapshot copy. You must specify the destination endpoint when using snapmirror-break-async. The destination endpoint could be a

- Infinte volume in case of a SnapMirror relationship between Infinte volumes.
- Vserver in case of a Vserver level SnapMirror relationship on Data ONTAP 8.3.1 or later.

Subsequent manual or scheduled SnapMirror updates to the broken relationship will fail until the SnapMirror relationship is reestablished using the snapmirror-resync API. This API applies only to data protection mirrors for Infinite Volumes and data protection relationships for Vservers. You must use the snapmirror-break-async API from the destination cluster. For volume level relationship, this API is not supported

- on Infinite Volume constituents.
- if the destination end point is a flexible volume.
- if the destination end point is a FlexGroup or FlexGroup constituent.

A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| | | | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: |

| | | | |
|---|---|---|---|
| **destination-vserver** | | string optional | • The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **recover** | | boolean optional | Recover |
| **restore-destination-to-snapshot** | | string optional | Restore Destination to Snapshot Copy |
| **source-cluster** | | string optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in |

| | | | |
|---|---|---|---|
| | | | Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| **source-vserver** | | string<br>optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer<br>optional | Error code, if the operation caused an error. |
| **result-error-message** | | string<br>optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer<br>optional | Job Id, if this operation was performed via a job. |
| **result-operation-id** | | uuid<br>optional | Result Operation Id |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE** | |
| **EVSERVERDR_MIRROR_STATUS_DELETING** | |
| **EVSERVERDR_BREAK_INCOMPLETE** | |
| **EVSERVERDR_VSERVER_NOT_INITIALIZED** | |
| **EVSERVERDR_RELATIONSHIP_MODIFY_FAILED** | |
| **EVSERVERDR_SNAPNAME_GEN_FAILED** | |
| **EVSERVERDR_QUEUEING_TO_PROCESS_FAILED** | |

# snapmirror-break-iter

[top]

The snapmirror-break-iter API breaks one or more SnapMirror relationships.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with |

| | | | |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **recover** | | boolean optional | Recover |
| **restore-destination-to-snapshot** | | string optional | Restore Destination to Snapshot Copy |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-break-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed. |
| **success-list** | | snapmirror-break-iter-info[] optional | The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-capabilities-get

[top]

The snapmirror-capabilities-get API returns capabilities information for an endpoint type. It is supported only for the FlexVol endpoint type. It is not supported for FlexGroup, Infinite Volume, or non-Data ONTAP endpoint types. This API is available in Data ONTAP 9.3 and later.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-capabilities-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **endpoint-type** | | smendpointtype | Endpoint type. Only value of type flexvol is supported. The value of type object_store is for NetApp internal use only and is expected to be incompatible with a future release. Possible values:<br>• "flexvol" ,<br>• "object_store" |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapmirror-capabilities-info | The attributes of the snapmirror. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |

# snapmirror-capabilities-get-iter

[top]

The snapmirror-capabilities-get API returns capabilities information for one or more endpoint types. It is only supported for the FlexVol endpoint type. It is not supported for FlexGroup, Infinite Volume or non-Data ONTAP endpoint types. This API is available in Data ONTAP 9.3 and later.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-capabilities-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snapmirror-capabilities-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snapmirror-capabilities-info[] optional | The list of attributes of snapmirror objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snapmirror objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |

# snapmirror-check

[top]

The snapmirror-check API starts an operation to compare the contents of a snapshot between the source volume and destination volume. You must specify the destination endpoint when using snapmirror-check.

It is also possible to use the snapmirror-check command to compare only the contents of specific files or LUNs in specific Snapshot copies. A file-level check is run when the check-file-list, source-path, source-snapshot, and target-snapshot parameters are specified. Only the contents of the files specified in check-file-list are compared. You can also run a file-level check between volumes that are not in a SnapMirror relationship.

This API is not supported for relationships with AltaVault endpoints.

For FlexGroup relationships, there is no support in the checker to check the relationship at the FlexGroup level. The checker must be run on the constituent level relationships which are returned when the snapmirror-get-iter API specifying the expand parameter is used.

A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **check-file-list** | | snapmirror-file-path[] optional | Specifies the files or LUNs to be compared. The list can contain specifications for up to 8 files or LUNs. Specification for each file or LUN consists of a source-path and an optional destination-path. Source-path is required and is the path of the file from the root of the source Snapshot copy, e.g. /dira/file1 or /lun1. The source path does not include the Snapshot name nor the source volume name.<br><br>The path to each file to be compared in the target snapshot on the destination volume is the same as the path specified by source-path unless an optional destination-path is specified. Destination-path begins with the @ symbol followed by the path of the file from the root of the target Snapshot copy on the destination volume, e.g. @ /file1 or @ /dira/lun1. Source-paths and destination-paths are separate entities in the list of paths. A destination-path is associated with the source-path that precedes it. |

| | | | |
|---|---|---|---|
| | | | Examples: <snapmirror-file-path>/file1</snapmirror-file-path> will compare the file /file1 on the source with the file with the same path name on the destination <snapmirror-file-path>/file1</snapmirror-file-path> <snapmirror-file-path> @ /dst_file1</snapmirror-file-path> will compare file /file1 on the source with file /dst_file on the destination. If this parameter is specified, parameters source-path, source-snapshot and target-snapshot must also be specified. This parameter is only available on Data ONTAP 8.3 or later. |
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later |

| | | | |
|---|---|---|---|
| | | | operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string<br>optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **max-transfer-rate** | **[0..2^32-1]** | integer<br>optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with relationship control plane of 'v1' confined to a single cluster. This parameter is only available on Data ONTAP 8.3 or later. |
| **skip-se-check** | | boolean<br>optional | Specifies that the check of the storage efficiency data will be skipped on extended data protection relationships and file-level transfers. The default value for this parameter is 'false'. This parameter is only available on Data ONTAP 9.0 or later. |
| **source-cluster** | | string<br>optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | string<br>optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume |

| | | | |
|---|---|---|---|
| | | | are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br><br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **source-snapshot** | | string<br>optional | Specifies the source Snapshot copy to be used for a file-level check. If this parameter is specified, parameters check-file-list, source-path and target-snapshot must also be specified. This parameter is only available on Data ONTAP 8.3 or later. |
| **source-volume** | | string<br>optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| **source-vserver** | | string<br>optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |
| **target-snapshot** | | string<br>optional | Specifies the target Snapshot copy to be used, instead of the exported Snapshot copy on the destination volume. This parameter is required for a file-level check. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer<br>optional | Error code, if the operation caused an error. |
| **result-error-message** | | string<br>optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer<br>optional | Job Id, if this operation was performed via a job. |
| **result-operation-id** | | uuid<br>optional | Result Operation Id |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EDEST_VOLUME_NOT_INITIALIZED** | |
| **EOP_FROM_NONMGR_VSERVER** | |

# snapmirror-check-iter

[top]

The snapmirror-check-iter API checks one or more SnapMirror relationships. A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **check-file-list** | | snapmirror-file-path[] optional | Specifies the files or LUNs to be compared. The list can contain specifications for up to 8 files or LUNs. Specification for each file or LUN consists of a source-path and an optional destination-path. Source-path is required and is the path of the file from the root of the source Snapshot copy, e.g. /dira/file1 or /lun1. The source path does not include the Snapshot name nor the source volume name.<br><br>The path to each file to be compared in the target snapshot on the destination volume is the same as the path specified by source-path unless an optional destination-path is specified. Destination-path begins with the @ symbol followed by the path of the file from the root of the target Snapshot copy on the destination volume, e.g. @ /file1 or @ /dira/lun1. Source-paths and destination-paths are separate entities in the list of paths. A destination-path is associated with the source-path that precedes it.<br><br>Examples: <snapmirror-file-path>/file1</snapmirror-file-path> will compare the file /file1 on the source with the file with the same path name on the destination <snapmirror-file-path>/file1</snapmirror-file-path> <snapmirror-file-path> @ /dst_file1</snapmirror-file-path> will compare file /file1 on the source with file /dst_file on the destination. If this parameter is specified, parameters source-path, source-snapshot and target-snapshot must also be specified. This parameter is only available on Data ONTAP 8.3 or later. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not |

| | | | |
|---|---|---|---|
| | | | provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with relationship control plane of 'v1' confined to a single cluster. This parameter is only available on Data ONTAP 8.3 or later. |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on or scheduled to be worked on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **skip-se-check** | | boolean optional | Specifies that the check of the storage efficiency data will be skipped on extended data protection relationships and file-level transfers. The default value for this parameter is 'false'. This parameter is only available on Data ONTAP 9.0 or later. |
| **source-snapshot** | | string optional | Specifies the source Snapshot copy to be used for a file-level check. If this parameter is specified, parameters check-file-list, source-path and target-snapshot must also be specified. This parameter is only available on Data ONTAP 8.3 or later. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |
| **target-snapshot** | | string optional | Specifies the target Snapshot copy to be used, instead of the exported Snapshot copy on the destination volume. This parameter is required for a file-level check. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-check-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed or scheduled to be processed. |
| **success-list** | | snapmirror-check-iter-info[] optional | The snapmirror objects that were successfully processed or scheduled to be processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# snapmirror-config-replication-cluster-storage-configuration-get

[top]

The snapmirror-config-replication-cluster-storage-configuration-get API returns information regarding the configuration of the cluster-wide storage associated with cross-cluster replication of Async Vserver DR configuration data.

On Data ONTAP 8.3, Async Vserver DR cannot be enabled simultaneously with metrocluster. For this reason this command will return an error if metrocluster is currently enabled on the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-cr-storage-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapmirror-cr-storage-info | The attributes of the snapmirror. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# snapmirror-config-replication-cluster-storage-configuration-modify

[top]

The snapmirror-config-replication-cluster-storage-configuration-modify API modifies nformation regarding the configuration of the cluster-wide storage associated with cross-cluster replication of Async Vserver DR configuration data.

If input is not provided for a particular value, then the item is not modified in the storage configuration.

On Data ONTAP 8.3, Async Vserver DR cannot be enabled simultaneously with metrocluster. For this reason this command will return an error if metrocluster is currently enabled on the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disallowed-aggregates** | | aggr-name[] optional | Specifies the list of aggregates that are disallowed for use by the Async Vserver DR configuration replication. An admin may modify this value to exclude aggregates. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# snapmirror-cr-status-aggregate-eligibility-get

[top]

This API returns information regarding the eligibility of aggregates to host configuration replication volumes used for the replication of snapmirror configuration data.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | aggr-name | The aggregate being evaluated for config-replication volume hosting eligibility. |
| **desired-attributes** | | snapmirror-cr-status-aggregate-eligibility-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapmirror-cr-status-aggregate-eligibility-info | The attributes of the snapmirror-cr-status-aggregate-eligibility. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# snapmirror-cr-status-aggregate-eligibility-get-iter

[top]

This API returns information regarding the eligibility of aggregates to host configuration replication volumes used for the replication of snapmirror configuration data.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-cr-status-aggregate-eligibility-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snapmirror-cr-status-aggregate-eligibility-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror-cr-status-aggregate-eligibility object. All snapmirror-cr-status-aggregate-eligibility objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | snapmirror-cr-status- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | aggregate-eligibility-info[] optional | The list of attributes of snapmirror-cr-status-aggregate-eligibility objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snapmirror-cr-status-aggregate-eligibility objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-cr-status-comm-get

[top]

Obtain the results of the SnapMirror config replication status check.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-cr-status-comm-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **peer-cluster-uuid** | | string | The UUID of the peer cluster destination for SnapMirror configuration replication. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapmirror-cr-status-comm-info | The attributes of the snapmirror. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# snapmirror-cr-status-comm-get-iter

[top]

Obtain the results of the SnapMirror config replication status check.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-cr-status-comm-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snapmirror-cr-status-comm-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned. |

| | | | |
|---|---|---|---|
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snapmirror-cr-status-comm-info[] optional | The list of attributes of snapmirror objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snapmirror objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-cr-status-get

[top]

Obtain the results of the SnapMirror config replication status check.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-cr-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapmirror-cr-status-info | The attributes of the snapmirror. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# snapmirror-create

[top]

The snapmirror-create API creates a SnapMirror relationship between a source and destination volume or Vserver. The following types of relationships can be created:

- 'data_protection' - For Disaster Recovery (DR);
- 'load_sharing' - For load-sharing within the same Vserver;
- 'vault' - For Vault;
- 'transition_data_protection' - For 7-mode to Cluster-Mode transition;
- 'restore' - For restoring a data protection (DP) volume data;
- 'extended_data_protection' - For extended data protection;

With Data ONTAP 9.5 or later, when a new relationship is created with 'extended_data_protection' as the type and no policy is specified, the system policy 'MirrorAndVault' will be used. With Data ONTAP 9.3 or later, when a new relationship is created with 'data_protection' as type, an 'extended_data_protection' relationship will be created. This relationship will provide the same functional behavior as the 'data_protection' type in terms of Snapshot copy selection and retention. This is achieved by using a policy which has the rule to replicate all Snapshot copies. The SnapMirror create will fail if the policy specified does not have the rule to replicate all Snapshot copies. There is an exception to this overriding of the 'data_protection' type. If a relationship of type 'data_protection' in the opposite direction already exists, the new relationship will also be of type 'data_protection'. The 'data_protection' type will eventually be deprecated and applications should use the 'extended_data_protection' type when creating new relationships. On Data ONTAP 8.1 operating in Cluster-Mode, only 'data_protection' and 'load_sharing' type are supported. Relationships of type 'restore' are created temporary during a restore operation initiated using the snapmirror-restore API or the corresponding command. The source and destination endpoints must be specified when using the snapmirror-create API. This API will fail if the destination volume does not exist. With Data ONTAP 9.3 or later the following relationships can be created:

- SnapMirror relationships between a Data ONTAP volume and a SolidFire endpoint.
- When a SolidFire endpoint is specified as source or destination, a Data ONTAP volume must be used as the other side of the SnapMirror relationship.

With Data ONTAP 9.1 or later the following relationships can be created:

- SnapMirror relationships between two FlexGroups. FlexGroups only support extended data protection relationships. For FlexGroup relationships, the source and destination FlexGroups must be spread over the same number of aggregates as specified in the volume-create-async API aggr-list parameter with the same number of constituents per aggregate as specified in the volume-create-async API aggr-list-multiplier parameter.
- SnapMirror relationships between a Data ONTAP source volume and an AltaVault destination endpoint.
- When an AltaVault destination is specified, the source must be a Data ONTAP volume.
- An AltaVault source cannot be specified for create.

With Data ONTAP 8.3 or later, you can create a SnapMirror relationship between two Vservers. The destination Vserver will be a backup of the source Vserver's data and configuration. For this, before you use this API, you should have created a source and a destination Vserver. The source Vserver should be a default data Vserver. On Data ONTAP 8.2 operating in Cluster-Mode, the API does not validate the attributes and the existence of the source volume. It will succeed even if the source volume does not exist. The validation will be done at the first transfer time. On Data ONTAP 8.1 operating in Cluster-Mode, the API will fail if the source volume is not in online state and read-write (RW) type, or the destination volume is not in online state and a DP (Data Protection) type. Note: The source volume might contain data and Snapshot copies prior to creating the SnapMirror relationship. If the destination volume is not empty, it must have a Snapshot copy in common with the source volume, that is, it must have once been a copy of the source volume. On Data ONTAP 8.1 operating in Cluster-Mode, the API will fail if there is no common Snapshot copy. On Data ONTAP 8.2 operating in Cluster-Mode the API will succeed, but all subsequent transfers will fail if there is no common snapshot copy. Load-sharing mirrors have the following restrictions: - They only use FlexVol volumes. - They are confined to a single Vserver; they are not allowed to span Vservers. - The source or destination of a load-sharing relationship cannot be the source or destination of any other SnapMirror relationship. A set of load-sharing mirrors can have one or more destination volumes. You create separate SnapMirror relationships between the common source volume and each destination volume to create the set of load-sharing mirrors. If the destination volume is empty, it must be initialized using the snapmirror-initialize API. Destination volumes in a set of load-sharing mirrors must be initialized using the snapmirror-initialize-ls-set API. The snapmirror-create API must be issued on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and on the destination Vserver on Data ONTAP 8.2 operating in Cluster-Mode.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Specifies a list of the consistency group (CG) item mappings. This parameter is relevant to CG level relationships and will be |

| | | | |
|---|---|---|---|
| **cg-item-mappings** | | string[] optional | considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,... |
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |

| | | | |
|---|---|---|---|
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **identity-preserve** | | boolean optional | This optional parameter specifies whether or not the identity of the source Vserver is replicated to the destination Vserver and is applicable on Data ONTAP 8.3 or later. If this parameter is set to true, the source Vserver's configuration will additionally be replicated to the destination. If the parameter is set to false, then only the source Vserver's volumes and RBAC configuration are replicated to the destination. By default this parameter will be false. |
| **is-auto-expand-enabled** | | boolean optional | Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the paramter is not specified, auto expansion will be enabled on FlexGroup relationships. This parameter is only available on Data ONTAP 9.3 or later. |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| **policy** | | string optional | Specifies the name of the snapmirror policy for the relationship. For SnapMirror relationships of type 'vault' or 'extended data protection', the policy will also have rules to select snapshot copies that must be transferred. If no policy is specified, a default policy will be applied depending on the type of the SnapMirror relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. |
| **relationship-type** | | string optional | Specifies the type of the SnapMirror relationship. An extended data protection relationship with a policy of type vault is equivalent to a 'vault' relationship. Possible values:<br>• "data_protection" ,<br>• "load_sharing" ,<br>• "vault" ,<br>• "restore" ,<br>• "transition_data_protection" ,<br>• "extended_data_protection" |
| **return-record** | | boolean optional | If set to true, returns the snapmirror on successful creation. Default: false |
| | | | |

| | | | |
|---|---|---|---|
| **schedule** | | string<br>optional | Specifies the name of the cron schedule, which is used to update the SnapMirror relationship. |
| **source-cluster** | | string<br>optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | string<br>optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **source-volume** | | string<br>optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| | | | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: |

| | | | |
|---|---|---|---|
| **source-vserver** | | string optional | • The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |
| **tries** | | string optional | Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is ignored. |
| **vserver** | | string optional | If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option and should not be used for queries. The destination-vserver parameter should be used to select the Vserver in a cluster context. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | snapmirror-info optional | The snapmirror created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPILICENSE** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **ESOURCE_DEST_SAME** | |
| **ESOURCE_ISNOT_RW_VOLUME** | |
| **EDEST_ISNOT_LS_VOLUME** | |
| **ESOURCE_IS_DIFFERENT** | |
| **ERELATION_EXISTS** | |
| **ESOURCE_ISNOT_LOCAL_VOLUME** | |
| **ESOURCE_DEST_VSERVERS_DIFFERENT** | |
| **EDEST_IS_RW_VOLUME** | |
| **ESOURCE_IS_STRIPED_VOLUME** | |
| **EDEST_IS_STRIPED_VOLUME** | |
| **EDEST_VOLUME_HAS_CACHE** | |
| **ESOURCE_VOLUME_HAS_CACHE** | |
| **EDEST_IS_EXISTING_DEST_VOLUME** | |
| **EDEST_VOLUME_NOT_EMPTY** | |
| **EDEST_IS_LS_VOLUME** | |
| **EDEST_IS_VOLUME_CLONE** | |
| **ENOSNAPSHOT_COPY** | |
| **EVOLUMES_EMPTY** | |

| | |
|---|---|
| **EVOLUMES_WITH_DIFF_STRIPES** | |
| **ESCHEDULE_DOESNT_EXIST** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |
| **EVSERVERDR_VSR_INFO_GET_FAILED** | |
| **EVSERVERDR_SRC_VSERVER_LOCAL** | |
| **EVSERVERDR_INCORRECT_SUBTYPE_SRC** | |
| **EVSERVERDR_DST_DESTINATION_OF_DR_RELATION** | |
| **EVSERVERDR_DST_DESTINATION_OF_VSM_RELATION** | |
| **EVSERVERDR_VS_SM_NOT_ALLOWED_IN_VSERVER** | |
| **EVSERVERDR_NO_SM_IN_MCC** | |
| **EVSERVERDR_CAPABILITY_NOT_ENABLED** | |
| **EVSERVERDR_CAPABILITY_NOT_ENABLED_ON_SRC** | |
| **EVSERVERDR_GET_OPTIMUM_NODE_FAILED** | |
| **EVSERVERDR_ONLY_DP_TYPE_ALLOWED** | |
| **ENOT_SUPPORTED_BY_FLEXGROUP_OR_CONSTITUENTS** | |
| **ENOT_SUPPORTED_BY_FLEXGROUP_CONSTITUENTS** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

| **License** |
|---|
| **SnapMirror** |

# snapmirror-delete-connection

[top]

Deletes a connection specified by connection. This API must be executed on the destination filer. Currently, the connections are in: /etc/snapmirror.conf.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection** | | string | Connection name to delete. The name is in ASCII and must begin with an alpha character. |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **replicate** |

# snapmirror-delete-schedule

[top]

Delete the schedule for a given destination. This API must be executed on the destination filer.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **destination-location** | | string | The destination location of a schedule to delete. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| replicate |

# snapmirror-delete-sync-schedule

[top]

Delete a synchronous schedule for a given destination. This API must be executed on the destination filer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-location** | | string | The destination location of a schedule to delete. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| replicate |

# snapmirror-destroy

[top]

The snapmirror-destroy API removes only the SnapMirror relationship of a source volume and a destination volume, the volumes are not destroyed and Snapshot copies on the volumes are not removed. In case of a Vserver SnapMirror relationship, this API removes only the relationship between a source and destination Vserver. The Vservers are not destroyed. The key parameter that identifies any SnapMirror relationship is the destination volume or the destination Vserver in the case of a Vserver SnapMirror relationship on Data ONTAP 8.3 or later. You must specify the destination endpoint when using snapmirror-destroy. On Data ONTAP 8.1 operating in Cluster-Mode, the snapmirror-destroy API fails if a SnapMirror transfer for the SnapMirror relationship is in progress. On Data ONTAP 8.2 operating in Cluster-Mode, the snapmirror-destroy API will attempt to abort any ongoing transfer. However, failure to abort the transfer will not cause the API to fail. A set of load-sharing mirrors might contain multiple destination volumes, each destination volume having a separate SnapMirror relationship with the common source volume. When used on one of the SnapMirror relationships from the set of load-sharing mirrors, the snapmirror-destroy API deletes the specified SnapMirror relationship from the set of load-sharing mirrors. The snapmirror-destroy API preserves the read-write or read-only attributes of the volumes of a SnapMirror relationship after the relationship is deleted. Therefore, a read-write volume that was the source of a SnapMirror relationship retains its read-write attributes, and a data protection volume or a load-sharing volume that was a destination of a SnapMirror relationship retains its read-only attributes. Note: When a SnapMirror relationship from a set of load-sharing mirrors is deleted, the destination volume becomes a data protection volume and retains the read-only attributes of a data protection volume. On Data ONTAP 8.2 operating in Cluster-Mode, this API can only be issued on the

destination Vserver. The SnapMirror relationship information is deleted from destination Vserver, but no cleanup or deletion is performed on the source Vserver. The snapmirror-release API must be issued on the source Vserver to delete the relationship information on the source Vserver. On Data ONTAP 8.1 operating in Cluster-Mode, this API can be issued on the source or on the destination cluster. When issued on the destination cluster, the SnapMirror relationship information on the source and destination clusters is deleted. When issued on the source cluster, only the SnapMirror relationship information on the source cluster is deleted. Note: If the SnapMirror relationship identified by the destination endpoint does not exist, this API will return success. This API is not supported if the destination end point is a Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in |

| | | | |
|---|---|---|---|
| | | | Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string<br>optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **source-cluster** | | string<br>optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | string<br>optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br><br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| | | | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified: |

| | | | |
|---|---|---|---|
| **source-volume** | | string optional | • The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | | uuid optional | Result Operation Id |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPILICENSE** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **ESOURCE_IS_DIFFERENT** | |
| **ETRANSFER_IN_PROGRESS** | |
| **EANOTHER_OP_ACTIVE** | |
| **EDEST_VOL_LOCKED** | |

| License |
|---|
| **SnapMirror** |

# snapmirror-destroy-async

[top]

The snapmirror-destroy-async API removes the SnapMirror relationship between a source and destination Infinite Volume or a source and destination Vserver. The volumes or Vservers themselves are not destroyed and Snapshot copies on the volumes are not removed. You must specify the destination endpoint when using snapmirror-destroy-async. The destination endpoint could be a

- Infinte volume in case of a SnapMirror relationship between Infinite volumes.
- Vserver in case of a Vserver level SnapMirror relationship on Data ONTAP 8.3 or later.

For Infinite volume SnapMirror relationships,

- snapmirror-destroy-async API fails if a SnapMirror transfer for the relationship is in progress.
- snapmirror-destroy-async API preserves the read-write or read-only attributes of the volumes of a SnapMirror relationship after the relationship is deleted. Therefore, a read-write volume that was the source of a SnapMirror relationship retains its read-write attributes, and a data protection

volume that was the destination of a SnapMirror relationship retains its read-only attributes.
- snapmirror-destroy-async API should be used from the destination cluster. When used in this fashion, the destination-side information will be cleaned up. The destination will also attempt to cleanup source-side information. If the source cluster is not available, the destination-side information will still be cleaned up.
- this API is not supported if the destination end point is a flexible volume or an Infinite Volume constituent.

For Vserver SnapMirror relationships,

- snapmirror-destroy-async API can be issued even if a transfer is in progress for the relationship.
- snapmirror-destroy-async API preserves the subtype attribute of the Vserver. Therefore, a default Vserver that was the source of a SnapMirror relationship continues to be of subtype default, and a dp-destination Vserver that was a destination of a SnapMirror relationship continues to be of subtype dp-destination.
- snapmirror-destroy-async API should be used from the destination cluster. This will cleanup the destination-side information for the relationship.

A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the |

| | | | |
|---|---|---|---|
| | | | destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **source-cluster** | | string optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint. |

| | | | |
|---|---|---|---|
| | | | This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |
| **EVSERVERDR_QUEUEING_TO_PROCESS_FAILED** | |

| License |
|---|
| **SnapMirror** |

# snapmirror-destroy-iter

[top]

Removes one or several SnapMirror relationships. This API is not supported on Infinite Volume constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-destroy-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed. |
| **success-list** | | snapmirror-destroy-iter-info[] optional | The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

| License |
|---|
| SnapMirror |

# snapmirror-get

[top]

The snapmirror-get API returns information for a SnapMirror relationship.

On Data ONTAP 8.1 operating in Cluster-Mode this API can be issued on the source cluster or destination cluster of the relatonship. On Data ONTAP 8.2 operating in Cluster-Mode, this API must be issued on the destination Vserver or the destination cluster of the relationship. The destination endpoint must be specified when using the snapmirror-get API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations. |

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|---|---|---|---|
| | | | This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **source-cluster** | | string optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or |

| | | | |
|---|---|---|---|
| | | | later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br><br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **source-volume** | | string<br>optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| **source-vserver** | | string<br>optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapmirror-info | The attributes of the snapmirror. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# snapmirror-get-destination

[top]

The snapmirror-get-destination API returns information about a SnapMirror relationship whose source endpoint is on the cluster or Vserver it is issued on. The destination endpoint must be specified when using this API. The source endpoint can also be specified.

The cluster or Vserver may have several entries for the specified endpoints, but with different relationship IDs. In this case the API returns information about the first entry. To get information about all the SnapMirror relationships matching the specified endpoints, the snapmirror-get-destination-iter API must be used.

Note that the information for a SnapMirror relationship will not be available on its source Vserver or source cluster until at least one transfer is initiated.

The information returned can be stale. Stale information corresponds to a SnapMirror relationship that has been deleted on its destination cluster or Vserver.

This API is only supported on Data ONTAP 8.2 and above operating in Cluster-Mode.

This API must be issued on the source Vserver or the source cluster of the relationship.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-destination-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The destination endpoint can be specified using the location format above, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume. |
| **destination-volume** | | string optional | Specifies the name of destination volume for the SnapMirror relationshp. The name of the destination Vserver must also be specified if using this parameter. |
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the relationship. The name of the destination volume must also be specified if using this parameter. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The source endpoint can be specified using the location format above, or by specifying the parameters for the name of the source Vserver and the name of the source volume. |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. The name of the source Vserver must also be specified if using this parameter. |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. The name of the source volume must also be specified if using this parameter. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapmirror-destination-info | The attributes of the snapmirror. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# snapmirror-get-destination-iter

[top]

The snapmirror-get-destination-iter API returns information about, one or more SnapMirror relationships whose source endpoints are in the Vserver or the cluster the API is issued on.

The information returned can be stale. Stale information corresponds to a SnapMirror relationship that has been deleted on its destination cluster or Vserver. Stale information may result to several entries being returned with the same source and destination endpoints, but with different relationship IDs.

Note that the information for a SnapMirror relationship will not be available on its source Vserver or source cluster until at least one transfer is initiated.

This API is only supported on Data ONTAP 8.2 and above operating in Cluster-Mode. It can be issued on a Vserver or a Cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-destination-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **expand** | | boolean optional | Show Constituents of the Group |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snapmirror-destination-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snapmirror-destination-info[] optional | The list of attributes of snapmirror objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snapmirror objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-get-dp-personality

[top]

The snapmirror-get-dp-personality API returns the Data Protection Personality (DP Personality) of the cluster.

This API is supported on Data ONTAP 9.1 or later.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-get-dp-personality optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapmirror-get-dp- | The attributes of the snapmirror. |

| | | | |
|---|---|---|---|
| | | personality | |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# snapmirror-get-iter

[top]

The snapmirror-get-iter API returns information for one or several SnapMirror relationships.

On Data ONTAP 8.1 operating in Cluster-Mode, this API can be issued on a cluster. It returns all SnapMirror relationships that have a source or destination endpoint in that cluster, and that match the parameters specified. On Data ONTAP 8.2 operating in Cluster-Mode, this API can be issued on a Vserver or a cluster. It returns all the SnapMirror relationships, which have a destination endpoint in that Vserver or cluster, and that match the parameters specified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | snapmirror-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| expand | | boolean optional | Show Constituents of the Group |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | snapmirror-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | snapmirror-info[] optional | The list of attributes of snapmirror objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more snapmirror objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# snapmirror-get-status

[top]

Return the SnapMirror status. This API can be issued on either the source or destination filer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **location** | | string optional | The source location or destination location of the SnapMirror pair. Possible types are volume or qtree only. If this input is provided, only the SnapMirror relationships with a matching source or destination will be reported. The argument is invalid if the named location doesn't exist. In this case, snapmirror-status-info output will not be present. The argument can also be invalid if it is a flexclone name. (Be aware that the snapmirror-list-destinations API can return flexclone names.) Then snapmirror-get-status API will return a snapmirror-status output value with a "state" of "unknown". If the argument is not specified, all source, destination SnapMirror pairs are returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-available** | | boolean | True if SnapMirror is available. |
| **snapmirror-status** | | snapmirror-status-info[] optional | An array of SnapMirror pair status. If there are no transfers or schedules, then snapmirror-status is not returned. Any and all pairs whose source or destination location matches the input location will be in the output. |

| Vfiler-enabled |
|---|
| **Yes** |

# snapmirror-get-total-records

[top]

Obtain the total number of SnapMirror relationships. This is a point in time estimate and may be different on subsequent calls.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^64-1]** | integer | The total number of snapmirror objects. |

# snapmirror-get-volume-status

[top]

Returns SnapMirror status values for a given volume. Including whether: the volume is a source of a SnapMirror relationship; the volume is a destination of a SnapMirror relationship; a transfer is in progress; the relationship is broken off. On Data ONTAP 8.1 operating in Cluster-Mode, this API is provided for backward compatibility only. It will fail if the volume is the source or destination of a load-sharing SnapMirror relationship. It is recommended to use the snapmirror-get-iter API to get the same information. On Data ONTAP 8.1 operating in Cluster-Mode, this API must be issued on the cluster the volume belongs to. This API is not supported On Data ONTAP 8.2 or later operating in Cluster-Mode. You must use the snapmirror-get-iter and snapmirror-get-destination-iter APIs. If issued on Data ONTAP 8.2 or later operating in Cluster-Mode, this API will return EOPNOTSUPPORTED error.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume to be queried. On Data ONTAP operating in Cluster-Mode, specifies the location of the volume the following formats: [<cluster>:][//<vserver>/]<volume> |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-destination** | | boolean optional | true if it was determined that the volume is a destination of a SnapMirror relationship. false otherwise |
| **is-source** | | boolean optional | true if it was determined that the volume is a source of a SnapMirror relationship. false otherwise |
| **is-transfer-broken** | | boolean optional | true if it was determined that the volume is a destination of a SnapMirror relationship that was broken off. The volume allows reads and writes. false otherwise |
| **is-transfer-in-progress** | | boolean optional | true if it was determined that the volume is a source or a destination of a SnapMirror relationship that has a transfer going on. false otherwise |

| Errno | Description |
|---|---|
| **EVOLUMEOFFLINE** | |
| **EVOL_RESTRICTED** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENOTLOCAL** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUME_RELSTATUS_UNKNOWN** | |
| **EOPNOTSUPPORTED** | |
| **EVOL_RESTRICTED** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **replicate** |

# snapmirror-history-get

[top]

The snapmirror-history-get API returns information for a SnapMirror operation of the last 24 hours. This API must be issued on the destination Vserver or the destination cluster of the relationship. The operation-id must be specified when using the snapmirror-history-get API. This API can be used only with Data ONTAP 8.3 (or later). The snapmirror-history-get API does not return information about operations which happened while operating prior to Data ONTAP 8.3. The snapmirror-history-get API does not return information for relationships using a control plane compatible with Data ONTAP 8.1. This API does not return information for operations on FlexGroup relationships which happened prior to installing Data ONTAP 9.5. This API does not return information about operations on FlexGroup constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| | | | Specifies the destination endpoint of the SnapMirror relationship in the following format:<br>• <[vserver:]volume><br>• <vserver:> |

| | | | |
|---|---|---|---|
| **destination-location** | | string optional | This format depends on Vserver peering setup between the source and destination Vservers. The destination endpoint can be specified using the location format, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume or the destination Vserver for Vserver SnapMirror relationships. |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship.If using this parameter, the following parameter should also be specified:<br>• The name of the destination Vserver. |
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the SnapMirror relationship. If using this parameter, the following parameter should also be specified for volume SnapMirror relationships:<br>• The name of destination volume. |
| **operation-id** | | string | A unique identifier assigned to a SnapMirror operation. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapmirror-history-info | The attributes of the snapmirror. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EOPNOTSUPPORTED** | |

# snapmirror-history-get-iter

[top]

The snapmirror-history-get-iter API returns information for one or several SnapMirror operations of the last 24 hours. This API must be issued on the destination Vserver or the destination cluster of the relationship. This API can be used only with Data ONTAP 8.3 (or later). It returns all the SnapMirror operations, which have a destination endpoint in that Vserver or cluster, and that match the parameters specified. The snapmirror-history-get API does not return information about operations which happened while operating prior to Data ONTAP 8.3. The snapmirror-history-get API does not return information for relationships using a control plane compatible with Data ONTAP 8.1. This API does not return information for operations on FlexGroup relationships which happened prior to installing Data ONTAP 9.5. This API does not return information about operations on FlexGroup constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-history-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snapmirror-history-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror object. All snapmirror objects matching this query up to 'max-records' will be returned. |
| | | | |

| | | | |
|---|---|---|---|
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snapmirror-history-info[] optional | The list of attributes of snapmirror objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snapmirror objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |

# snapmirror-initialize

[top]

Performs the initial update of a SnapMirror relationship. You must specify the destination endpoint when using snapmirror-initialize. This API must be used from the destination storage system on Data ONTAP operating in 7-Mode, from the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and from the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

On Data ONTAP operating in 7-Mode, If the destination endpoint is a volume, the volume must be in the restricted state. If the destination endpoint is a qtree, the qtree must not already exist.

On Data ONTAP operating in Cluster-Mode, this API is usually used after the snapmirror-create API, but it can be used alone, that is, without the snapmirror-create API, for data protection relationships only, to create and initially update a SnapMirror relationship.

On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode (The relationship-control-plane field is set to 'v1'), a job will be spawned to operate on the SnapMirror relationship, and the job id will be returned. The progress of the job can be tracked using the job APIs.

On Data ONTAP 8.2 or later operating in Cluster-Mode, for extended_data_protection relationships, a 32-bit volume cannot be the source or destination of the relationship.

On Data ONTAP 8.2 or later operating in Cluster-Mode, you can track the progress of the operation using the snapmirror-get API, except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.

On Data ONTAP 8.3 or later result-operation-id is returned. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. This operation-id appears in the current-operation-id field returned by the snapmirror-get API as long as the operation is active.

With Data ONTAP 8.3 or later, this API can be used to initialize a relationship between two volumes or two Vservers. 1. When volume names are specified, this API initializes a volume level relationship. 2. When Vserver names without volume names are specified, this API will initialize a relationship between two Vservers. This API can only be used for relationships between two Vservers after a successful snapmirror-create API. During initialize a baseline transfer of the Vserver is performed.

With Data ONTAP 9.1, this API can be used to initialize a relationship between a Data ONTAP volume

and an AltaVault destination. 1. When an AltaVault destination is specified, the source must be a Data ONTAP volume. 2. An AltaVault source cannot be specified for initialize.

With Data ONTAP 9.3, this API can be used to initialize a relationship between a Data ONTAP volume and a SolidFire endpoint.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint.<br><br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume. On Data ONTAP operating in 7-Mode, if the destination endpoint is a volume, the volume must be in the restricted state. If the destination endpoint is a qtree, the qtree must not already exist.<br><br>This parameter is mandatory on Data ONTAP operating in 7-mode. This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. |
| **destination-snapshot** | | string optional | Creates the specified snapshot (in addition to the regular SnapMirror snapshot) on the destination after the qtree SnapMirror transfer is over. |
| **destination-volume** | | string optional | Specifies the destination volume of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |

| | | | |
|---|---|---|---|
| **destination-vserver** | | string optional | Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br>• The name of the destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory if destination-location is not specified. |
| **is-adaptive** | | boolean optional | Specifies if the SnapMirror relationship is adaptive. If the SnapMirror relationship is adaptive, updates on the relationship might, and often will be triggered based on source volume changes. This parameter is supported only for FlexVol SnapMirror relationships between Data ONTAP endpoints. This parameter is only available on Data ONTAP 9.4 or later. |
| **is-auto-expand-enabled** | | boolean optional | Specifies if the FlexGroup SnapMirror relationship and its destination FlexGroup should be auto-expanded if the source FlexGroup is expanded. This parameter is supported only for FlexGroup SnapMirror relationships. If the initialize is creating a new SnapMirror relationship, the default value is true. If it is not creating a new relationship, if a value is specified, it must match the current value for the existing relationship. If the parameter is not specified, the existing value will be retained. This parameter is only supported on Data ONTAP 9.3. or later. |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. On Data ONTAP operating in Cluster-Mode, the max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| **source-cluster** | | string optional | Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source endpoint.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source endpoint. |

| | | | |
|---|---|---|---|
| | | | This format may change in the future. On Data ONTAP operating in Cluster-Mode when specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume or the source Vserver. On Data ONTAP operating in 7-Mode, If the source-location is not specified, then the source in /etc/snapmirror.conf for the destination path is used. |
| **source-snapshot** | | string optional | Designates the source snapshot to use for a qtree update on Data ONTAP operating in 7-mode, and the snapshot on the source volume to use for the baseline transfer on Data ONTAP 8.2 or later operating in Cluster-Mode. The default is to create a new snapshot on the source for the transfer.<br><br>This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'.<br><br>Vserver level SnapMirror relationships do not support this parameter. |
| **source-volume** | | string optional | Specifies the source volume of the SnapMirror relationship. The If using this parameter, the following parameters must also be specified:<br><br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-vserver** | | string optional | Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br><br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **transfer-priority** | | string optional | Specifies the priority at which the transfer runs. Possible values are: "normal", and "low". The default value is the value specified in the snapmirror policy which is associated with the relationship.<br><br>This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. This parameter is only returned by Data ONTAP 8.1 operating in Cluster-Mode. |
| **result-operation-id** | | string optional | Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded", "in_progress", "failed". This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **ESNAPMIRROROFF** | |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EAPILICENSE** | |
| **EAPIMISSINGARGUMENT** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **EDEST_ISNOT_LS_VOLUME** | |
| **ESOURCE_ISNOT_RW_VOLUME** | |
| **ESOURCE_IS_EXISTING_DEST_VOLUME** | |
| **EDEST_IS_EXISTING_DEST_VOLUME** | |
| **EOP_FROM_NONMGR_VSERVER** | |
| **EDEST_IS_RW_VOLUME** | |
| **ESOURCE_ISNOT_LOCAL_VOLUME** | |
| **ESOURCE_DEST_VSERVERS_DIFFERENT** | |
| **ESOURCE_IS_STRIPED_VOLUME** | |
| **EDEST_VOLUME_NOT_EMPTY** | |
| **ESOURCE_DEST_SAME** | |
| **ENOSNAPSHOT_COPY** | |
| **EVOLUMES_WITH_DIFF_STRIPES** | |
| **ETRIES_COUNT_IS_ZERO** | |
| **ERELATION_IS_QUIESCED** | |
| **EANOTHER_OP_ACTIVE** | |
| **EDEST_IS_STRIPED_VOLUME** | |
| **EDEST_VOL_LOCKED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EDEST_NOT_DP_VSERVER** | |
| **EUNSUPPORTED_CONFIG** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |
| **EVSERVERDR_INCORRECT_SUBTYPE_DST** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **EVSERVERDR_INCORRECT_SUBTYPE_SRC** | |
| **EVSERVERDR_SRC_SRC_OF_DR_RELATION** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE** | |
| **EVSERVERDR_MIRROR_STATUS_DELETING** | |
| **EVSERVERDR_RELATIONSHIP_MODIFY_FAILED** | |
| **EVSERVERDR_QUEUEING_TO_PROCESS_FAILED** | |
| **EVSERVERDR_SNAPNAME_GEN_FAILED** | |
| **EVSERVERDR_POLICY_LOOKUP_FAILED** | |
| **EVSERVERDR_ROOT_VOL_HAS_DATA** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **replicate** |

# snapmirror-initialize-iter

[top]

The snapmirror-initialize-iter API initializes the destination volume of one or more SnapMirror relationships. On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode (The relationship-control-plane field is set to 'v1'), A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **is-auto-expand-enabled** | | boolean optional | Is Auto Expand Enabled |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on or scheduled to be worked on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **source-** | | string | Designates the source Snapshot copy to use for a qtree update on Data ONTAP operating in 7-mode, and the Snapshot copy on the source volume to use for the baseline transfer on Data ONTAP 8.2 or later operating in Cluster-Mode. The default is to create a new Snapshot copy on the source for the transfer. |

| | | | |
|---|---|---|---|
| **snapshot** | | optional | This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'.<br><br>Vserver level SnapMirror relationships do not support this parameter. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |
| **transfer-priority** | | sm-transfer-priority-enum optional | Specifies the priority at which the transfer runs. The default value is the value specified in the snapmirror policy which is associated with the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Possible values:<br>• "low" ,<br>• "normal" |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-initialize-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | [0..2^32-1] | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | [0..2^32-1] | integer optional | The number of snapmirror objects that matched the query and were successfully processed or scheduled to be processed. |
| **success-list** | | snapmirror-initialize-iter-info[] optional | The snapmirror objects that were successfully processed or scheduled to be processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| License |
|---|
| **SnapMirror** |

# snapmirror-initialize-ls-set

[top]

The snapmirror-initialize-ls-set API performs the initial manual update of a set of load-sharing mirrors. This API is usually used after the snapmirror-create API is used to create a SnapMirror relationship for each of the destination volumes in the set of load-sharing mirrors. You must specify the source endpoint when using snapmirror-initialize-ls-set. Data and Snapshot copies are transferred from the source volume to all up-to-date destination volumes in the set of load-sharing mirrors. Use the snapmirror-initialize API to add and initialize a new destination volume to an existing set of load-sharing mirrors. A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **source-cluster** | | string optional | Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship. When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume. |
| **source-volume** | | string optional | Specifies the source volume of the SnapMirror relationship. The source cluster and source Vserver must also be specified if using this parameter. This parameter may be optional if executed outside cluster context. |
| **source-vserver** | | string optional | Specifies the source Vserver of the SnapMirror relationship. The source cluster and source volume must also be specified if using this parameter. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIMISSINGARGUMENT** | |
| **EAPIPRIVILEGE** | |
| **ESOURCE_IS_EXISTING_DEST_VOLUME** | |
| **ETRIES_COUNT_IS_ZERO** | |
| **ERELATION_IS_QUIESCED** | |
| **EANOTHER_OP_ACTIVE** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# snapmirror-list-connections

[top]

Returns connection information for a given connection or all connections. The API must be executed on the destination filer. Currently, the connections are in: /etc/snapmirror.conf.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection** | | string optional | Connection name of the connection information to obtain. If the connections is not specified, then the connection information for all the connections is returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapmirror-connections** | | snapmirror-connection-info[] | An array of SnapMirror connection information. |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| replicate |

# snapmirror-list-destinations

[top]

Returns a list of destination locations and information about SnapMirror relationships for given source locations, which can be a volume name or qtree path. This API must be issued on the source filer. This API is not supported for relationships with non-Data ONTAP endpoints.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **source-location** | | string optional | Source location of the SnapMirror pair. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. If the source-location is not specified, then all source, destination SnapMirror pairs are returned. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **destinations** | | destination-info[] | A list of currently-known destinations on a source filer. |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| replicate |

# snapmirror-list-schedule

[top]

Returns the schedule for a given destination or all destinations. The API must be executed on the destination filer. Currently, the schedules is in /etc/snapmirror.conf.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **destination-location** | | string optional | The destination location of a schedule to obtain. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. The <filer> must match the destination filer. If the destination-location is not specified, then all the destination schedules are returned. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **snapmirror-schedules** | | snapmirror-schedule-info[] | An array of SnapMirror schedule. |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| replicate |

## snapmirror-list-sync-schedule

[top]

Returns a synchronous schedule for a given destination or all destinations. The API must be executed on the destination filer. Currently, the schedules is in /etc/snapmirror.conf.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **destination-location** | | string optional | The destination location of a schedule to obtain. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. The <filer> must match the destination filer. If the destination-location is not specified, then all the destination schedules are returned. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **snapmirror-sync-schedules** | | snapmirror-sync-schedule-info[] | An array of SnapMirror schedule. |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| replicate |

## snapmirror-list-unprotected

[top]

The snapmirror-list-unprotected API returns a list of unprotected volumes for the specified source Vserver.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **desired-attributes** | | snapmirror-list-unprotected optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **source-vserver** | | string | Specifies the source Vserver for which to list unprotected volumes. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **attributes** | | snapmirror-list- | The attributes of the snapmirror. |

| | | | |
|---|---|---|---|
| | | unprotected | |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# snapmirror-modify

[top]

The snapmirror-modify API changes one or more parameters of a SnapMirror relationship. The key parameter that identifies any SnapMirror relationship is the destination volume or the destination Vserver in the case of a Vserver SnapMirror relationship on Data ONTAP 8.3 or later.

You must specify the destination endpoint when using the snapmirror-modify API. For load-sharing mirrors, a change to a parameter affects all of the SnapMirror relationships in the set of load-sharing mirrors. Destination volumes in a set of load-sharing mirrors do not have individual parameter settings. Changes made by the snapmirror-modify API do not take effect until the next manual or scheduled update of the SnapMirror relationship. Changes do not affect updates that have started and have not finished yet. On Data ONTAP 8.1 operating in Cluster-Mode this API must be issued on the destination Cluster. On Data ONTAP 8.2 operating in Cluster-Mode, this API must be issued on the destination Vserver if operating in a Vserver context and on the destination cluster if operating in a cluster context. This API is not supported on Infinite Volume constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume |

| | | | |
|---|---|---|---|
| | | | are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **destination-volume** | | string<br>optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string<br>optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **is-auto-expand-enabled** | | boolean<br>optional | Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the parameter is not specified, auto expansion will be enabled on FlexGroup relationships. This parameter is only available on Data ONTAP 9.3 or later. |
| **max-transfer-rate** | **[0..2^32-1]** | integer<br>optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| **policy** | | sm-policy<br>optional | Specifies the name of the SnapMirror policy that applies to this relationship. |
| **schedule** | | string<br>optional | Specifies the name of the cron schedule, used to update the SnapMirror relationship. |
| | | | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on: |

| | | | |
|---|---|---|---|
| **source-cluster** | | string optional | • Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |

| | | | |
|---|---|---|---|
| **tries** | | string optional | Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is ignored. |
| **vserver** | | vserver-name optional | If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | | uuid optional | Result Operation Id |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **ESOURCE_DEST_SAME** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EOP_FROM_NONMGR_VSERVER** | |
| **ESCHEDULE_DOESNT_EXIST** | |
| **EANOTHER_OP_ACTIVE** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |

# snapmirror-modify-iter

[top]

The snapmirror-modify-iter API allows to change one or more parameters of one or more SnapMirror relationships. This API is not supported on Infinite Volume constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **is-auto-expand-enabled** | | boolean optional | Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the parameter is not specified, auto expansion |

| | | | |
|---|---|---|---|
| | | | will be enabled on FlexGroup relationships. This parameter is only available on Data ONTAP 9.3 or later. |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| **policy** | | sm-policy optional | Specifies the name of the SnapMirror policy that applies to this relationship. |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **schedule** | | string optional | Specifies the name of the cron schedule, used to update the SnapMirror relationship. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |
| **tries** | | string optional | Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is ignored. |
| **vserver** | | vserver-name optional | If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | snapmirror-modify- | Information about snapmirror objects that were not operated on |

| | | | |
|---|---|---|---|
| **failure-list** | | iter-info[] optional | due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed. |
| **success-list** | | snapmirror-modify-iter-info[] optional | The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-off

[top]

Disables SnapMirror data transfers and turns off the SnapMirror scheduler. Check the SnapMirror status with the snapmirror-get-status API for results.

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **replicate** |

# snapmirror-on

[top]

Enables SnapMirror data transfers and turns on the SnapMirror scheduler. Check the SnapMirror status with the snapmirror-get-status API for results.

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **replicate** |

# snapmirror-promote

[top]

The snapmirror-promote API performs a failover to the destination volume of a load-sharing SnapMirror relationship. This API changes the destination volume from a load-sharing volume to a read-write volume and makes the destination volume assume the identity of the source volume. The API then destroys the original source volume. The destination volume must be a load-sharing volume. However, you can still perform 'snapmirror-promote' on a destination load-sharing volume that has been left in read-write state by a previously failed promote operation. You must specify the destination endpoint when using snapmirror-promote. Note: The source volume and destination volume must be on the same Vserver for the promote to work. Client accesses are redirected from the original source volume to the promoted destination volume. The view clients see on the promoted destination volume is the latest transferred Snapshot copy, which might lag behind the view clients had of the original source volume before the promote. The SnapMirror relationship is usually deleted as part of the promotion process. This is not true for a set of load-sharing mirrors that contain more than one destination volume. In this case, the promoted destination volume becomes the new source volume to the set of load-sharing mirrors. It is possible that the original source volume is the source of multiple SnapMirror relationships. For such a configuration, the promoted destination volume becomes the new source volume of the other SnapMirror relationships. The snapmirror-promote API fails if a SnapMirror transfer is in progress for any SnapMirror relationship involving the original source volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |

| | | | |
|---|---|---|---|
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **source-cluster** | | string optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br><br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The |

| | | | |
|---|---|---|---|
| | | | name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **ESOURCE_ISNOT_RW_VOLUME** | |
| **ESOURCE_DEST_SAME** | |
| **ETRANSFER_IN_PROGRESS** | |
| **EANOTHER_OP_ACTIVE** | |
| **EDEST_VOL_LOCKED** | |
| **ESRC_VOL_LOCKED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# snapmirror-promote-iter

[top]

The snapmirror-promote-iter API performs failover for one or more SnapMirror relationships.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| | | | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API |

| | | | |
|---|---|---|---|
| **max-failure-count** | **[1..2^32-1]** | integer optional | will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-promote-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed. |
| **success-list** | | snapmirror-promote-iter-info[] optional | The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-protect

[top]

The snapmirror-protect API protects the specified Vserver or a list of volumes. The snapmirror-protect API must be used from the destination cluster. It is supported for FlexVol, FlexGroup and Vserver endpoints. It is not supported for FlexGroup constituents, Infinite Volumes, Infinite Volume constituents, AltaVault, or SolidFire endpoints. When source volumes are specified they must be read-write (RW) volumes. This API is available in Data ONTAP 9.3 and later.

On Data ONTAP 9.4 and later, this API supports protecting FlexGroup endpoints.On Data ONTAP 9.7 and later, this API supports protecting Vserver endpoints. A job will be spawned to operate on the

snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **auto-initialize** | | boolean optional | Specifies whether or not an initialize should be started after each SnapMirror relationship is created. The default value for this parameter is true. |
| **destination-volume-prefix** | | string optional | Specifies the destination volume name prefix. |
| **destination-volume-suffix** | | string optional | Specifies the destination volume name suffix. |
| **destination-vserver** | | xc-vs-name optional | Specifies the destination Vserver to be used for protection. |
| **destination-vserver-ipspace** | | string optional | Specifies the IPspace the Vserver will be assigned to. If left unspecified, the Vserver will be assigned to the default IPspace. This parameter is supported while protecting a Vserver and is available in Data ONTAP 9.7 or later. |
| **identity-preserve** | | boolean optional | Specifies whether Vserver protect is IDD or IDP. |
| **path-list** | | snapmirror-path[] | Specifies the list of source endpoints to be protected. |
| **policy** | | sm-policy | Specifies the name of the SnapMirror policy for the SnapMirror relationships. |
| **schedule** | | string optional | Specifies the name of the cron schedule for the SnapMirror relationships. |
| **source-cluster** | | cluster-name optional | Specifies the source cluster name. This parameter is valid only when only a single Vserver is specified in the path-list parameter. This parameter is supported on Data ONTAP 9.7 or later. |
| **support-tiering** | | boolean optional | This parameter specifies whether or not FabricPools are selected when provisioning a FlexVol volume or FlexGroup volume during the protection workflows. This parameter is supported for FlexGroup volumes on Data ONTAP 9.5 or later. This parameter is supported for FlexVol volumes on Data ONTAP 9.7 or later. |
| **tiering-policy** | | tieringpolicy-enum optional | Destination Volume Tiering Policy. This parameter is supported for FlexGroup volumes on Data ONTAP 9.5 or later. This parameter is supported for FlexVol volumes on Data ONTAP 9.7 or later. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| | |

| EAPIMISSINGARGUMENT | |
|---|---|

# snapmirror-quiesce

[top]

Disables future transfers to a SnapMirror destination. If there is no transfer in progress, the SnapMirror relationship becomes 'Quiesced'. If there is a transfer in progress, the SnapMirror relationship becomes 'Quiescing' until the transfer completes. If the current transfer aborts, it will be treated like a future transfer and will not restart. When a SnapMirror relationship is quiesced, it remains in that state across reboots and fail-overs. The relationship must exist on the destination and you must specify the destination endpoint when using snapmirror-quiesce. The destination end point could be a:

- Volume in case of a volume level SnapMirror relationship
- Vserver in case of a Vserver level SnapMirror relationship on Data ONTAP 8.3 or later.
- An AltaVault endpoint on Data ONTAP 9.1 or later.
- A SolidFire endpoint on Data ONTAP 9.3 or later.

On Data ONTAP 8.1 operating in Cluster-Mode, if applied to a load-sharing (LS) SnapMirror relationship, all the relationships in the set will be quiesced. This API must be issued from the destination storage system on Data ONTAP operating in 7-Mode, on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination endpoint.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint.<br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume or the destination Vserver. This parameter is mandatory on Data ONTAP 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. |
| | | | Specifies the destination volume of the SnapMirror relationship. This |

| | | | |
|---|---|---|---|
| **destination-volume** | | string optional | parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br><br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory for relationship with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br><br>• The name of the destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory if destination-location is not specified. |
| **source-cluster** | | string optional | Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the following formats:<br><br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source endpoint.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source endpoint.<br><br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume or the source Vserver. |
| **source-volume** | | string optional | Specifies the source volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br><br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-** | | string | Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br><br>• The name of the source volume. |

| | | | |
|---|---|---|---|
| **vserver** | | optional | • The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | | string optional | Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **ESOURCE_DEST_SAME** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EOP_FROM_NONMGR_VSERVER** | |
| **EANOTHER_OP_ACTIVE** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **replicate** |

# snapmirror-quiesce-iter

[top]

Disables future transfers for one or more SnapMirror relationships.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not |

| | | | |
|---|---|---|---|
| | | | provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-quiesce-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed. |
| **success-list** | | snapmirror-quiesce-iter-info[] optional | The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-release

[top]

The snapmirror-release API removes a SnapMirror relationship on the source endpoint. It unlocks and cleanups the snapshots pertaining to the relationship. It does not destroy any volume. You must specify the destination endpoint when using snapmirror-release. The destination end-point could be a: (a) Volume for a volume level relationship (b) Vserver for a Vserver SnapMirror relationship on Data ONTAP 8.3 or later. Unless relationship-info-only is specified, this operation will fail if it is unable to reach the source volume and clean up snapshots. On Data ONTAP 8.3 or later, if operated on a Vserver SnapMirror relationship, relationships will be removed for all the volumes belonging to the Vserver. On Data ONTAP 8.2 or later operating in Cluster-Mode, this API must be executed on the source Vserver or source cluster following the deletion of the relationship on the destination Vserver or destination cluster. It is possible to issue snapmirror-release on the source Vserver without deleting the relationship on the destination Vserver. However, the relationship will continue to exist because the destination is the authority. The relationship will reappear on the source on the next transfer. On Data ONTAP operating in

7-Mode, this API must be issued on the source storage system. On Data ONTAP 8.2 or later operating in Cluster-Mode, this API must be issued on the source Vserver if operating in Vserver context and on the source cluster if operating in a cluster context. This API is not supported on Data ONTAP 8.1 operating in Cluster-Mode, or Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. This API is not supported for relationships with non-Data ONTAP endpoints.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br><br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or destination Vserver and destination volume or the destination Vserver. This parameter is mandatory on Data ONTAP operating in 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. |
| **destination-volume** | | string optional | Specifies the destination volume of the SnapMirror relationship. If using this parameter, the destination Vserver must also be specified. This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the destination Vserver of the SnapMirror relationship. If using this parameter, the destination volume must also be specified. This parameter is mandatory if destination-location is not specified. |
| **relationship-id** | | string optional | Specifies the relationship unique identifier of the SnapMirror relationship. |
| **relationship-info-only** | | boolean optional | If relationship-info-only is set to true then only relationship information is removed. By default it is false. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers. |

| | | | |
|---|---|---|---|
| | | | This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source Vserver, and source volume or the source Vserver. |
| **source-volume** | | string optional | Specifies the source volume of the SnapMirror relationship. If using this parameter, the source Vserver must also be specified: |
| **source-vserver** | | string optional | Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the source volume must also be specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | | string optional | Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. |

| Errno | Description |
|---|---|
| **ESNAPMIRRORERR** | |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPILICENSE** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |
| **EVSERVERDR_SRC_IS_NOT_LOCAL** | |
| **EVSERVERDR_DST_VSERVER_LOCAL** | |
| **E_JOB_EXISTS** | |
| **EREL_SRC_INFO_NOT_FOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapmirror-release-iter

[top]

releases one or a group of SnapMirror relationships.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **query** | | snapmirror-destination-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **relationship-info-only** | | boolean optional | If relationship-info-only is set to true then only relationship information is removed. By default it is false. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-release-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed. |
| **success-list** | | snapmirror-release-iter-info[] optional | The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| License |
|---|
| **SnapMirror** |

# snapmirror-restore

[top]

The snapmirror-restore API restores either the entire contents of a selected Snapshot copy or selected files or LUNs of a selected Snapshot copy from the source volume to the active file system (AFS) of the destination volume.

The snapmirror-restore API creates a temporary SnapMirror restore relationship. For this reason the destination volume cannot be the destination volume of another SnapMirror relationship. The temporary restore relationship is deleted after the operation completes successfully.

When restoring the entire contents of a Snapshot copy the following applies.

- If the destination volume is an empty data protection volume, the snapmirror-restore API performs a baseline restore. The baseline restore transfers the contents of the selected Snapshot copy from the source volume to the destination volume.
- If the destination volume is read-write an incremental restore is performed. A read-write destination volume must have at least one Snapshot copy which also appears on the source volume.

  A read-write destination volume is converted to a data-protection volume for the duration of the operation. When the destination volume is converted to a data-protection volume the latest Snapshot copy on destination volume is made the exported Snapshot copy. Note, that any data written to the destination volume since the last Snapshot copy is lost during this operation. To save the contents of the AFS on the destination volume, stop all client access and create a new Snapshot copy before starting this operation.

  During an incremental restore a common Snapshot copy is selected. The Snapshot copy chosen as the common Snapshot copy must be on the source and destination volumes. The contents of the common Snapshot copy on the destination volume are copied to the AFS of the destination volume. Then the contents of the Snapshot copy to be restored are transferred from the source volume to the destination volume.

The destination volume is converted to a read-write volume after the contents of the Snapshot copy have been transferred to the AFS of the destination volume.

If the destination volume is not an empty data protection volume or a read-write volume with at least one Snapshot copy which also appears on the source volume, the command fails.

Unless 'source-snapshot' is specified the most recent Snapshot copy on the source volume is restored.

When restoring a list of files or LUNs of a Snapshot copy the following applies.

The destination volume must be a read-write volume and the state of the volume is not changed by the restore operation.

Use the 'file-list' parameter to indicate the files or LUNs to be restored. Access to the files or LUNs being restored on the destination volume is restricted during the operation.

If the file or LUN to which data is to be restored does not exist in the destination volume's AFS it will be created. When creating a file or LUN in the destination AFS, all directories in the path of the file or LUN being restored must exist and for a LUN the parent directory must also be the root of the destination volume or the root of a Qtree in the destination volume.

The 'source-snapshot' parameter is required when restoring a list of files or LUNs. Files or LUNs to be restored must exist in the source Snapshot copy.

If the file or LUN being restored exists in the destination volume's AFS but is not the same file or LUN as in the source Snapshot copy, the contents of the file or LUN in the destination volume AFS will be overwritten but the file or LUN will retain its inode and for a LUN its identity as well. If the file or LUN being restored exists in the destination volume AFS it must be the same type as the file or LUN in the source Snapshot copy. Overwriting a file with a LUN or LUN with a file is not supported.

The 'create-check-snapshot' parameter is supported only when restoring files or LUNs and should be used only if the contents of the files or LUNs restored are to be verified using the 'snapmirror-check' API.

This API may be used to restart a failed snapmirror-restore operation.

This API may be used to terminate an aborted or failed snapmirror-restore operation by specifying the 'clean-up-failure' parameter set to 'true'. Terminating an aborted or failed snapmirror-restore operation deletes any residual temporary restore relationship.

Terminating an operation restoring the entire contents of a Snapshot copy converts the destination volume back to being read-write if the destination volume was read-write prior to the initial snapmirror-restore operation while removing any data transferred or copied during the snapmirror-restore

operation.

On Data ONTAP 9.1, only the SnapMirror source can be an AltaVault endpoint and the destination must be a Data ONTAP volume.

On Data ONTAP 9.4 and later, this API supports FlexGroup endpoints.

Terminating an operation restoring files or LUNs of a Snapshot copy deletes any files whose contents were partially restored but does not delete partially restored LUNs. Access restriction to the partially restored LUNs is not removed. Such a LUN may be deleted using the 'lun-destroy' API with the 'destroy-fenced-lun' parameter. A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cg-item-mappings** | | cg-item-mapping[] optional | Consistency Group Item Mappings |
| **clean-up-failure** | | boolean optional | Use this parameter with the value of 'true' to recover from an aborted or failed restore operation. If the destination volume was read-write prior to the failed or aborted restore operation, it is converted back to read-write if necessary while removing all data transferred or copied during the restore operation. Any residual temporary restore relationship is also removed from the destination Vserver. An attempt is made to remove any residual temporary restore relationship from the source Vserver. The default value for this parameter is 'false'. |
| **create-check-snapshot** | | boolean optional | If this parameter is specified with the value of 'true' a Snapshot copy is created on the destination volume. The purpose of this Snapshot copy is for verifying the contents of files or LUNs restored using the 'snapmirror-check' API. The name of the Snapshot copy created is of the form 'snapmirrorCHK.<destination volume Vserver UUID>.<destination volume msid>.<time_stamp>'. Once the Snapshot copy is no longer needed for verifying data it is the responsibility of the user to delete the Snapshot copy. This parameter is only available on Data ONTAP 8.3 or later. |
| **destination-cluster** | | cluster-name optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| | | | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering |

| | | | |
|---|---|---|---|
| **destination-location** | | snapmirror-path optional | setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. |
| **destination-volume** | | volume-name-nolink optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | xc-vs-name optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified. |
| **disable-storage-efficiency** | | boolean optional | The default behavior of restore is to preserve storage efficiency when possible. Use this parameter with a value of 'true' to turn off storage efficiency for data transferred over the wire and written to the destination volume. The default value for this parameter is false. |
| **max-transfer-rate** | | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| | | | Specifies the files or LUNs of the Snapshot copy to be restored and the location to which the files or LUNs are restored in the active file system (AFS) on the destination volume. May contain |

| | | | |
|---|---|---|---|
| **restore-file-list** | | snapmirror-file-path[] optional | specifications for up to 8 files or LUNs. Specification for each file or LUN consists of a source-path and an optional destination-path. Source-path is required and is the path of the file from the root of the source Snapshot copy, e.g. /dira/file1 or /lun1. The source path does not include the Snapshot name nor the source volume name. The path to which data is restored in the destination volume's AFS is the same as the path specified by source-path unless an optional destination-path is specified. Destination-path begins with the @ symbol followed by the path of the file from the root of the destination volume, e.g. @ /file1 or @ /dira/lun1. File restore is not supported if the source-path or destination-path contains commas in its directory or file name. Source-paths and destination-paths are separate entities in the list of paths. A destination-path is associated with the source-path that precedes it. Example: <snapmirror-file-path>/file1</snapmirror-file-path> will restore /file1 to the same path on the destination volume's AFS while <snapmirror-file-path>/file1</snapmirror-file-path> <snapmirror-file-path> @ /dst_file1</snapmirror-file-path> will restore the data to /dst_file1 on the destination volume's AFS. This parameter is only available on Data ONTAP 8.3 or later. |
| **source-cluster** | | cluster-name optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-location** | | snapmirror-path optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required |

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| | | | on Data ONTAP 8.1 operating in Cluster-Mode. |
| **source-snapshot** | | string optional | Specifies the Snapshot from the source to be restored. |
| **source-volume** | | volume-name-nolink optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified. |
| **source-vserver** | | xc-vs-name optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified. |
| **transfer-priority** | | sm-transfer-priority-enum optional | Specifies the priority at which the transfer runs. Possible values are: 'normal', and 'low'. The default value for this parameter is 'normal'. |
| **tries** | | string optional | Specifies the total number of attempts to transfer data. Valid input is a positive integer or 'unlimited'. The default is '8'. |
| **use-network-compression** | | boolean optional | Specifies whether network compression is used for transfer of data. The default value is 'false'. This parameter is only available on Data ONTAP 8.3 or later. This parameter is not supported for relationships with non-Data ONTAP endpoints. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIMISSINGARGUMENT** | |
| | |

| | |
|---|---|
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **EDEST_IS_CACHE_VOLUME** | |
| **EDEST_IS_VOLUME_CLONE** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EDEST_IS_LS_VOLUME** | |
| **EDEST_VOL_LOCKED** | |

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| **License** |
| **SnapMirror** |

# snapmirror-resume

[top]

Enables future transfers for a SnapMirror relationship that has been quiesced. If there is a scheduled transfer, it will be triggered on the next schedule. If there is a restart checkpoint, it will be re-used if possible. On Data ONTAP Cluster-Mode, If applied on a load-sharing SnapMirror relationship, transfers will resume for all the relationships of the set. With Data ONTAP 8.3 or later, if executed on a Vserver SnapMirror relationship, transfers will resume for all the volumes belonging to the Vserver. When a quiesced SnapMirror relationship is resumed, it remains in that state across reboots and fail-overs. The relationship must exist on the destination and you must specify the destination end point when using snapmirror-resume. The destination end-point could be a: (a) Volume for a volume level relationship (b) Vserver for a Vserver SnapMirror relationship on Data ONTAP 8.3 or later. (c) Non-Data ONTAP destination on Data ONTAP 9.1 or later. This API must be issued on the destination storage system on Data ONTAP operating in 7-Mode, on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and on the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination endpoint.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint.<br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use |

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|---|---|---|---|
| | | | either the destination location, or the destination cluster, destination Vserver, and destination volume or the destination Vserver. This parameter is mandatory on Data ONTAP operating in 7-mode. This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. |
| **destination-volume** | | string optional | Specifies the destination volume of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br>• The name of the destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory if destination-location is not specified. |
| **source-cluster** | | string optional | Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source endpoint.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source endpoint.<br><br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume or the source Vserver. |
| **source-volume** | | string optional | Specifies the source volume of the SnapMirror relationship. The If using this parameter, the following parameters must also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in |

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|---|---|---|---|
| | | | Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-vserver** | | string optional | Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br>• The name of the source volume.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-operation-id** | | string optional | Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **ESOURCE_DEST_SAME** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EOP_FROM_NONMGR_VSERVER** | |
| **ERELATION_NOT_QUIESCED** | |
| **EANOTHER_OP_ACTIVE** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **replicate** |

# snapmirror-resume-iter

[top]

Enables future transfers for one or more SnapMirror relationships.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| | | | When allowing failures ('continue-on-failure' is set to true), then |

| | | | |
|---|---|---|---|
| **max-failure-count** | **[1..2^32-1]** | integer optional | this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-resume-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed. |
| **success-list** | | snapmirror-resume-iter-info[] optional | The snapmirror objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-resync

[top]

Re-establishes a mirroring relationship between

- A source volume and a destination volume.
- A source Vserver and a destination Vserver in case of a Vserver Snapmiror relationship on Data ONTAP 8.3 or later.

On Data ONTAP operating in Cluster-Mode this API is usually used on existing SnapMirror relationships, but it can be used, for data protection relationships only, to create a SnapMirror relationship in addition to performing the resync operation.

Typically, the snapmirror-resync API is executed in the following cases:

- The destination mirror is broken (that is, the destination volume is a read-write volume and no longer a data protection mirror). After the snapmirror-resync API completes, the destination volume is made a data protection mirror and the mirror can be manually updated or scheduled for updates.
- A snapmirror-update API failed because the required common Snapshot copy was deleted on the source volume.

Typically, for a Vserver SnapMirror relationship, a resync is executed when the Vserver SnapMirror relationship is broken-off and the destination Vserver is of subtype default. It establishes the Vserver level relationship by

- Creating new volumes at the destination. (volumes are present at the source Vserver but not present at the destination Vserver)
- Creating volume level SnapMirror relationships.
- Initializing the newly created volume relationships.
- Performing a resync for volumes which have common snapshots.

The destination Vserver after resync, is of sub-type dp-destination. After the operation completes, the destination volume is made a data protection mirror and the mirror can be manually updated or scheduled for updates. **Attention:** The snapmirror-resync API can cause data loss on the destination volume because the API can remove the exported Snapshot copy on the destination volume.

The default behavior of the snapmirror-resync API is defined as follows:

- Finds the most recent common Snapshot copy between the source and destination volumes, removes Snapshot copies on the destination volume that are newer than the common Snapshot copy and mounts the destination volume as a DP volume with the common Snapshot copy as the exported Snapshot copy.
- For data protection and extended data protection relationships with policy type other than vault, takes a Snapshot copy of the source volume to capture the current image and transfers Snapshot copies that are newer than the common Snapshot copy from the source volume to the destination volume. For extended data protection relationships, transfers Snapshot copies newer than the common Snapshot copy according to the relationship policy, i.e., Snapshot copies will match rules associated with the policy as defined by the snapmirror-policy API. For relationships associated with the policy type of async-mirror or mirror-vault, the snapmirror-resync API first takes a Snapshot copy of the source volume and includes it in the Snapshot copies selected for transfer.

On Data ONTAP 8.2 or later operating in Cluster-Mode, the snapmirror-resync API supports an optional parameter 'preserve'. The parameter 'preserve' is only supported for extended data protection relationships with policy type mirror-vault or vault. When used, the parameter 'preserve' changes the behavior of the snapmirror-resync API. The changed behavior can be described as follows:

- Finds the most recent common Snapshot copy between the source and destination volumes, preserves all Snapshot copies on the destination volume that are newer than the common Snapshot copy, and mounts the destination volume as a DP volume with the common Snapshot copy as the exported Snapshot copy.
- Performs a local rollback transfer to make a copy of the common Snapshot copy on the destination volume and establish it as the latest Snapshot copy on the destination volume. The command then transfers all Snapshot copies that are newer than the common Snapshot copy, from the source volume to the destination volume. The command only transfers Snapshot copies that match the relationship's policy, i.e., Snapshot copies will match rules associated with the policy as defined by the snapmirror-policy APIs.

The snapmirror-resync API fails if the destination volume does not have a Snapshot copy in common with the source volume.

On Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode, a job is spawned to operate for the SnapMirror relationship and the job id is returned. The progress of the operation can be tracked using the job APIs.

On Data ONTAP 8.2 or later operating in Cluster-Mode, you can track the progress of the operation using the snapmirror-get API except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.

On Data ONTAP 8.3 or later result-operation-id is returned. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. This operation-id appears in the current-operation-id field returned by the snapmirror-get API as long as the operation is active.

On Data ONTAP operating in 7-Mode, the update is asynchronously handled, and there is no guarantee that it succeeds. This requires that a schedule in /etc/snapmirror.conf is set for the destination.

The API must be issued on the destination storage system on Data ONTAP operating in 7-Mode, on the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and on the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

With Data ONTAP 9.1, this API can be used to resync a Data ONTAP source volume and an AltaVault destination. 1. When an AltaVault destination is specified, the source must be a Data ONTAP volume. 2. An AltaVault source cannot be specifed for resync.

With Data ONTAP 9.3, this API can be used to resync a Data ONTAP volume and a SolidFire endpoint. 1. When a SolidFire endpoint is specified, the other side of the SnapMirror relationship must be a Data ONTAP volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-data ONTAP endpoint. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br><br>This format may change in the future. On Data ONTAP operating in Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume or the destination Vserver. This parameter is mandatory on Data ONTAP operating in 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. |
| **destination-** | | string | Creates the specified snapshot (in addition to the regular SnapMirror snapshot) on the destination after the qtree SnapMirror transfer is |

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|---|---|---|---|
| **snapshot** | | optional | over. |
| **destination-volume** | | string optional | Specifies the destination volume of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br>This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br>• The name of the destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br>This parameter is mandatory if destination-location is not specified. |
| **is-adaptive** | | boolean optional | Specifies if the SnapMirror relationship is adaptive. If the SnapMirror relationship is adaptive, updates on the relationship might, and often will be triggered based on source volume changes. This parameter is supported only for FlexVol SnapMirror relationships between Data ONTAP endpoints. This parameter is only available on Data ONTAP 9.4 or later. |
| **is-auto-expand-enabled** | | boolean optional | Specifies if the FlexGroup SnapMirror relationship and its destination FlexGroup should be auto-expanded if the source FlexGroup is expanded. This parameter is supported only for FlexGroup SnapMirror relationships. If the resync is creating a new SnapMirror relationship, the default value is true. If it is not creating a new relationship, if a value is specified, it must match the current value for the existing relationship. If the parameter is not specified, the existing value will be retained. This parameter is only supported on Data ONTAP 9.3. or later. |
| **max-transfer-rate** | | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. On Data ONTAP operating in Cluster-Mode, the max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| **preserve** | | boolean optional | This parameter is only available for extended data protection relationships with policy type as vault or mirror-vault. The default value is false which means all snapshots on the destination that are newer than the latest common snapshot will be deleted. If preserve is specified, newer snapshots are retained. If preserve is specified for any other relationships the API will fail.<br>This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode and for extended data protection relationships with policy type as vault or mirror-vault. |

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|---|---|---|---|
| | | | This parameter is not supported for relationships with non-Data ONTAP endpoints. |
| **quick-resync** | | boolean optional | If true, the resync time is reduced because the resync does not incur storage efficiency overhead before the transfer of new data. Specifying this parameter is recommended if the source of the resync does not have volume efficiency enabled or if reducing resync time is more important than preserving all possible storage efficiency. When this parameter is specified, resync does not preserve the storage efficiency of the new data with existing data over the wire and on the destination. The default is false.<br><br>This parameter is not supported for data protection and load-sharing relationships.<br><br>This parameter only applies on Data ONTAP 8.3 or later.<br><br>This parameter is not supported for relationships with non-Data ONTAP endpoints. |
| **source-cluster** | | string optional | Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the following formats:<br><br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br><br>This format may change in the future. On Data ONTAP Cluster-Mode when specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume or the source Vserver. On Data ONTAP operating in 7-Mode, If the source-location is not specified, then the source in /etc/snapmirror.conf for the destination path is used. |
| **source-snapshot** | | string optional | Designates the source snapshot to use for a qtree update on Data ONTAP operating in 7-Mode, and the snapshot on the source volume to use for the transfer on Data ONTAP 8.2 or later operating in Cluster-Mode.<br><br>For data protection mirror relationships and extended data protection relationships with policy type async-mirror, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It will use the specified Snapshot copy as if it were the most recent one; that is, all copies between the most recent common one and the specified one are transferred, but no copies newer than the specified one are transferred.<br><br>For extended data protection relationships with policy type vault or mirror-vault, Data ONTAP Cluster-Mode does not create a new |

| | | | |
|---|---|---|---|
| | | | Snapshot copy. It transfers the specified Snapshot copy instead of the ones that match its policy's rules.<br><br>This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. |
| **source-volume** | | string<br>optional | Specifies the source volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br><br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **source-vserver** | | string<br>optional | Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br><br>• The name of the source volume.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **transfer-priority** | | string<br>optional | Specifies the priority at which the transfer runs. Possible values are: "normal", and "low". The default value is the value specified in the snapmirror policy which is associated with the relationship.<br><br>This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer<br>optional | Error code, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. |
| **result-error-message** | | string<br>optional | Error description, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. |
| **result-jobid** | **[0..2^64-1]** | integer<br>optional | Job Id, if this operation was performed via a job. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. This parameter should be used to monitor the transfer progress. But, on Data ONTAP 8.2 operating in Cluster-Mode, it should be ignored if the relationship-control-plane is not 'v1'. The snapmirror-get API should be used to monitor the progress of the transfer. |
| **result-operation-id** | | string<br>optional | Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIMISSINGARGUMENT** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **EDEST_IS_CACHE_VOLUME** | |
| **EDEST_IS_VOLUME_CLONE** | |

| | |
|---|---|
| **ESOURCE_IS_DIFFERENT** | |
| **EDEST_IS_LS_VOLUME** | |
| **ETRIES_COUNT_IS_ZERO** | |
| **ERELATION_IS_QUIESCED** | |
| **EANOTHER_OP_ACTIVE** | |
| **ESOURCE_IS_STRIPED_VOLUME** | |
| **EDEST_IS_STRIPED_VOLUME** | |
| **EDEST_VOL_LOCKED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVSERVER_NOT_PEERED** | |
| **EUNSUPPORTED_CONFIG** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **EVSERVERDR_INCORRECT_SUBTYPE_SRC** | |
| **EVSERVERDR_ANOTHER_SRC_IN_RELATION** | |
| **EVSERVERDR_SRC_SRC_OF_DR_RELATION** | |
| **EVSERVERDR_REVERSE_TRANSFER_OPERATION** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE** | |
| **EVSERVERDR_MIRROR_STATUS_DELETING** | |
| **EVSERVERDR_ADDITIONAL_VOLUMES_ON_DST** | |
| **EVSERVERDR_VOLUME_NAME_MISMATCH** | |
| **EVSERVERDR_VSERVER_MODIFY_FAILED** | |
| **EVSERVERDR_SNAPNAME_GEN_FAILED** | |
| **EVSERVERDR_POLICY_LOOKUP_FAILED** | |
| **EVSERVERDR_QUEUEING_TO_PROCESS_FAILED** | |
| **EVSERVERDR_RELATIONSHIP_MODIFY_FAILED** | |
| **EVSERVERDR_LS_SRC_IN_DST** | |
| **EVSERVERDR_VSM_LOOKUP_FAILED** | |
| **EVSERVERDR_BREAK_INCOMPLETE** | |
| **EVSERVERDR_ROOT_VOL_HAS_DATA** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **replicate** |

# snapmirror-resync-iter

[top]

The snapmirror-resync-iter API establishes or reestablishes one or more SnapMirror relationships between a source and a destination endpoint. This API is not supported on Infinite Volume constituents. On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode (The relationship-control-plane field is set to 'v1'), A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **is-auto-expand-enabled** | | boolean optional | Is Auto Expand Enabled |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred between clusters. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| **preserve** | | boolean optional | This parameter is only available for extended data protection relationships with policy type as vault or mirror-vault. The default value is false which means all Snapshot copies on the destination that are newer than the latest common Snapshot copy will be deleted. If preserve is specified, newer Snapshot copies are retained. If preserve is specified for any other relationships the API will fail.<br><br>This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode and for extended data protection relationships with policy type as vault or mirror-vault. |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **quick-resync** | | boolean optional | If true, the resync time is reduced because the resync does not incur storage efficiency overhead before the transfer of new data. Specifying this parameter is recommended if the source of the resync does not have volume efficiency enabled or if reducing resync time is more important than preserving all possible storage efficiency. When this parameter is specified, resync does not preserve the storage efficiency of the new data with existing data over the wire and on the destination. The default is false. This parameter is not supported for data protection and load-sharing relationships. This parameter only applies on Data ONTAP 8.3 or later. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be |

| | | | |
|---|---|---|---|
| | | | returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on or scheduled to be worked on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **source-snapshot** | | string optional | Designates the source Snapshot copies to use for a qtree update on Data ONTAP operating in 7-Mode, and the Snapshot copy on the source volume to use for the transfer on Data ONTAP 8.2 or later operating in Cluster-Mode.<br><br>For data protection mirror relationships and extended data protection relationships with policy type async-mirror, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It will use the specified Snapshot copy as if it were the most recent one; that is, all copies between the most recent common one and the specified one are transferred, but no copies newer than the specified one are transferred.<br><br>For extended data protection relationships with policy type vault or mirror-vault, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It transfers the specified Snapshot copy instead of the ones that match its policy's rules.<br><br>This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |
| **transfer-priority** | | sm-transfer-priority-enum optional | Specifies the priority at which the transfer runs. The default value is the value specified in the snapmirror policy which is associated with the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Possible values:<br><br>• "low" ,<br>• "normal" |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapmirror-resync-iter-info[] optional | Information about snapmirror objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed or scheduled to be processed. |
| **success-list** | | snapmirror-resync-iter-info[] optional | The snapmirror objects that were successfully processed or scheduled to be processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| License |
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| SnapMirror |

## snapmirror-set-connection

[top]

Sets up a connection. snapmirror-set-connection will add a new connection or modify an existing one. This API must be executed on the destination filer. Currently, the connections are in: /etc/snapmirror.conf.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **address-pair1** | | address-pair | The connection's first source and destination address pair. In multi mode, the first address pair provides a connection path; while in failover mode, the first address pair provides the prefer connection path. |
| **address-pair2** | | address-pair optional | The connection's second source and destination address pair. In multi mode the second address pair provides another connection path, while in failover mode, the second address pair provides a connection path in case the first path fails. |
| **connection** | | string | Name of the connection to add or modify. The name is in ASCII and must begin with an alpha character. |
| **mode** | | string optional | Possible mode values are "multi" or "failover". If not specified, the default is "multi". |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| replicate |

## snapmirror-set-schedule

[top]

Sets the schedule for a given destination. The API must be executed on the destination filer. Currently, the schedule is in /etc/snapmirror.conf.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **connection-mode** | | string optional | This option specifies the mode to be used for establishing connection between source and destination. Possible values are "inet", "inet6" and "default". If this option is set to "inet6", connections between source and destination will be established using IPv6 addresses only. If there are no IPv6 addresses configured, then the connection will fail. If the option is set to "inet", connections between source and destination will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail.<br><br>If not specified, the previous value is retained. If nothing was mentioned previously, it is set as default, where connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet". |

| | | | |
|---|---|---|---|
| | | | This argument is not effective when an IP address is specified instead of source hostname. If the IP address format and connection mode do not match, the operation will fail with proper error message. |
| **days-of-month** | | string | Minutes in the hour for which the schedule is set. The form is crontab-like, with possible values of:<br>• - := match nothing;<br>• 1 := match day 1;<br>• 1,3 := match day 1 and 3;<br>• 2-5 := match day 2,3,4,5;<br>• 1-30/7 := match day 1,8,15,22,29;<br>• * := matches all possible legal values; |
| **days-of-week** | | string | Days in the week for which the schedule is set. 0 represents Sunday, and 6 represents Saturday. The form is crontab-like, with possible values of:<br>• - := match nothing;<br>• 1 := match day 1 (Mon);<br>• 1,3 := match day 1 and 3 (Mon and Wed);<br>• 2-5 := match day 2,3,4,5 (Tue,Wed,Thu,Fri);<br>• * := matches all possible legal values; |
| **destination-location** | | string | The destination location of a schedule to set. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. |
| **hours** | | string | Hours in the day for which the schedule is set. The form is crontab-like, with possible values of:<br>• - := match nothing;<br>• 1 := match hour 1;<br>• 1,3 := match hour 1 and 3;<br>• 2-5 := match hour 2,3,4,5;<br>• 1-24/3 := match hour 1,4,7,10,13,16,19,22;<br>• * := matches all possible legal values; |
| **is-compressed** | | boolean optional | If true SnapMirror will compress/decompress the data that is transferred between the source and destination storage system. If false, transferred data will not be compressed. Upon initial configuration, default is false. On subsequent requests, the current configured setting is retained if not provided. This argument can only be used when a connection definition is used for the relationship entry. Using this argument without a connection definition will throw an error message. |
| **max-transfer-rate** | | integer optional | Maximum transfer rate in kilobytes per second. If specified as 0, transfer happens as fast as the storage system can. If not specified, the previous value is retained. If nothing was mentioned previously, it is set to the default value. |
| **minutes** | | string | Minutes in the hour for which the schedule is set. The form is crontab-like, with possible values of:<br>• - := match nothing;<br>• 1 := match minute 1;<br>• 1,3 := match minute 1 and 3;<br>• 2-5 := match minute 2,3,4,5;<br>• 1-12/3 := match minute 1,4,7,10;<br>• 0-55/5 := match minute 0,5,10,15,20,25,30,35,40,45,50,55;<br>• * := matches all possible legal values; |
| | | | restart mode when transfer is interrupted. Possible values are "always", "never" and "default". If value is set to "always", then an interrupted transfer will always restart, if it has a restart check point and the |

| | | | |
|---|---|---|---|
| **restart** | | string optional | conditions are the same as before the transfer was interrupted. If value is set to "never", then an interrupted transfer will never restart, even if it has a restart checkpoint. If not specified, the previous value is retained. If nothing was mentioned previously, then it is set to default, where SnapMirror behaves like the "always" case, unless it has passed the next scheduled transfer time, in which case it will begin that scheduled transfer instead of restarting. |
| **source-location** | | string | The source location of a schedule to set. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. |
| **tcp-window-size** | | integer optional | TCP window size in bytes. If specified as 0, size is set to an internally determined default value. If not specified, the previous value is retained. |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **replicate** |

# snapmirror-set-sync-schedule

[top]

Establishes a synchronous or semi-synchronous schedule. Currently, the schedules are in: /etc/snapmirror.conf. Semi-synchronous mode is determined by specifying semi-sync.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection-mode** | | string optional | This option specifies the mode to be used for establishing connection between source and destination. If this option is set to "inet6", connections between source and destination will be established using IPv6 addresses only. If there are no IPv6 addresses configured, then the connection will fail. If the option is set to "inet", connections between source and destination will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail.<br><br>If not specified, the previous value is retained. If nothing was mentioned previously, it is set as default, where connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet".<br><br>This argument is not effective when an IP address is specified instead of source hostname. If the IP address format and connection-mode do not match, the operation will fail with proper error message. |
| **destination-location** | | string | The destination location of a schedule to set. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. |
| **is-compressed** | | boolean optional | If true SnapMirror will compress/decompress the data that is transferred between the source and destination storage system. If false, transferred data will not be compressed. Upon initial configuration, default is false. On subsequent requests, the current configured setting is retained if not provided. This argument can only be used when a connection definition is used for the relationship entry. Using this argument without a connection definition will throw an error message. |

| | | | |
|---|---|---|---|
| **ops-throttle** | | string optional | The number of outstanding operations allowed before blocking on the source. The format is a number followed by the one of the following units: "ops", "s", or "ms". If the specified value is less than 10s, the mirror is configured to run in a fully synchronous mode. If the specified value is greater than or equal to 10s, the mirror is configured to run in semi-synchronous mode. If not specified, the previous value is retained. This is a deprecated parameter. Use the sync-mode parameter instead to specify the sync mode. |
| **source-location** | | string | The source location of a schedule to set. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. |
| **sync-mode** | | string optional | This specifies whether the mirror should be configured in sync or in semi-sync mode. Possible values are: "full_sync" and "semi_sync". If the user wants to configure the mirror to run in fully synchronous mode, the user must specify "full_sync" as the value for this parameter. If the user wants to configure the mirror to run in semi-synchronous mode, the user must specify "semi_sync" as the value of this parameter. If not specified, the mirror will be configured to run in full synchronous mode. This parameter overrides the deprecated ops-throttle parameter. |
| **tcp-window-size** | | integer optional | TCP window size in bytes. If specified as 0, size is set to an internally determined default value. If not specified, the previous value is retained. |
| **visibility-frequency** | | integer | Controls how often the source snapspot will be visible on the destination mirror. This input is used to control the value of visibility_interval in the snapmirror.conf file. The units are in seconds. A typical value to use for this input is 180. |

| **License** |
|---|
| **replicate** |

# snapmirror-snapshot-owner-create

[top]

Add an owner to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | snapshot-id | Snapshot Copy Name |
| **snapshot-owner-name** | | snapshot-owner-name optional | Specifies the name of the owner to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration. An owner can contain letters, numbers, and the underscore character (_), and can be at most 32 characters long. If no owner is specified, the system will assign an internal default owner to preserve the Snapshot copy. |
| **volume** | | volume-name | Volume Name |
| **vserver** | | vserver-name | Vserver Name |

| Errno | Description |
|---|---|
| **EINVALIDNPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |

# snapmirror-snapshot-owner-destroy

[top]

Delete an owner used to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | snapshot-id | Snapshot Copy Name |
| **snapshot-owner-name** | | snapshot-owner-name optional | The specified owner is removed from the Snapshot copy. If no owner name is provided, the system will look for and remove the internal default name for the owner. A specified owner of '*' removes all owners from the Snapshot copy. |
| **volume** | | volume-name | Volume Name |
| **vserver** | | vserver-name | Vserver Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |

# snapmirror-snapshot-owner-get

[top]

List all owners used to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | snapshot-id | Name of the snapshot. |
| **volume** | | volume-name | Name of the volume to which this snapshot belongs. |
| **vserver** | | vserver-name | Name of the vserver to which this volume belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-owner-names** | | snapshot-owner-name[] | Returns the owner(s) used to preserve a Snapshot copy for a SnapMirror mirror-to-vault cascade configuration. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |

# snapmirror-snapshot-owner-get-snapshots

[top]

List all Snapshot copies that are preserved for a SnapMirror mirror-to-vault cascade configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | volume-name | Name of the volume to which this snapshot belongs. |
| **vserver** | | vserver-name | Name of the vserver to which this volume belongs. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshots** | | snapshot-id[] | Returns the Snapshot copies that are preserved using owners for a SnapMirror mirror-to-vault cascade configuration. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |

# snapmirror-throttle

[top]

Changes the max transfer rate of an active transfer. The API can be issued to either the source or the destination filer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-location** | | string | The destination location of the active transfer. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. |
| **max-transfer-rate** | | integer | Maximum transfer rate in kilobytes per second. A value '0' disables the throttle, ie. the filer will transfer as fast as it can. Range: 0..2^32-1 |

| Errno | Description |
|---|---|
| **ESNAPMIRRORERR** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **replicate** |

# snapmirror-update

[top]

Updates the destination endpoint of the SnapMirror relationship. The update is asynchronously handled, and there is no guarantee that it will succeed.

On Data ONTAP operating in 7-Mode the snapmirror-get-status API can be used to check the status of the update. The API must be issued on the destination storage system.

On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode and for relationships using a control plane compatible with Data 8.1 operating Cluster-Mode (relationship-control-plane set 'v1'), a job will be spawned to operate on the SnapMirror relationship, and the job id will be returned. The progress of the job can be tracked using the job APIs.

On Data ONTAP 8.2 or later operating in Cluster-Mode, you can track the progress of the operation using the snapmirror-get API, except for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode.

On Data ONTAP 8.3 or later result-operation-id is returned. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. This operation-id appears in the current-operation-id field returned by the snapmirror-get API as long as the operation is active.

With Data ONTAP 8.3 or later, this API can be used to update a relationship between two volumes or two Vservers. 1. When volume names are specified, this API updates a volume level relationship. 2. When Vserver names without volume names are specified, this API will update a relationship between two Vservers.

With Data ONTAP 9.1, this API can be used to update a relationship between a Data ONTAP source volume and an AltaVault destination endpoint. 1. When an AltaVault destination is specified, the source must be a Data ONTAP volume. 2. An AltaVault source cannot be specifed for update.

With Data ONTAP 9.3, this API can be used to update a relationship between a Data ONTAP volume and a SolidFire endpoint. 1. When a SolidFire endpoint is specified, the other side of the SnapMirror relationship must be a Data ONTAP volume.

You must specify the destination endpoint when using snapmirror-update.

The API makes the destination endpoint or non-Data ONTAP destination an up-to-date mirror of the source endpoint.

This API must be used from the destination storage system on Data ONTAP 7-Mode, or from the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, and from the destination Vserver on Data ONTAP 8.2 or later operating in Cluster-Mode.

On Data ONTAP operating in 7-Mode, if the destination endpoint is a volume, the volume must be in the restricted state. If the destination endpoint is a qtree, the qtree must not already exist.

On Data ONTAP Cluster-Mode if the destination volume or non-Data ONTAP endpoint is empty, the snapmirror-update API will fail. The snapmirror-initialize API must be called to perform the baseline transfer before the snapmirror-update can be called.

For data protection relationships, the snapmirror-update API makes the destination volume an up-to-date mirror of the source volume with the following steps:

- If the source volume is read-write, takes a Snapshot copy on the source volume to capture the current image of the source volume.
- Finds the most recent Snapshot copy on the destination volume and validates that the corresponding Snapshot copy is on the source.
- Incrementally transfers Snapshot copies that are newer than the corresponding Snapshot copy to the destination volume.

For extended data protection relationships with policy type vault, the snapmirror-update API does not take a Snapshot copy on the source volume. For extended data protection relationships with policy type as mirror-vault, the snapmirror-update API takes a Snapshot copy on the source volume. But both of them transfer only selected Snapshot copies that are newer than the common Snapshot copy to the destination volume. Snapshot copies are selected by matching their 'snapmirror-label' with the 'snapmirror-label' of one of the rules from the corresponding SnapMirror policy associated with the SnapMirror relationship. All matching Snapshot copies are incrementally transferred to the destination volume.

For extended data protection relationships with policy type as vault or mirror-vault, the snapmirror-update API also manages expiration of Snapshot copies on the destination volume. It does so by deleting Snapshot copies that have exceeded the value of 'keep' for the matching rule from the corresponding SnapMirror policy associated with the SnapMirror relationship. Snapshot copies that match the same 'snapmirror-label' will be deleted in oldest-first order.

For data protection relationships, the parameter 'source-snapshot' is optional and allows for the transfer of Snapshot copies newer than the common Snapshot copy up to the specified 'source-snapshot'.

For extended data protection relationships, the parameter 'source-snapshot' is optional and allows transfer of a Snapshot copy that is older than the common Snapshot copy and/or may not be selected for transfer based on policy-based selection of an update transfer.

After the snapmirror-update API successfully completes, the last Snapshot copy transferred is made the new exported Snapshot copy on the destination volume. If an update to an extended data protection relationship specifies a Snapshot copy using the 'source-snapshot' parameter that is older than the common snapshot, after the snapmirror-update API successfully completes, the exported Snapshot copy on the destination volume will remain unchanged.

If the snapmirror-update does not finish successfully, due to a network failure or because a snapmirror-abort API was issued for example, a restart checkpoint might be recorded on the destination volume. If a restart checkpoint is recorded, the next update restarts and continues the transfer from the restart checkpoint. For extended data protection relationships, the next update will restart and continue the old transfer regardless of whether it is a matching Snapshot copy or not.

On Data ONTAP 8.1 operating in Cluster-Mode, you can use the snapmirror-update API to update a specific load-sharing mirror that lags behind up-to-date destination volumes in the set of load-sharing mirrors. An update to the lagging load-sharing mirror should bring it up to date with the other up-to-date destination volumes in the set of load-sharing mirrors. Note: You might have to run the snapmirror-update API more than once if the command does not finish before the next scheduled update of the set of load-sharing mirrors.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-cluster** | | string optional | Specifies the destination cluster of the SnapMirror relationship. The destination Vserver and destination volume must also be specified if using this parameter. This parameter is not supported if the destination is a non-Data ONTAP endpoint. |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault destination endpoint.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire destination endpoint.<br>This format may change in the future. On Data ONTAP Cluster-Mode, when specifying a destination endpoint, you must use either the destination location, or the destination cluster, destination Vserver, and destination volume or the destination Vserver. On Data ONTAP 7-Mode, if the destination endpoint is a volume, the volume must be in the restricted state. If the destination endpoint is a qtree, the qtree must not already exist. This parameter is |

| | | | |
|---|---|---|---|
| | | | mandatory on Data ONTAP 7-mode This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. |
| **destination-snapshot** | | string optional | Creates the specified snapshot (in addition to the regular SnapMirror snapshot) on the destination after the qtree SnapMirror transfer is over. |
| **destination-volume** | | string optional | Specifies the destination volume of the SnapMirror relationship. This paramter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified. |
| **destination-vserver** | | string optional | Specifies the destination Vserver of the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters must also be specified:<br>• The name of the destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>This parameter is mandatory if destination-location is not specified. |
| **enable-storage-efficiency** | | boolean optional | Enables storage efficiency on an extended data protection relationship with policy type vault which is not currently storage efficient. Storage efficient in this context refers to both over-the-wire efficiency and how the data is written to the destination volume.<br><br>The transfer fails if it cannot be done storage efficiently. If the transfer succeeds, storage efficiency will be enabled on this extended data protection relationship and all future transfers will continue to be storage efficient for as long as possible, but will not fail should those transfers not be storage efficient.<br><br>The default value for this parameter is false. Note that a false value for this parameter only means that storage efficiency will not attempt to be switched on. If storage efficiency is currently enabled, providing this value as false will not disable storage efficiency.<br><br>This paramter is not supported for relationships with non-Data ONTAP endpoints. |
| **max-transfer-rate** | | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. On Data ONTAP operating in Cluster-Mode, the max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| **source-cluster** | | string optional | Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. |

| | | | |
|---|---|---|---|
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the following formats:<br>• <system>:/vol/<volume>[/<qtree>] On Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> On Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with a SolidFire source.<br><br>This format may change in the future. On Data ONTAP Cluster-Mode when specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume or the source Vserver. On Data ONTAP 7-Mode, If the source-location is not specified, then the source in /etc/snapmirror.conf for the destination path is used. |
| **source-snapshot** | | string optional | Specifies the Snapshot copy on the source to use as the basis for the update. It is used for updates to Data ONTAP 7-mode qtree relationships and Data ONTAP Cluster-Mode relationships.<br><br>For a qtree relationship, Data ONTAP 7-mode does not create a new Snapshot copy and transfers the specified Snapshot copy instead.<br><br>For data protection relationships and extended data protection relationships with policy type async-mirror, Data ONTAP Cluster-Mode does not create a new Snapshot copy. Depending on the specific policy attached, it will either transfer only the specified Snapshot copy, or it will use the specified Snapshot copy as if it were the most recent one; that is, all copies between the most recent common one and the specified one are transferred, but no copies newer than the specified one are transferred.<br><br>For extended data protection relationships with policy type vault or mirror-vault, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It just transfers the specified Snapshot copy instead of the ones that match its policy's rules.<br><br>Vserver level SnapMirror relationships do not support this parameter. |
| **source-volume** | | string optional | Specifies the source volume of the SnapMirror relationship. If using this parameter, the following parameters must also be specified:<br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| | | | Specifies the source Vserver of the SnapMirror relationship. If using this parameter, the following parameters must also be specified: |

| | | | |
|---|---|---|---|
| **source-vserver** | | string optional | • The name of the source volume.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'. |
| **transfer-priority** | | string optional | Specifies the priority at which the transfer runs. Possible values are: "normal", and "low". The default value is the value specified in the snapmirror policy which is associated with the relationship.<br><br>This parameter only applies on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. This parameter is only returned by Data ONTAP 8.1 operating in Cluster-Mode. |
| **result-operation-id** | | string optional | Operation unique identifier of the SnapMirror operation. This field is only returned by Data ONTAP 8.3 or later. It only contains a valid value if the relationship control plane is â€˜v2â€™. A null UUID value (00000000-0000-0000-0000-000000000000) is returned when the field is not valid. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded", "in_progress", "failed". This parameter is only returned by Data ONTAP 8.1 or above operating in Cluster-Mode. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **ESOURCE_IS_DIFFERENT** | |
| **EDEST_ISNOT_LOCAL_VOLUME** | |
| **EDEST_IS_LS_VOLUME** | |
| **EOP_FROM_NONMGR_VSERVER** | |
| **ESOURCE_DEST_SAME** | |
| **ETRIES_COUNT_IS_ZERO** | |
| **ERELATION_IS_QUIESCED** | |
| **EDEST_VOL_LOCKED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **ETRANSFER_IN_PROGRESS** | |
| **EVSERVERDR_DST_IS_NOT_LOCAL** | |
| **EVSERVERDR_INCORRECT_SUBTYPE_DST** | |
| **EVSERVERDR_CANNOT_FIND_RELATIONSHIP** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATUS** | |
| **EVSERVERDR_CANNOT_PERFORM_OP_IN_THIS_STATE** | |
| **EVSERVERDR_MIRROR_STATUS_DELETING** | |
| **EVSERVERDR_SNAPNAME_GEN_FAILED** | |

| | |
|---|---|
| **EVSERVERDR_POLICY_LOOKUP_FAILED** | |
| **EVSERVERDR_QUEUEING_TO_PROCESS_FAILED** | |
| **EVSERVERDR_BREAK_INCOMPLETE** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **replicate** |

# snapmirror-update-iter

[top]

The snapmirror-update-iter API updates the destination volumes of one or more SnapMirror relationships. This API is not supported on Infinite Volume constituents. On Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating Cluster-Mode (The relationship-control-plane field is set to 'v1'), A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapmirror objects match a given query. If set to true, the API will continue with the next matching snapmirror even when the operation fails for the snapmirror. If set to false, the API will return on the first failure. Default: false |
| **enable-storage-efficiency** | | boolean optional | Enables storage efficiency on a vault relationship which is not currently storage efficient. Storage efficient in this context refers to both over-the-wire efficiency and how the data is written to the destination volume.<br><br>The transfer fails if it cannot be done storage efficiently. If the transfer succeeds, storage efficiency will be enabled on this vault relationship and all future transfers will continue to be storage efficient for as long as possible, but will not fail should those transfers not be storage efficient.<br><br>The default value for this parameter is false. Note that a false value for this parameter only means that storage efficiency will not attempt to be switched on. If storage efficiency is currently enabled, providing this value as false will not disable storage efficiency. |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching snapmirror even when the operation on a previous matching snapmirror fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of snapmirror objects to be operated in this call. Default: 20 |
| | | | |

| | | | |
|---|---|---|---|
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. |
| **query** | | snapmirror-info | If operating on a specific snapmirror, this input element must specify all keys. If operating on snapmirror objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were not operated on due to some error. If set to false, the list of snapmirror objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapmirror objects (just keys) that were successfully operated on or scheduled to be worked on. If set to false, the list of snapmirror objects operated on will not be returned. Default: true |
| **source-snapshot** | | string optional | Specifies the Snapshot copy on the source to use as the basis for the update. It is used for updates to Data ONTAP 7-mode qtree relationships and Data ONTAP Cluster-Mode relationships.<br><br>For a qtree relationship, Data ONTAP 7-mode does not create a new Snapshot copy and transfers the specified Snapshot copy instead.<br><br>For data protection relationships and extended data protection relationships with policy type async-mirror, Data ONTAP Cluster-Mode does not create a new Snapshot copy. Depending on the specific policy attached, it will either transfer only the specified Snapshot copy, or it will use the specified Snapshot copy as if it were the most recent one; that is, all copies between the most recent common one and the specified one are transferred, but no copies newer than the specified one are transferred.<br><br>For extended data protection relationships with policy type vault or mirror-vault, Data ONTAP Cluster-Mode does not create a new Snapshot copy. It just transfers the specified Snapshot copy instead of the ones that match its policy's rules.<br><br>Vserver level SnapMirror relationships do not support this parameter. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |
| **transfer-priority** | | sm-transfer-priority-enum optional | Specifies the priority at which the transfer runs. The default value is the value specified in the snapmirror policy which is associated with the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Possible values:<br><br>• "low" ,<br>• "normal" |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | snapmirror-update- | Information about snapmirror objects that were not operated on |

| | | | |
|---|---|---|---|
| **failure-list** | | iter-info[] optional | due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapmirror objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapmirror objects that matched the query and were successfully processed or scheduled to be processed. |
| **success-list** | | snapmirror-update-iter-info[] optional | The snapmirror objects that were successfully processed or scheduled to be processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapmirror-update-ls-set

[top]

The snapmirror-update-ls-set API updates destination volumes of the set of load-sharing mirrors. The API makes destination volumes, in the group of load-sharing mirrors, up-to-date mirrors of the source volume. You must specify the source endpoint when using snapmirror-update-ls-set. Separate SnapMirror transfers are performed from the source volume to each of the up-to-date destination volumes in the set of load-sharing mirrors. Load-sharing mirrors that lag behind the up-to-date destination volumes might not be updated by the snapmirror-update-ls-set API. Use the snapmirror-update API to update a lagging load-sharing mirror. A job will be spawned to operate on the snapmirror and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **source-cluster** | | string optional | Specifies the source cluster of the SnapMirror relationship. The source Vserver and source volume must also be specified if using this parameter. |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship. When specifying a source endpoint, you must use either the source location, or the source cluster, source Vserver, and source volume. |
| **source-volume** | | string optional | Specifies the source volume of the SnapMirror relationship. The source cluster and source Vserver must also be specified if using this parameter. |
| **source-vserver** | | string optional | Specifies the source Vserver of the SnapMirror relationship. The source cluster and source volume must also be specified if using this parameter. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EAPIPRIVILEGE** | |
| **EAPIMISSINGARGUMENT** | |
| **ESOURCE_ISNOT_LOCAL_VOLUME** | |
| **ESOURCE_IS_EXISTING_DEST_VOLUME** | |
| **ETRIES_COUNT_IS_ZERO** | |
| **ERELATION_IS_QUIESCED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# Element definition: **address-pair**

[top]

Source and destination address pair.

| Name | Range | Type | Description |
|---|---|---|---|
| **destination-addr** | | string | Destination address in the form of filer name or IP address. |
| **source-addr** | | string | Source address in the form of filer name or IP address. |

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **cg-item-mapping**

[top]

Snapmirror Consistency Group Item Mapping

[none]

# Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

# Element definition: **destination-info**

[top]

Source location, destination location, and source snapshot of a snapmirrored pair.

| Name | Range | Type | Description |
|---|---|---|---|
| **destination-location** | | string | Destination location of the snapmirrored pair. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree> or the clone form: <filer>:<volume>-> [clone:<clone_name>]. |
| **source-location** | | string | The source location of the snapmirrored pair. The source location is of the volume form: <filer>:<volume>, or it is of the qtree form: <filer>:/vol/<volume>/<qtree>. In versions of ONTAP earlier than 7.0, there was a bug which omitted the filer name, so the volume form is: <volume>, and the qtree form is: /vol/<volume>/<qtree>. |
| **source-snapshot** | | string | The source snapshot. |

# Element definition: **sm-policy**

[top]

SnapMirror Policy

[none]

# Element definition: **sm-transfer-priority-enum**

[top]

low|normal Possible values:

- "low" ,
- "normal"

[none]

# Element definition: **smendpointtype**

[top]

flexvol|object-store Possible values:

- "flexvol" ,
- "object_store"

[none]

# Element definition: **snapmirror-abort-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |

# Element definition: **snapmirror-break-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |

# Element definition: **snapmirror-capabilities-info**

[top]

Capabilities information for a single endpoint type When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **endpoint-type** | | smendpointtype optional | Endpoint type. Only value of type flexvol is supported. The value of type object_store is for NetApp internal use only and is expected to be incompatible with a future release. Attributes: key, non-creatable, non-modifiable Possible values:<br>• "flexvol" ,<br>• "object_store" |
| **is-dpo-destination-enabled** | | boolean optional | Whether or not this cluster has a DP_Optimized (Data Protection Optimized) license installed. If the license is installed, the value is true, otherwise it is false. Attributes: non-creatable, non- |

| | | | |
|---|---|---|---|
| | | | modifiable |
| **is-dpo-source-enabled** | | boolean optional | Whether or not this cluster supports bypassing source SnapMirror license checking if the destination cluster for a SnapMirror relationship has a DP_Optimized (Data Protection Optimized) license installed. Some hardware platforms support this bypassing and some do not. If one or more nodes support bypassing, the value is true, otherwise it is false. Attributes: non-creatable, non-modifiable |
| **is-snaplock-licensed** | | boolean optional | Whether or not this cluster has a SnapLock license installed. If the license is installed, the value is true, otherwise it is false. Attributes: non-creatable, non-modifiable |
| **snapmirror-policy-types** | | snapmirror-policy-cap-info[] optional | Capabilities information for policy types. |

# Element definition: **snapmirror-check-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |
| **status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

# Element definition: **snapmirror-connection-info**

[top]

Information about one connection.

| Name | Range | Type | Description |
|---|---|---|---|
| **address-pair1** | | address-pair | The first source and destination address pair. |
| **address-pair2** | | address-pair optional | The second source and destination address pair. |
| **mode** | | string | Connection mode. Possible values are: "multi" and "failover". |
| **name** | | string | Name of the connection. The name is in ASCII and must begin with an alpha character. |
| **snapmirror-error** | | snapmirror-error | Present if there is an error for a snapmirror connection. |

| | | | |
|---|---|---|---|
| | | optional | |

# Element definition: **snapmirror-cr-status-aggregate-eligibility-info**

[top]

SnapMirror Config-Replication Aggregate Eligibility Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | aggr-name optional | The aggregate being evaluated for config-replication volume hosting eligibility. Attributes: key, non-creatable, non-modifiable |
| **comment** | | string optional | If the aggregate is not eligible to host additional config-replication volumes, this comment indicates the reason. Attributes: non-creatable, non-modifiable |
| **hosted-configuration-replication-volumes** | | volume-name[] optional | The volumes used for config-replication that are currently hosted by this aggregate. Attributes: non-creatable, non-modifiable |
| **is-eligible-to-host-additional-volumes** | | boolean optional | Whether or not this aggregate is eligible to host more config-replication volumes. Attributes: non-creatable, non-modifiable |

# Element definition: **snapmirror-cr-status-comm-info**

[top]

Results of the SnapMirror config replication communication status check When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **heartbeat-recovery-steps** | | string optional | Recovery steps in case the check finds a problem with the peer cluster heartbeat. Attributes: non-creatable, non-modifiable |
| **last-heartbeat-received** | | datetime optional | The timestamp of the last SnapMirror configuration replication hearbeat received from the peer cluster. Attributes: non-creatable, non-modifiable |
| **last-** | | | The timestamp of the last SnapMirror configuration replication |

| | | | |
|---|---|---|---|
| **heartbeat-sent** | | datetime optional | heartbeat sent to the peer cluster. Attributes: non-creatable, non-modifiable |
| **peer-cluster** | | string optional | The peer cluster destination for SnapMirror configuration replication. Attributes: non-creatable, non-modifiable |
| **peer-cluster-uuid** | | string optional | The UUID of the peer cluster destination for SnapMirror configuration replication. Attributes: key, non-creatable, non-modifiable |
| **remote-heartbeat** | | string optional | Verifies that the SnapMirror configuration replication heartbeat to the peer cluster is healthy. Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |

# Element definition: **snapmirror-cr-status-info**

[top]

Results of the SnapMirror config replication status check When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Verifies that SnapMirror configuration replication is enabled on the cluster. Attributes: non-creatable, non-modifiable |
| **is-running** | | boolean optional | Verifies that SnapMirror configuration replication is running on the cluster. Attributes: non-creatable, non-modifiable |
| **recovery-steps** | | string optional | Recovery steps in case the check finds config replication is not enabled or is enabled but not running. Attributes: non-creatable, non-modifiable |
| **storage-in-use** | | string optional | The location of SnapMirror configuration replication storage.<br><br>Examples:<br>• Node Local on node-123<br>• Cluster-wide Volume: MDV_CRS_1bc7134a5ddf11e3b63f123478563412_A<br>• Unavailable<br><br>Attributes: non-creatable, non-modifiable |
| **storage-non-healthy-reason** | | string optional | The underlying root cause for non-healthy SnapMirror configuration replication storage. Attributes: non-creatable, non-modifiable |
| **storage-recovery-steps** | | string optional | Recovery steps in case the check finds a problem with configuration replication storage. Attributes: non-creatable, non-modifiable |
| | | | Verifies that SnapMirror configuration replication storage is healthy. Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **storage-status** | | string optional | • "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |
| **vserver-recovery-steps** | | string optional | Recovery steps in case the check finds a problem with configuration replication Vserver streams. Attributes: non-creatable, non-modifiable |
| **vserver-streams** | | string optional | Verifies that SnapMirror configuration replication Vserver streams are healthy. Attributes: non-creatable, non-modifiable Possible values:<br>• "ok" - Check passed,<br>• "warning" - Check failed,<br>• "not_run" - Check could not be run,<br>• "not_applicable" - Check is not applicable |

# Element definition: **snapmirror-cr-storage-info**

[top]

Snapmirror Config-Replication Storage info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **disallowed-aggregates** | | aggr-name[] optional | Specifies the list of aggregates that are disallowed for use by the Async Vserver DR configuration replication. An admin may modify this value to exclude aggregates. Attributes: non-creatable, modifiable |
| **use-mirrored-aggregate** | | boolean optional | Specifies whether mirrored aggregates are currently in use by Async Vserver DR configuration replication. Attributes: non-creatable, non-modifiable |

# Element definition: **snapmirror-destination-info**

[top]

Information about a Destination of a SnapMirror Relationship Source When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | Specifies a list of the Consistency Group (CG) item mappings. This |

| | | | |
|---|---|---|---|
| **cg-item-mappings** | | string[] optional | parameter is applicable to CG level relationships and will be considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,... Attributes: non-creatable, non-modifiable |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The destination endpoint can be specified using the location format above, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume. Attributes: key, non-creatable, non-modifiable |
| **destination-volume** | | string optional | Specifies the name of destination volume for the SnapMirror relationshp. The name of the destination Vserver must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable |
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the relationship. The name of the destination volume must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable |
| **is-constituent** | | boolean optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>Specifies whether or not the SnapMirror relationship is between Infinite Volume constituent volumes. This parameter is not supported for FlexGroup or FlexGroup constituent SnapMirror relationships. Attributes: non-creatable, non-modifiable |
| **policy-type** | | string optional | The type of the SnapMirror policy for the relationship. This parameter is only available on Data ONTAP 8.3 or later. On Data ONTAP 8.2, relationships with type extended data protection will behave as if the policy type were vault. The functionality of policy types async-mirror and mirror-vault is not available for extended data protection relationships on Data ONTAP 8.2. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Attributes: non-creatable, non-modifiable Possible values:<br><br>• "vault" ,<br>• "async_mirror" ,<br>• "mirror_vault" ,<br>• "smgr_mirror" ,<br>• "strict_sync_mirror" ,<br>• "sync_mirror" ,<br>• "active_strict_sync_mirror" ,<br>• "automated_failover" ,<br>• "migrate" ,<br>• "continuous" |
| **progress-last-updated** | **[0..2^31-1]** | integer optional | Specifies the timestamp indicating when the progress of the ongoing transfer was last updated. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **relationship-group-type** | | string optional | For FlexVol relationships, specifies the type of the group relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. This parameter is only available on Data ONTAP 8.3 or later. Attributes: non-creatable, non-modifiable Possible values:<br><br>• "none" ,<br>• "vserver" ,<br>• "infinitevol" ,<br>• "consistencygroup" , |

| | | | |
|---|---|---|---|
| | | | "flexgroup" ,<br>• "vserverflexgroup" |
| **relationship-id** | | string optional | Specifies the SnapMirror relationship ID. Attributes: key, non-creatable, non-modifiable |
| **relationship-status** | | string optional | Specifies the SnapMirror relationship status. This parameter is present only if at least one transfer has been performed since the node hosting the source volume joined the quorum. Possible values are:<br>• 'idle',<br>• 'transferring'<br><br>This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **relationship-type** | | string optional | Specifies the SnapMirror relationship type. Attributes: non-creatable, non-modifiable |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The source endpoint can be specified using the location format above, or by specifying the parameters for the name of the source Vserver and the name of the source volume. Attributes: key, non-creatable, non-modifiable |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. The name of the source Vserver must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable |
| **source-volume-node** | | string optional | Node which owns the source volume of the relationship. For FlexGroup relationships it is the node which owns the root constituent source volume. Attributes: non-creatable, non-modifiable |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. The name of the source volume must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable |
| **transfer-progress** | **[0..2^63-1]** | integer optional | Specifies the number of bytes processed so far for the ongoing transfer. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |

# Element definition: **snapmirror-destroy-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |

# Element definition: **snapmirror-file-path**

[top]

Snapmirror File Path

[none]

# Element definition: **snapmirror-get-dp-personality**

[top]

SnapMirror Data Protection Personality When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-dp-personality** | | string optional | DP Personality. Attributes: non-creatable, non-modifiable |

# Element definition: **snapmirror-history-info**

[top]

SnapMirror history When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **additional-info** | | string optional | A message describing the cause of the failure or additional information about a successful operation such as if a checkpoint was cleared as part of an abort operation. Attributes: non-creatable, non-modifiable |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the following format:<br>• <[vserver:]volume><br>• <vserver:><br>This format depends on Vserver peering setup between the source and destination Vservers. The destination endpoint can be specified |

| | | | |
|---|---|---|---|
| | | | using the location format, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume or the destination Vserver for Vserver SnapMirror relationships. Attributes: key, non-creatable, non-modifiable |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship.If using this parameter, the following parameter should also be specified:<br>• The name of the destination Vserver.<br>Attributes: key, non-creatable, non-modifiable |
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the SnapMirror relationship. If using this parameter, the following parameter should also be specified for volume SnapMirror relationships:<br>• The name of destination volume.<br>Attributes: key, non-creatable, non-modifiable |
| **end-time** | | datetime optional | The timestamp of the end time of the operation, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable |
| **operation-id** | | string optional | A unique identifier assigned to a SnapMirror operation. Attributes: key, non-creatable, non-modifiable |
| **operation-type** | | string optional | The type of the operation happened on the relationship. Attributes: non-creatable, non-modifiable Possible values:<br>• "create" - Snapmirror Create,<br>• "modify" - Snapmirror Modify,<br>• "quiesce" - Snapmirror Quiesce,<br>• "resume" - Snapmirror Resume,<br>• "delete" - Snapmirror Delete,<br>• "initialize" - Snapmirror Initialize,<br>• "manual_update" - Snapmirror Manual Update,<br>• "scheduled_update" - Snapmirror Scheduled Update,<br>• "break" - Snapmirror Break,<br>• "resync" - Snapmirror Resync,<br>• "abort" - Snapmirror Abort,<br>• "restore" - Snapmirror Restore,<br>• "automatic_resync" - Snapmirror Automatic Resync,<br>• "failover" - Snapmirror Failover |
| **relationship-group-type** | | string optional | For FlexVol relationships, specifies the type of the group relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" ,<br>• "vserver" ,<br>• "infinitevol" ,<br>• "consistencygroup" ,<br>• "flexgroup" ,<br>• "vserverflexgroup" |
| **relationship-id** | | string optional | A unique identifier assigned to the SnapMirror relationship when it is created. This is not applicable for Vserver SnapMirror relationships. Attributes: non-creatable, non-modifiable |
| **result** | | string optional | Result of the SnapMirror operation. Attributes: non-creatable, non-modifiable Possible values:<br>• "success" - Succesful Operation,<br>• "failure" - Failed Operation |

| | | | |
|---|---|---|---|
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the following format:<br>• <[vserver:]volume><br>• <vserver:> This format depends on Vserver peering setup between the source and destination Vservers.<br>The source endpoint can be specified using the location format, or by specifying the parameters for the name of the source Vserver and the name of the source volume or the source Vserver for Vserver SnapMirror relationships. Attributes: non-creatable, non-modifiable |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. If using this parameter, the following parameter should also be specified:<br>• The name of the source Vserver.<br>Attributes: non-creatable, non-modifiable |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. If using this parameter, the following parameter should also be specified for volume SnapMirror relationships:<br>• The name of source volume.<br>Attributes: non-creatable, non-modifiable |
| **start-time** | | datetime optional | The timestamp of the start time of the operation, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable |
| **transfer-size** | **[0..2^63-1]** | integer optional | The total number of bytes transferred as part of the transfer operation. Attributes: non-creatable, non-modifiable |

# Element definition: **snapmirror-info**

[top]

Information about the SnapMirror Relationship. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **break-failed-count** | **[0..2^64-1]** | integer optional | The number of failed SnapMirror break operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **break-successful-count** | **[0..2^64-1]** | integer optional | The number of successful SnapMirror break operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This the relationship control |

| | | | |
|---|---|---|---|
| | | | plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **catalog-status** | | string optional | Specifies the catalog metadata transfer status for the SnapMirror relationship. Possible values are:<br>• 'idle' - No catalog metadata transfer is in progress,<br>• 'transferring' - A catalog metadata transfer is in progress.<br>This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable |
| **catalog-total-progress** | **[0..2^63-1]** | integer optional | The total number of bytes that have been processed so far for the current catalog metadata transfer for the relationship. This is set only when the catalog-status indicates that an activity is in progress. This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable |
| **catalog-transfer-snapshot** | | string optional | Specifies the name of the current snapshot copy for which the catalog metadata is being transferred. This is set only when the catalog-status indicates that an activity is in progress. This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable |
| **cg-item-mappings** | | string[] optional | Specifies a list of the consistency group (CG) item mappings. This parameter is relevant to CG level relationships and will be considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,... Attributes: optional-for-create, non-modifiable |
| **current-max-transfer-rate** | **[0..2^32-1]** | integer optional | The upper bound in kilobytes per second, at which data is transferred for the current transfer. This value can be the same as the 'max-transfer-rate' in the relationship or the policy or different if overwritten when starting the transfer via the associated commands or APIs (snapmirror-initialize, snapmirror-update, snapmirror-resync, snapmirror-restore). This parameter is only valid when a transfer is in progress. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **current-operation-id** | | string optional | Operation unique identifier of the currently executing SnapMirror operation.This parameter is only available in Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **current-transfer-error** | | string optional | A message describing the last retryable error encountered by the current transfer. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **current-transfer-priority** | | string optional | Priority assigned to the ongoing transfer. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if a transfer is in progress. Attributes: non-creatable, non-modifiable Possible values:<br>• "low" ,<br>• "normal" |
| | | | The type of transfer taking place. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values:<br>• "initialize" ,<br>• "update" , |

| | | | |
|---|---|---|---|
| **current-transfer-type** | | string optional | • "resync" ,<br>• "restore" ,<br>• "check" ,<br>• "file_restore" ,<br>• "cggrs_initialize" ,<br>• "cggrs_resync" ,<br>• "cg_update" ,<br>• "cg_initialize" ,<br>• "cg_resync" ,<br>• "cg_restore" ,<br>• "catalog_metadata" ,<br>• "cg_file_restore" ,<br>• "failover" ,<br>• "aufo" ,<br>• "failover_incapable" |
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br><br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br><br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. Attributes: key, optional-for-create, non-modifiable |
| | | | Specifies the name of the destination volume for the SnapMirror |

| | | | |
|---|---|---|---|
| **destination-volume** | | string optional | relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **destination-volume-node** | | string optional | Node which owns the destination volume of the relationship. For FlexGroup relationships it is the node which owns the root constituent destination volume. For object store relationships it is the node which owns the source volume. This parameter is available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **destination-vserver-uuid** | | string optional | A unique identifier assigned to the destination Vserver when it is created. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **exported-snapshot** | | string optional | The name of the exported Snapshot copy on the destination volume. Attributes: non-creatable, non-modifiable |
| **exported-snapshot-timestamp** | **[0..2^31-1]** | integer optional | The timestamp of the exported Snapshot copy on the destination volume, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable |
| **file-restore-file-count** | **[0..2^64-1]** | integer optional | The number of files being restored by file restore. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **file-restore-file-list** | | string[] optional | List of the destination file names of the files being restored by file restore. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **identity-preserve** | | boolean optional | This optional parameter specifies whether or not the identity of the source Vserver is replicated to the destination Vserver and is applicable on Data ONTAP 8.3 or later. If this parameter is set to true, the source Vserver's configuration will additionally be replicated to the destination. If the parameter is set to false, then only the source Vserver's volumes and RBAC configuration are replicated to the destination. By default this parameter will be false. Attributes: optional-for-create, non-modifiable |
| | | | Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is |

| | | | |
|---|---|---|---|
| **is-auto-expand-enabled** | | boolean optional | expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the paramter is not specified, auto expansion will be enabled on FlexGroup relationships. This parameter is only available on Data ONTAP 9.3 or later. Attributes: optional-for-create, modifiable |
| **is-constituent** | | boolean optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>Specifies whether or not the SnapMirror relationship is between Infinite Volume constituent volumes. This parameter is not supported for FlexGroup or FlexGroup constituent SnapMirror relationships. Attributes: non-creatable, non-modifiable |
| **is-healthy** | | boolean optional | False if the last manual or scheduled update failed or was aborted, or if the last scheduled update was delayed. Otherwise true. Attributes: non-creatable, non-modifiable |
| **lag-time** | **[0..2^32-1]** | integer optional | The amount of time in seconds by which the data on the mirror lags behind the source. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **last-transfer-duration** | **[0..2^32-1]** | integer optional | The amount of time in seconds it took for the last transfer to complete. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was successful. Attributes: non-creatable, non-modifiable |
| **last-transfer-end-timestamp** | **[0..2^31-1]** | integer optional | The Timestamp of the end of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **last-transfer-error** | | string optional | A message describing the cause of the last transfer failure. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode, if the relationship control plane is 'v2', and if the last transfer was unsuccessful. Attributes: non-creatable, non-modifiable |
| **last-transfer-error-codes** | **[0..2^32-1]** | integer[] optional | List of codes providing additional information on the cause and context of the last transfer failure. These are Data ONTAP internal codes, not API errnos. This parameter is reserved for use only by vendor provided management tools, and is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was unsuccessful. Attributes: non-creatable, non-modifiable |
| **last-transfer-from** | | string optional | The source endpoint of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **last-transfer-network-compression-ratio** | | string optional | The compression ratio achieved for the data sent over the wire as a part of the last transfer. If network compression was disabled for the last transfer, the ratio will be set to 1:1. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2', and if the last transfer was successful. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **last-transfer-size** | **[0..2^63-1]** | integer optional | The total number of bytes transferred as part of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was successful. This parameter is not supported for SnapMirror FlexGroup relationships, but it is |

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|---|---|---|---|
| | | | supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **last-transfer-type** | | string optional | The type of the previous transfer for the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values:<br>• "initialize" ,<br>• "update" ,<br>• "resync" ,<br>• "restore" ,<br>• "check" ,<br>• "file_restore" ,<br>• "cggrs_initialize" ,<br>• "cggrs_resync" ,<br>• "cg_update" ,<br>• "cg_initialize" ,<br>• "cg_resync" ,<br>• "cg_restore" ,<br>• "catalog_metadata" ,<br>• "cg_file_restore" ,<br>• "failover" ,<br>• "aufo" ,<br>• "failover_incapable" |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. Attributes: optional-for-create, modifiable |
| **mirror-state** | | string optional | Specifies the mirror state of the SnapMirror relationship. Possible values are:<br>• 'uninitialized' - Destination volume has not been initialized,<br>• 'snapmirrored' - Destination volume has been initialized and is ready to receive SnapMirror updates,<br>• 'broken-off' - Destination volume is RW and snapshots are present.<br><br>Attributes: non-creatable, non-modifiable |
| **network-compression-ratio** | | string optional | The compression ratio achieved for the data sent over the wire with network compression enabled. The left side of the ratio represents the value obtained by dividing uncompressed bytes transferred by compressed bytes transferred. The compression ratio is not maintained across checkpoint restarts. If network compression is disabled, the ratio will be set to 1:1. This is set only when the relationship-status indicates that an activity is in progress. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **newest-snapshot** | | string optional | The name of the newest Snapshot copy on the destination volume. Attributes: non-creatable, non-modifiable |
| **newest-snapshot-** | **[0..2^31-** | integer | The timestamp of the newest Snapshot copy on the destination volume, in seconds since Jan 1, 1970. Attributes: non-creatable, |

| | | | |
|---|---|---|---|
| **timestamp** | **1]** | optional | non-modifiable |
| **opmask** | **[0..2^64-1]** | integer optional | A mask that provides information about the capabilities of the relationship. This parameter is reserved for use only by vendor provided management tools. This parameter is available only on Data ONTAP 9.0 or later operating in Cluster-Mode. Attributes: non-creatable, non-modifiable |
| **policy** | | string optional | Specifies the name of the snapmirror policy for the relationship. For SnapMirror relationships of type 'vault' or 'extended data protection', the policy will also have rules to select snapshot copies that must be transferred. If no policy is specified, a default policy will be applied depending on the type of the SnapMirror relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: optional-for-create, modifiable |
| **policy-type** | | string optional | The type of the SnapMirror policy for the relationship. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. On Data ONTAP 8.2, relationships with type extended data protection will behave as if the policy type were vault. The functionality of policy types async-mirror and mirror-vault is not available for extended data protection relationships on Data ONTAP 8.2. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Attributes: non-creatable, non-modifiable Possible values:<br>• "vault" ,<br>• "async_mirror" ,<br>• "mirror_vault" ,<br>• "smgr_mirror" ,<br>• "strict_sync_mirror" ,<br>• "sync_mirror" ,<br>• "active_strict_sync_mirror" ,<br>• "active_sync_mirror" |
| **progress-last-updated** | **[0..2^31-1]** | integer optional | A timestamp indicating when the progress of the transfer was last updated. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if a transfer is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **relationship-control-plane** | | string optional | The type of the control plane used for the relationship. Possible values are:<br>• 'v1' - Data ONTAP 8.1 compatible control plane. The endpoint location format [<cluster>:][//<vserver>/]<volume> must be used. Long operations such as initialize, update and resync will spawn a job, and return a job id. The job API must be used to track the progress of the operations.<br>• 'v2' - Data ONTAP 8.2 and later compatible control plane. The endpoint location format [<vserver>:]<volume> should be used. Long operations such as initialize, update, and resync do not spawn a job and do not return a job id. The snapmirror-get API must be used to track the progress of these operations.<br><br>This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode.' Attributes: non-creatable, non-modifiable |
| | | | For FlexVol relationships, specifies the type of the group |

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| **relationship-group-type** | | string optional | relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" ,<br>• "vserver" ,<br>• "infinitevol" ,<br>• "consistencygroup" ,<br>• "flexgroup" |
| **relationship-id** | | string optional | A unique identifier assigned to the SnapMirror relationship when it is created. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **relationship-progress** | **[0..2^63-1]** | integer optional | The total number of bytes that have been processed so far for the current activity of the relationship as returned in the relationship-status. This is set only when the relationship-status indicates that an activity is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **relationship-status** | | string optional | Specifies the status of the SnapMirror relationship. Possible values are:<br>• 'idle' - Transfers are enabled, and no transfer is in progress,<br>• 'transferring' - SnapMirror transfers are enabled and a transfer is in progress,<br>• 'checking'- The destination volume is undergoing a diagnostic check and no transfer is in progress. Only applicable for SnapMirror relationships with the relationship-control-plane field set to 'v1',<br>• 'quiescing' - A SnapMirror transfer is in progress, additional transfers are disabled,<br>• 'quiesced' - SnapMirror transfers are disabled, no transfer is in progress,<br>• 'queued' - SnapMirror transfers are enabled, and a transfer operation has been accepted and queued in the system,<br>• 'preparing' - SnapMirror transfers are enabled, currently in the pre-transfer phase for Vault or extended data protection incremental transfers,<br>• 'finalizing' - SnapMirror transfers are enabled, currently in the post-transfer phase for vault or extended data protection incremental transfers,<br>• 'aborting' - SnapMirror transfers are enabled, however a transfer abort operation that may include removal of the checkpoint is underway,<br>• 'breaking' - The SnapMirror relationship is being broken off and no transfer is in progress.<br><br>Attributes: non-creatable, non-modifiable |
| **relationship-type** | | string optional | Specifies the type of the SnapMirror relationship. An extended data protection relationship with a policy of type vault is equivalent to a 'vault' relationship. Attributes: optional-for-create, non-modifiable Possible values:<br>• "data_protection" ,<br>• "load_sharing" ,<br>• "vault" , |

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| | | | "restore" ,<br>• "transition_data_protection" ,<br>• "extended_data_protection" |
| **resync-failed-count** | **[0..2^64-1]** | integer optional | The number of failed SnapMirror resync operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **resync-successful-count** | **[0..2^64-1]** | integer optional | The number of successful SnapMirror resync operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **schedule** | | string optional | Specifies the name of the cron schedule, which is used to update the SnapMirror relationship. Attributes: optional-for-create, modifiable |
| **snapshot-checkpoint** | **[0..2^63-1]** | integer optional | The number of bytes transferred as recorded for the checkpoint of the current or most recent transfer snapshot. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **snapshot-progress** | **[0..2^63-1]** | integer optional | The number of bytes transferred for the transfer snapshot. This is set only when the relationship-status indicates that an activity is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **source-cluster** | | string optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for relationships with volumes as endpoints, source-volume are not specified. |

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|---|---|---|---|
| | | | <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br><br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. Attributes: key, optional-for-create, non-modifiable |
| **source-volume** | | string<br>optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **source-vserver** | | string<br>optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **source-vserver-uuid** | | string<br>optional | A unique identifier assigned to the source Vserver when it is created. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **total-transfer-bytes** | **[0..2^64-1]** | integer<br>optional | Cumulative bytes transferred for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. This parameter is not supported for SnapMirror FlexGroup volume relationships, but it is supported for FlexGroup volume constituent relationships. Attributes: non-creatable, non-modifiable |
| **total-transfer-time-secs** | **[0..2^32-1]** | integer<br>optional | Cumulative total transfer time in seconds since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **transfer-snapshot** | | string<br>optional | The name of the current snapshot copy being transferred. This is set only when the relationship-status indicates that an activity is in progress. Attributes: non-creatable, non-modifiable |
| | | | Specifies the maximum number of times to attempt each manual or |

| | | | |
|---|---|---|---|
| **tries** | | string optional | scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is ignored. Attributes: optional-for-create, modifiable |
| **unhealthy-reason** | | string optional | The reason the relationship is not healthy. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **update-failed-count** | **[0..2^64-1]** | integer optional | The number of failed SnapMirror update operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **update-successful-count** | **[0..2^64-1]** | integer optional | The number of successful SnapMirror update operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option and should not be used for queries. The destination-vserver parameter should be used to select the Vserver in a cluster context. Attributes: optional-for-create, modifiable |

# Element definition: **snapmirror-initialize-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |
| **status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

[top]

# Element definition: **snapmirror-list-unprotected**

SnapMirror List Unprotected When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **source-vserver** | | string optional | Specifies the source Vserver for which to list unprotected volumes. Attributes: key, non-creatable, non-modifiable |

# Element definition: **snapmirror-modify-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |

# Element definition: **snapmirror-path**

[top]

Snapmirror path name

[none]

# Element definition: **snapmirror-promote-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-** | | string | Error description, if the operation caused an error. |

| | | | |
|---|---|---|---|
| **message** | | optional | |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |

## Element definition: **snapmirror-quiesce-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |

## Element definition: **snapmirror-release-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-destination-info | The keys for the snapmirror object to which the operation applies. |

## Element definition: **snapmirror-resume-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |

# Element definition: **snapmirror-resync-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |
| **status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

# Element definition: **snapmirror-schedule-info**

[top]

Contains the SnapMirror schedule per destination. If the schedule contains an error, only destination-location and snapmirror-error will be present.

| Name | Range | Type | Description |
|---|---|---|---|
| **days-of-month** | | string optional | Days in the month for which the schedule is set. The form is crontab-like, with possible values of:<br>• - := match nothing;<br>• 1 := match day 1;<br>• 1,3 := match day 1 and 3;<br>• 2-5 := match day 2,3,4,5;<br>• 1-30/7 := match day 1,8,15,22,29;<br>• * := matches all possible legal values;<br><br>If there is an error, days-of-month will not be present and snapmirror-error will be present. |
| **days-of-week** | | string optional | Days in the week for which the schedule is set. 0 represents Sunday, and 6 represents Saturday. The form is crontab-like, with possible values of:<br>• - := match nothing.<br>• 1 := match day 1 (Mon);<br>• 1,3 := match day 1 and 3 (Mon and Wed);<br>• 2-5 := match day 2,3,4,5 (Tue,Wed,Thu,Fri);<br>• * := matches all possible legal values;<br><br>If there is an error, days-of-week will not be present and snapmirror-error will be present. |
| **destination-** | | | The destination location of the schedule. The destination location is of |

| | | | |
|---|---|---|---|
| **location** | | string | the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. |
| **hours** | | string optional | Hours in the day for which the schedule is set. The form is crontab-like, with possible values of:<br>• - := match nothing;<br>• 1 := match hour 1;<br>• 1,3 := match hour 1 and 3;<br>• 2-5 := match hour 2,3,4,5;<br>• 1-24/3 := match hour 1,4,7,10,13,16,19,22;<br>• * := matches all possible legal values;<br>If there is an error, hours will not be present and snapmirror-error will be present. |
| **is-compressed** | | boolean optional | If true SnapMirror will compress/decompress the data that is transferred between the source and destination storage system. If false, transferred data will not be compressed. The default is false. |
| **max-transfer-rate** | | integer optional | Maximum transfer rate in kilobytes per second. If not present, then the transfer rate is as fast as the filer can transfer. |
| **minutes** | | string optional | Minutes in the hour for which the schedule is set. The form is crontab-like, with possible values of:<br>• - := match nothing;<br>• 1 := match minute 1;<br>• 1,3 := match minute 1 and 3;<br>• 2-5 := match minute 2,3,4,5;<br>• 1-12/3 := match minute 1,4,7,10;<br>• 0-55/5 := match minute 0,5,10,15,20,25,30,35,40, 45,50,55;<br>• * := matches all possible legal values;<br>If there is an error, minutes will not be present and snapmirror-error will be present. |
| **snapmirror-error** | | snapmirror-error optional | Present if there is an error for a snapmirror schedule. |
| **source-location** | | string optional | The source location of the schedule. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. If there is an error, source-location will not be present and snapmirror-error will be present. |
| **tcp-window-size** | | integer optional | TCP window size in bytes. If not present, then the TCP window size is set to an internally determined default value. |

# Element definition: **snapmirror-status-info**

[top]

The SnapMirror pair status.

| Name | Range | Type | Description |
|---|---|---|---|
| **base-snapshot** | | string optional | Base snapshot name. Only present if available. |
| **contents** | | string | State of the active file system of snapmirror destinations. Possible values are: "replica", "transitioning", and "original". |
| **current-** | | string | A human readable transfer error of the current snapmirror transfer. |

| | | | |
|---|---|---|---|
| **transfer-error** | | optional | Present when there is a current error. |
| **current-transfer-type** | | string optional | Type of the current SnapMirror transfer. Possible values are: initialize, store, schedule, retry, retrieve, resync, and migrate. Only present when there is a transfer. |
| **destination-location** | | string | The destination location of the SnapMirror pair. The form is <filer>:<volume> or <filer>:/vol/<volume>/<qtree>. |
| **inodes-replicated** | **[0..2^64-1]** | integer optional | Shows the number of inodes replicated. Present during directory processing phase. |
| **lag-time** | | integer | Amount of time since the last snapmirror transfer in seconds. |
| **last-transfer-duration** | | integer | Duration of the last SnapMirror transfer in seconds. |
| **last-transfer-from** | | string | Source location of the last SnapMirror transfer. |
| **last-transfer-size** | | integer | The size in kilo bytes (1024) of the last SnapMirror transfer. |
| **last-transfer-type** | | string optional | Last SnapMirror transfer type. Possible values are: "initialize", "store", "schedule", "retry", "retrieve", "resync", and "migrate". Only present when there was a last transfer. |
| **mirror-timestamp** | | integer | Access time in seconds since Jan 1, 1970. |
| **replication-ops** | **[0..2^64-1]** | integer optional | Counter that is incremented for every replication operation. Present during directory processing phase. |
| **source-location** | | string | The source location of the SnapMirror pair. The form is <filer>:<volume> or <filer>:/vol/<volume>/<qtree>. |
| **state** | | string | SnapMirror pair state. Possible values are: "uninitialized", "snapmirrored", "broken-off", "quiesced", "source", and "unknown". |
| **status** | | string | SnapMirror pair transfer status. Possible values are: "Idle, "Transferring", "Pending", "Aborting", "Migrating", "Quiescing", "Resyncing", "Waiting", "Syncing", "In-sync" and "Paused". In case the previous transfer was failed/aborted and had a restart checkpoint set, the status could be "Idle with restart checkpoint" or "Pending with restart checkpoint". In addition the status could be "Checking", "Fixing" and "Transferring, Checking" when "snapmirror check" command is being run on the destination volume. |
| **transfer-progress** | | integer | Number of kilo bytes (1024) transfered in a current on-going transfer. |

# Element definition: **snapmirror-sync-schedule-info**

[top]

Contains the synchronous SnapMirror schedule per destination. If the schedule contains an error, only destination-location and snapmirror-error will be present.

| Name | Range | Type | Description |
|---|---|---|---|
| **destination-location** | | string | The destination location of the schedule. The destination location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. |
| **is-compressed** | | boolean optional | If true SnapMirror will compress/decompress the data that is transferred between the source and destination storage system. If |

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|---|---|---|---|
| | | | false, transferred data will not be compressed. The default is false. |
| **max-transfer-rate** | | integer optional | Maximum transfer rate in kilobytes per second. If not present, then the transfer rate is as fast as the filer can transfer. |
| **ops-throttle** | | string optional | The number of outstanding operations allowed before blocking on the source. The format is a number followed by the one of the following units: "ops", "s", or "ms". If the specified value is less than 10s, the mirror is configured to run in a fully synchronous mode. If the specified value is greater than or equal to 10s, the mirror is configured to run in semi-synchronous mode. |
| **snapmirror-error** | | snapmirror-error optional | Present if there is an error for a snapmirror schedule. |
| **source-location** | | string optional | The source location of the schedule. The source location is of the volume form: <filer>:<volume> or the qtree form: <filer>:/vol/<volume>/<qtree>. If there is an error, source-location will not be present and snapmirror-error will be present. |
| **sync-mode** | | string | This specifies whether the mirror is configured in sync or in semi-sync mode. Possible values are: "full_sync" and "semi_sync". "full_sync" means that the mirror is configured to run in a fully synchronous mode. "semi_sync" means that the mirror is configured to run in a semi synchronous mode. |
| **tcp-window-size** | | integer optional | TCP window size in bytes. If not present, then the TCP window size is set to an internally determined default value. |
| **visibility-frequency** | | integer optional | Controls how often the source snapspot will be visible on the destination mirror. |

# Element definition: **snapmirror-update-iter-info**

[top]

Information about the operation that was attempted/performed against snapmirror object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-operation-id** | | uuid optional | Result Operation Id |
| **snapmirror-key** | | snapmirror-info | The keys for the snapmirror object to which the operation applies. |
| **status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

# Element definition: **snapshot-id**

[top]

Snapshot Id

[none]

## Element definition: **snapshot-owner-name** [top]

Snapshot Copy Owner Name

[none]

## Element definition: **tieringpolicy-enum** [top]

Tiering Policy Possible values:

- "snapshot_only" - Tiers volume snapshot copies not associated with active file system to cloud tier.,
- "auto" - Tiers cold volume blocks to cloud tier,
- "none" - Do not tier volume blocks to cloud tier,
- "backup" - Transferred data blocks on DP volume starts on cloud tier.,
- "all" - Tier volume blocks to the cloud tier as soon as possible,
- "archive" - Tier volume blocks to the cloud tier as soon as possible and tagged for a less expensive storage class

[none]

## Element definition: **uuid** [top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

## Element definition: **volume-name** [top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace

being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

## Element definition: **volume-name-nolink** [top]

Volume Name

[none]

## Element definition: **vserver-name** [top]

The name of the Vserver.

[none]

## Element definition: **xc-vs-name** [top]

Cross Cluster Vserver Name

[none]

## Element definition: **address-pair** [top]

Source and destination address pair.

| Name | Range | Type | Description |
|---|---|---|---|
| **destination-addr** | | string | Destination address in the form of filer name or IP address. |
| **source-addr** | | string | Source address in the form of filer name or IP address. |

## Element definition: **aggr-name** [top]

Name of the aggregate

[none]

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **smendpointtype**

[top]

flexvol|object-store Possible values:

- "flexvol" ,
- "object_store"

[none]

# Element definition: **snapmirror-destination-info**

[top]

Information about a Destination of a SnapMirror Relationship Source When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cg-item-mappings** | | string[] optional | Specifies a list of the Consistency Group (CG) item mappings. This parameter is applicable to CG level relationships and will be considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,... Attributes: non-creatable, non-modifiable |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The destination endpoint can be specified using the location format above, or by specifying the parameters for the name of the destination Vserver and the name of the destination volume. Attributes: key, non-creatable, non-modifiable |
| **destination-volume** | | string optional | Specifies the name of destination volume for the SnapMirror relationshp. The name of the destination Vserver must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable |
| **destination-** | | string | Specifies the name of the destination Vserver for the relationship. The name of the destination volume must also be specified if using |

| | | | |
|---|---|---|---|
| **vserver** | | optional | this parameter. Attributes: key, non-creatable, non-modifiable |
| **is-constituent** | | boolean optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>Specifies whether or not the SnapMirror relationship is between Infinite Volume constituent volumes. This parameter is not supported for FlexGroup or FlexGroup constituent SnapMirror relationships. Attributes: non-creatable, non-modifiable |
| **policy-type** | | string optional | The type of the SnapMirror policy for the relationship. This parameter is only available on Data ONTAP 8.3 or later. On Data ONTAP 8.2, relationships with type extended data protection will behave as if the policy type were vault. The functionality of policy types async-mirror and mirror-vault is not available for extended data protection relationships on Data ONTAP 8.2. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Attributes: non-creatable, non-modifiable Possible values:<br><br>• "vault" ,<br>• "async_mirror" ,<br>• "mirror_vault" ,<br>• "smgr_mirror" ,<br>• "strict_sync_mirror" ,<br>• "sync_mirror" ,<br>• "active_strict_sync_mirror" ,<br>• "automated_failover" ,<br>• "migrate" ,<br>• "continuous" |
| **progress-last-updated** | **[0..2^31-1]** | integer optional | Specifies the timestamp indicating when the progress of the ongoing transfer was last updated. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **relationship-group-type** | | string optional | For FlexVol relationships, specifies the type of the group relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. This parameter is only available on Data ONTAP 8.3 or later. Attributes: non-creatable, non-modifiable Possible values:<br><br>• "none" ,<br>• "vserver" ,<br>• "infinitevol" ,<br>• "consistencygroup" ,<br>• "flexgroup" ,<br>• "vserverflexgroup" |
| **relationship-id** | | string optional | Specifies the SnapMirror relationship ID. Attributes: key, non-creatable, non-modifiable |
| **relationship-status** | | string optional | Specifies the SnapMirror relationship status. This parameter is present only if at least one transfer has been performed since the node hosting the source volume joined the quorum. Possible values are:<br><br>• 'idle',<br>• 'transferring'<br><br>This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **relationship-type** | | string optional | Specifies the SnapMirror relationship type. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in the format [vserver:]volume. This format may change in the future. The source endpoint can be specified using the location format above, or by specifying the parameters for the name of the source Vserver and the name of the source volume. Attributes: key, non-creatable, non-modifiable |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. The name of the source Vserver must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable |
| **source-volume-node** | | string optional | Node which owns the source volume of the relationship. For FlexGroup relationships it is the node which owns the root constituent source volume. Attributes: non-creatable, non-modifiable |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. The name of the source volume must also be specified if using this parameter. Attributes: key, non-creatable, non-modifiable |
| **transfer-progress** | **[0..2^63-1]** | integer optional | Specifies the number of bytes processed so far for the ongoing transfer. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |

# Element definition: **snapmirror-error**

[top]

Information about a single snapmirror schedule error.

| Name | Range | Type | Description |
|---|---|---|---|
| **errno** | | integer | The error number. |
| **reason** | | string | A human-readable concise reason for the error. |

# Element definition: **snapmirror-info**

[top]

Information about the SnapMirror Relationship. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **break-failed-count** | **[0..2^64-1]** | integer optional | The number of failed SnapMirror break operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| | | | The number of successful SnapMirror break operations for the |

| | | | |
|---|---|---|---|
| **break-successful-count** | **[0..2^64-1]** | integer optional | relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **catalog-status** | | string optional | Specifies the catalog metadata transfer status for the SnapMirror relationship. Possible values are:<br>• 'idle' - No catalog metadata transfer is in progress,<br>• 'transferring' - A catalog metadata transfer is in progress.<br>This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable |
| **catalog-total-progress** | **[0..2^63-1]** | integer optional | The total number of bytes that have been processed so far for the current catalog metadata transfer for the relationship. This is set only when the catalog-status indicates that an activity is in progress. This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable |
| **catalog-transfer-snapshot** | | string optional | Specifies the name of the current snapshot copy for which the catalog metadata is being transferred. This is set only when the catalog-status indicates that an activity is in progress. This parameter is only available on Data ONTAP 9.6 or later. Attributes: non-creatable, non-modifiable |
| **cg-item-mappings** | | string[] optional | Specifies a list of the consistency group (CG) item mappings. This parameter is relevant to CG level relationships and will be considered only if the supplied source and destination path values denote valid CG paths. The value for this parameter must contain mappings of one or more pairs of constituent source and destination volumes of the form srcvol1:@ dstvol1,... Attributes: optional-for-create, non-modifiable |
| **current-max-transfer-rate** | **[0..2^32-1]** | integer optional | The upper bound in kilobytes per second, at which data is transferred for the current transfer. This value can be the same as the 'max-transfer-rate' in the relationship or the policy or different if overwritten when starting the transfer via the associated commands or APIs (snapmirror-initialize, snapmirror-update, snapmirror-resync, snapmirror-restore). This parameter is only valid when a transfer is in progress. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **current-operation-id** | | string optional | Operation unique identifier of the currently executing SnapMirror operation.This parameter is only available in Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **current-transfer-error** | | string optional | A message describing the last retryable error encountered by the current transfer. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **current-transfer-priority** | | string optional | Priority assigned to the ongoing transfer. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if a transfer is in progress. Attributes: non-creatable, non-modifiable Possible values:<br>• "low" ,<br>• "normal" |
| | | | The type of transfer taking place. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **current-transfer-type** | | string optional | • "initialize" ,<br>• "update" ,<br>• "resync" ,<br>• "restore" ,<br>• "check" ,<br>• "file_restore" ,<br>• "cggrs_initialize" ,<br>• "cggrs_resync" ,<br>• "cg_update" ,<br>• "cg_initialize" ,<br>• "cg_resync" ,<br>• "cg_restore" ,<br>• "catalog_metadata" ,<br>• "cg_file_restore" ,<br>• "failover" ,<br>• "aufo" ,<br>• "failover_incapable" |
| **destination-cluster** | | string optional | Specifies the destination cluster name for the SnapMirror relationship. The parameters for the name of the destination Vserver, and the name of the destination volume must also be specified if using this parameter. This parameter is available only on:<br><br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **destination-location** | | string optional | Specifies the destination endpoint of the SnapMirror relationship in one of the following formats:<br><br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later. \This format depends on the Vserver peering setup between the source and destination Vservers.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with AltaVault destination endpoints.<br>• <ip-addr:>:/lun/<name> On Data ONTAP 9.3 or later for relationships with SolidFire endpoints.<br>• This parameter is mandatory if destination-vserver and, for relationships with volumes as endpoints, destination-volume are not specified. This parameter is mandatory for relationships with non-Data ONTAP destinations.<br><br>This format may change in the future. The destination endpoint can be specified using the location formats above, or by specifying the parameters for the name of the destination Vserver, the name of the destination volume, and the name of the destination cluster or the destination Vserver. The name of the destination cluster is only |

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|---|---|---|---|
| | | | required on Data ONTAP 8.1 operating in Cluster-Mode. Attributes: key, optional-for-create, non-modifiable |
| **destination-volume** | | string optional | Specifies the name of the destination volume for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of the destination Vserver.<br>• The name of the destination cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if destination-location is not specified.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **destination-volume-node** | | string optional | Node which owns the destination volume of the relationship. For FlexGroup relationships it is the node which owns the root constituent destination volume. For object store relationships it is the node which owns the source volume. This parameter is available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **destination-vserver** | | string optional | Specifies the name of the destination Vserver for the SnapMirror relationship. This parameter is not supported if the destination is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br>• The name of destination volume.<br>• The name of the destination cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if destination-location is not specified.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **destination-vserver-uuid** | | string optional | A unique identifier assigned to the destination Vserver when it is created. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **exported-snapshot** | | string optional | The name of the exported Snapshot copy on the destination volume. Attributes: non-creatable, non-modifiable |
| **exported-snapshot-timestamp** | **[0..2^31-1]** | integer optional | The timestamp of the exported Snapshot copy on the destination volume, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable |
| **file-restore-file-count** | **[0..2^64-1]** | integer optional | The number of files being restored by file restore. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **file-restore-file-list** | | string[] optional | List of the destination file names of the files being restored by file restore. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **identity-preserve** | | boolean optional | This optional parameter specifies whether or not the identity of the source Vserver is replicated to the destination Vserver and is applicable on Data ONTAP 8.3 or later. If this parameter is set to true, the source Vserver's configuration will additionally be replicated to the destination. If the parameter is set to false, then only the source Vserver's volumes and RBAC configuration are replicated to the destination. By default this parameter will be false. |

| | | | |
|---|---|---|---|
| | | | Attributes: optional-for-create, non-modifiable |
| **is-auto-expand-enabled** | | boolean optional | Specifies whether the destination FlexGroup should expand automatically or not. If specified as true, then the destination is expanded automatially upon discovering source FlexGroup expansion. A scheduled update is the trigger point for auto expand. If specified as false, destination will not be expanded automatically. This parameter is valid only for FlexGroup relationships. If the paramter is not specified, auto expansion will be enabled on FlexGroup relationships. This parameter is only available on Data ONTAP 9.3 or later. Attributes: optional-for-create, modifiable |
| **is-constituent** | | boolean optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>Specifies whether or not the SnapMirror relationship is between Infinite Volume constituent volumes. This parameter is not supported for FlexGroup or FlexGroup constituent SnapMirror relationships. Attributes: non-creatable, non-modifiable |
| **is-healthy** | | boolean optional | False if the last manual or scheduled update failed or was aborted, or if the last scheduled update was delayed. Otherwise true. Attributes: non-creatable, non-modifiable |
| **lag-time** | **[0..2^32-1]** | integer optional | The amount of time in seconds by which the data on the mirror lags behind the source. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **last-transfer-duration** | **[0..2^32-1]** | integer optional | The amount of time in seconds it took for the last transfer to complete. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was successful. Attributes: non-creatable, non-modifiable |
| **last-transfer-end-timestamp** | **[0..2^31-1]** | integer optional | The Timestamp of the end of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **last-transfer-error** | | string optional | A message describing the cause of the last transfer failure. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode, if the relationship control plane is 'v2', and if the last transfer was unsuccessful. Attributes: non-creatable, non-modifiable |
| **last-transfer-error-codes** | **[0..2^32-1]** | integer[] optional | List of codes providing additional information on the cause and context of the last transfer failure. These are Data ONTAP internal codes, not API errnos. This parameter is reserved for use only by vendor provided management tools, and is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was unsuccessful. Attributes: non-creatable, non-modifiable |
| **last-transfer-from** | | string optional | The source endpoint of the last transfer. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **last-transfer-network-compression-ratio** | | string optional | The compression ratio achieved for the data sent over the wire as a part of the last transfer. If network compression was disabled for the last transfer, the ratio will be set to 1:1. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2', and if the last transfer was successful. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| | | | The total number of bytes transferred as part of the last transfer. This parameter is available only on Data ONTAP 8.2 or later |

| | | | |
|---|---|---|---|
| **last-transfer-size** | **[0..2^63-1]** | integer optional | operating in Cluster-Mode if the relationship control plane is 'v2', and if the last transfer was successful. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **last-transfer-type** | | string optional | The type of the previous transfer for the relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values:<br>• "initialize" ,<br>• "update" ,<br>• "resync" ,<br>• "restore" ,<br>• "check" ,<br>• "file_restore" ,<br>• "cggrs_initialize" ,<br>• "cggrs_resync" ,<br>• "cg_update" ,<br>• "cg_initialize" ,<br>• "cg_resync" ,<br>• "cg_restore" ,<br>• "catalog_metadata" ,<br>• "cg_file_restore" ,<br>• "failover" ,<br>• "aufo" ,<br>• "failover_incapable" |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred. The default is unlimited (0) which permits the SnapMirror relationship to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. The max-transfer-rate parameter does not affect load-sharing transfers and transfers for other relationships with Relationship Capability of Pre 8.2 confined to a single cluster. Attributes: optional-for-create, modifiable |
| **mirror-state** | | string optional | Specifies the mirror state of the SnapMirror relationship. Possible values are:<br>• 'uninitialized' - Destination volume has not been initialized,<br>• 'snapmirrored' - Destination volume has been initialized and is ready to receive SnapMirror updates,<br>• 'broken-off' - Destination volume is RW and snapshots are present.<br><br>Attributes: non-creatable, non-modifiable |
| **network-compression-ratio** | | string optional | The compression ratio achieved for the data sent over the wire with network compression enabled. The left side of the ratio represents the value obtained by dividing uncompressed bytes transferred by compressed bytes transferred. The compression ratio is not maintained across checkpoint restarts. If network compression is disabled, the ratio will be set to 1:1. This is set only when the relationship-status indicates that an activity is in progress. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **newest-** | | string | The name of the newest Snapshot copy on the destination volume. |

| | | | |
|---|---|---|---|
| **snapshot** | | optional | Attributes: non-creatable, non-modifiable |
| **newest-snapshot-timestamp** | **[0..2^31-1]** | integer optional | The timestamp of the newest Snapshot copy on the destination volume, in seconds since Jan 1, 1970. Attributes: non-creatable, non-modifiable |
| **opmask** | **[0..2^64-1]** | integer optional | A mask that provides information about the capabilities of the relationship. This parameter is reserved for use only by vendor provided management tools. This parameter is available only on Data ONTAP 9.0 or later operating in Cluster-Mode. Attributes: non-creatable, non-modifiable |
| **policy** | | string optional | Specifies the name of the snapmirror policy for the relationship. For SnapMirror relationships of type 'vault' or 'extended data protection', the policy will also have rules to select snapshot copies that must be transferred. If no policy is specified, a default policy will be applied depending on the type of the SnapMirror relationship. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: optional-for-create, modifiable |
| **policy-type** | | string optional | The type of the SnapMirror policy for the relationship. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. On Data ONTAP 8.2, relationships with type extended data protection will behave as if the policy type were vault. The functionality of policy types async-mirror and mirror-vault is not available for extended data protection relationships on Data ONTAP 8.2. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Attributes: non-creatable, non-modifiable Possible values:<br>• "vault" ,<br>• "async_mirror" ,<br>• "mirror_vault" ,<br>• "smgr_mirror" ,<br>• "strict_sync_mirror" ,<br>• "sync_mirror" ,<br>• "active_strict_sync_mirror" ,<br>• "active_sync_mirror" |
| **progress-last-updated** | **[0..2^31-1]** | integer optional | A timestamp indicating when the progress of the transfer was last updated. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2', and if a transfer is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **relationship-control-plane** | | string optional | The type of the control plane used for the relationship. Possible values are:<br>• 'v1' - Data ONTAP 8.1 compatible control plane. The endpoint location format [<cluster>:][//<vserver>/]<volume> must be used. Long operations such as initialize, update and resync will spawn a job, and return a job id. The job API must be used to track the progress of the operations.<br>• 'v2' - Data ONTAP 8.2 and later compatible control plane. The endpoint location format [<vserver>:]<volume> should be used. Long operations such as initialize, update, and resync do not spawn a job and do not return a job id. The snapmirror-get API must be used to track the progress of these operations.<br><br>This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode.' Attributes: non-creatable, non- |

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| | | | modifiable |
| **relationship-group-type** | | string optional | For FlexVol relationships, specifies the type of the group relationship that includes this FlexVol. For group relationships, specifies the type of the group relationship. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable Possible values:<br>• "none" ,<br>• "vserver" ,<br>• "infinitevol" ,<br>• "consistencygroup" ,<br>• "flexgroup" |
| **relationship-id** | | string optional | A unique identifier assigned to the SnapMirror relationship when it is created. This parameter is only available on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **relationship-progress** | **[0..2^63-1]** | integer optional | The total number of bytes that have been processed so far for the current activity of the relationship as returned in the relationship-status. This is set only when the relationship-status indicates that an activity is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **relationship-status** | | string optional | Specifies the status of the SnapMirror relationship. Possible values are:<br>• 'idle' - Transfers are enabled, and no transfer is in progress,<br>• 'transferring' - SnapMirror transfers are enabled and a transfer is in progress,<br>• 'checking'- The destination volume is undergoing a diagnostic check and no transfer is in progress. Only applicable for SnapMirror relationships with the relationship-control-plane field set to 'v1',<br>• 'quiescing' - A SnapMirror transfer is in progress, additional transfers are disabled,<br>• 'quiesced' - SnapMirror transfers are disabled, no transfer is in progress,<br>• 'queued' - SnapMirror transfers are enabled, and a transfer operation has been accepted and queued in the system,<br>• 'preparing' - SnapMirror transfers are enabled, currently in the pre-transfer phase for Vault or extended data protection incremental transfers,<br>• 'finalizing' - SnapMirror transfers are enabled, currently in the post-transfer phase for vault or extended data protection incremental transfers,<br>• 'aborting' - SnapMirror transfers are enabled, however a transfer abort operation that may include removal of the checkpoint is underway,<br>• 'breaking' - The SnapMirror relationship is being broken off and no transfer is in progress.<br><br>Attributes: non-creatable, non-modifiable |
| **relationship-** | | string | Specifies the type of the SnapMirror relationship. An extended data protection relationship with a policy of type vault is equivalent to a 'vault' relationship. Attributes: optional-for-create, non-modifiable Possible values:<br>• "data_protection" , |

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|---|---|---|---|
| **type** | | optional | • "load_sharing" ,<br>• "vault" ,<br>• "restore" ,<br>• "transition_data_protection" ,<br>• "extended_data_protection" |
| **resync-failed-count** | **[0..2^64-1]** | integer optional | The number of failed SnapMirror resync operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **resync-successful-count** | **[0..2^64-1]** | integer optional | The number of successful SnapMirror resync operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **schedule** | | string optional | Specifies the name of the cron schedule, which is used to update the SnapMirror relationship. Attributes: optional-for-create, modifiable |
| **snapshot-checkpoint** | **[0..2^63-1]** | integer optional | The number of bytes transferred as recorded for the checkpoint of the current or most recent transfer snapshot. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **snapshot-progress** | **[0..2^63-1]** | integer optional | The number of bytes transferred for the transfer snapshot. This is set only when the relationship-status indicates that an activity is in progress. This parameter is not supported for SnapMirror FlexGroup relationships, but it is supported for FlexGroup constituent relationships. Attributes: non-creatable, non-modifiable |
| **source-cluster** | | string optional | Specifies the name of the source cluster for the SnapMirror relationship. The parameters for the name of the source Vserver, and the name of the source volume must also be specified if using this parameter. This parameter is available only on:<br>• Data ONTAP 8.1 operating in Cluster-Mode.<br>• Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **source-location** | | string optional | Specifies the source endpoint of the SnapMirror relationship in one of the following formats:<br>• <system>:/vol/<volume>[/<qtree>] on Data ONTAP operating in 7-Mode.<br>• [<cluster>:]//<vserver>/<volume> on Data ONTAP 8.1 operating in Cluster-Mode, and on Data ONTAP 8.2 operating in Cluster-Mode for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode.<br>• <[vserver:]volume> on Data ONTAP 8.2 or later operating in Cluster-Mode except for relationships using a control plane compatible with Data ONTAP 8.1 operating in Cluster-Mode. This format depends on Vserver peering setup between the source and destination Vservers.<br>• <vserver:> With Data ONTAP 8.3 or later.This format depends on the Vserver peering setup between the source and destination Vservers.<br>• This parameter is mandatory if source-vserver and, for |

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|---|---|---|---|
| | | | relationships with volumes as endpoints, source-volume are not specified.<br>• <ip-addr:>:/share/<share-name> On Data ONTAP 9.1 or later for relationships with an AltaVault source.<br>• <ip-addr:>:/lun/<.name> On Data ONTAP 9.3 or later for relationships with a SolidFire endpoint.<br><br>This format may change in the future. The source endpoint can be specified using the location formats above, or by specifying the parameters for the name of the source Vserver, the name of the source volume, and the name of the source cluster or the source Vserver. The name of the source cluster is only required on Data ONTAP 8.1 operating in Cluster-Mode. Attributes: key, optional-for-create, non-modifiable |
| **source-volume** | | string optional | Specifies the name of the source volume of the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of the source Vserver.<br>• The name of the source cluster on Data ONTAP 8.1 operating in Cluster-Mode, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory for relationships with volumes as endpoints if source-location is not specified.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **source-vserver** | | string optional | Specifies the name of the source Vserver for the SnapMirror relationship. This parameter is not supported if the source is a non-Data ONTAP endpoint. If using this parameter, the following parameters should also be specified:<br><br>• The name of source volume.<br>• The name of the source cluster on Data ONTAP 8.1, or on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v1'.<br>• This parameter is mandatory if source-location is not specified.<br><br>Attributes: key, optional-for-create, non-modifiable |
| **source-vserver-uuid** | | string optional | A unique identifier assigned to the source Vserver when it is created. This parameter is only available on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **total-transfer-bytes** | **[0..2^64-1]** | integer optional | Cumulative bytes transferred for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. This parameter is not supported for SnapMirror FlexGroup volume relationships, but it is supported for FlexGroup volume constituent relationships. Attributes: non-creatable, non-modifiable |
| **total-transfer-time-secs** | **[0..2^32-1]** | integer optional | Cumulative total transfer time in seconds since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **transfer-** | | string | The name of the current snapshot copy being transferred. This is set only when the relationship-status indicates that an activity is in |

| | | | |
|---|---|---|---|
| **snapshot** | | optional | progress. Attributes: non-creatable, non-modifiable |
| **tries** | | string optional | Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. The default is eight times. Note: You can set the tries option to zero (0) to disable manual and scheduled updates for the SnapMirror relationship. This parameter is only relevant on Data ONTAP 8.1 operating in Cluster-Mode. On Data ONTAP 8.2 operating in Cluster-Mode, the maximum number of times to attempt a transfer is an attribute of the SnapMirror policy. Therefore the value of this parameter is ignored. Attributes: optional-for-create, modifiable |
| **unhealthy-reason** | | string optional | The reason the relationship is not healthy. This parameter is available only on Data ONTAP 8.2 or later operating in Cluster-Mode if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **update-failed-count** | **[0..2^64-1]** | integer optional | The number of failed SnapMirror update operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **update-successful-count** | **[0..2^64-1]** | integer optional | The number of successful SnapMirror update operations for the relationship since the last reboot, aggregate relocation, takeover/giveback, or metrocluster switchover/switchback involving the node that hosts the relationship. This parameter is available only on Data ONTAP 8.3 or later if the relationship control plane is 'v2'. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | If this optional parameter is specified, designates the managing Vserver. The managing Vserver is authorized to use snapmirror commands to manage the SnapMirror relationship. The vserver option is currently a reserved option and should not be used for queries. The destination-vserver parameter should be used to select the Vserver in a cluster context. Attributes: optional-for-create, modifiable |

# Element definition: **snapmirror-policy-cap-info**

[top]

Capabilities information for policy types.

| Name | Range | Type | Description |
|---|---|---|---|
| **default-policy** | | sm-policy optional | The recommended policy to use for this policy type. Attributes: non-creatable, non-modifiable |
| **default-schedule** | | string optional | The recommended schedule to use for this policy type. Attributes: non-creatable, non-modifiable |
| **is-licensed** | | boolean optional | Whether or not there is a license installed that enables using this policy type. If a SnapMirror license is installed, all policy types are licensed. If only a SnapVault license is installed, only policy type vault is licensed. Attributes: non-creatable, non-modifiable |
| | | sm- | A SnapMirror policy type supported by this endpoint type. Supported values are async_mirror, mirror_vault, and vault. Attributes: non-creatable, non-modifiable Possible values:<br>• "vault" ,<br>• "async_mirror" , |

| | | | |
|---|---|---|---|
| **policy-type** | | policy-type-enum optional | • "mirror_vault" ,<br>• "smgr_mirror" ,<br>• "strict_sync_mirror" ,<br>• "sync_mirror" ,<br>• "active_strict_sync_mirror" ,<br>• "automated_failover" ,<br>• "migrate" ,<br>• "continuous" |
| **supports-snaplock-dest** | | boolean optional | Whether or not this policy type supports a SnapLock volume as the destination. Attributes: non-creatable, non-modifiable |
| **supports-snaplock-source** | | boolean optional | Whether or not this policy type supports a SnapLock volume as the source. Attributes: non-creatable, non-modifiable |

# Element definition: **sm-policy**

[top]

SnapMirror Policy

[none]

# Element definition: **sm-policy-type-enum**

[top]

vault|async-mirror|mirror-vault|strict-sync-mirror|sync-mirror|automated-failover|continuous Possible values:

- "vault" ,
- "async_mirror" ,
- "mirror_vault" ,
- "smgr_mirror" ,
- "strict_sync_mirror" ,
- "sync_mirror" ,
- "active_strict_sync_mirror" ,
- "automated_failover" ,
- "migrate" ,
- "continuous"

[none]

# APIs in Category: **snapmirror-policy**


snapmirror-policy-add-rule
snapmirror-policy-create
snapmirror-policy-delete
snapmirror-policy-get
snapmirror-policy-get-iter
snapmirror-policy-modify
snapmirror-policy-modify-rule
snapmirror-policy-remove-rule


This set of APIs allows management of SnapMirror Policies in a cluster environment including: creation, deletion, modification and information query.

## snapmirror-policy-add-rule

[top]

Add a rule to SnapMirror policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **keep** | | string | Specifies the Snapshot copy retention count. |
| **policy-name** | | sm-policy | The name of the SnapMirror policy. |
| **prefix** | | string optional | Specifies the Snapshot copy creation prefix name associated with the rule. |
| **preserve** | | boolean optional | Specifies whether Snapshot copy preserve is enabled. |
| **schedule** | | string optional | Specifies the Snapshot copy creation schedule name associated with the rule. |
| **snapmirror-label** | | string | Specifies the Snapshot copy label. |
| **warn** | **[0..2^32-1]** | integer optional | Specifies the warning threshold count. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

## snapmirror-policy-create

[top]

Create the specified SnapMirror Policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **archive-after-days** | **[0..2^32-1]** | integer optional | Specifies the number of days before archiving objects for Snapshot copies in S3/Blob storage to the glacier/archive tier. Possible values are: integer from 0 to 999 and 'never'. Setting the value to 0 will enable sending objects for Snapshot copies to the glacier/archive tier as soon as possible. 999 means archive objects for Snapshot copies to the glacier/archive tier after retaining them for 999 days in S3/Blob storage. The value 'never' means never archive objects for Snapshot copies to the glacier/archive tier. If the parameter is not specified, archiving will behave as if it was specified as 'never'. This parameter is only supported for policies of type 'vault' and 'mirror-vault'. This parameter is only available on Data ONTAP 9.8 and later. |
| **are-data-ops-sequentially-split** | | boolean optional | Configure splitter to split all data ops sequentially. |
| **comment** | | string optional | A human readable description associated with the SnapMirror policy. |
| **common-snapshot-schedule** | | string optional | Specifies the common Snapshot copy creation schedule associated with the rule. |
| **discard-configs** | | svmdr-config-obj[] optional | Configurations Not Replicated During Identity Preserve Vserver DR Possible values:<br>• "network" - Network |
| **ignore-atime** | | boolean optional | Specifies whether incremental transfers will ignore files which have only their access time changed. Applies to SnapMirror vault relationships only. |
| **is-network-compression-enabled** | | boolean optional | Specifies whether network compression is enabled for transfers. The default value is 'false'. |
| **keep** | | string[] optional | Specifies the Snapshot copy retention count. |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred for the SnapMirror relationships. The default is unlimited (0) which permits the SnapMirror relationships to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. |
| **owner** | | policy-owner optional | The owner of the SnapMirror policy. Possible values:<br>• "cluster_admin" ,<br>• "vserver_admin" |
| **policy-name** | | sm-policy | The name of the SnapMirror policy. |
| **prefix** | | string[] optional | Specifies the Snapshot copy creation prefix name associated with the rule. |
| **preserve** | | boolean[] optional | Specifies whether Snapshot copy preserve is enabled, which determines the behavior when the Snapshot copy retention count is reached on the SnapMirror Vault destination. |
| **restart** | | sm-restart-enum | Defines the behavior of SnapMirror if an interrupted transfer exists. Applies to SnapMirror data protection relationship only. Possible values:<br>• "always" , |

| | | | |
|---|---|---|---|
| | | optional | • "never" ,<br>• "default" |
| **return-record** | | boolean optional | If set to true, returns the snapmirror-policy on successful creation. Default: false |
| **schedule** | | string[] optional | Specifies the Snapshot copy creation schedule name associated with the rule. |
| **sequential-split-op-timeout-secs** | **[0..2^32-1]** | integer optional | Configure sequential split op timeout. |
| **snapmirror-label** | | string[] optional | Specifies the Snapshot copy label. |
| **transfer-priority** | | sm-transfer-priority-enum optional | Specifies the priority at which a SnapMirror transfer runs. 'normal' : By default every transfer in the system has this priority. These transfers are scheduled before most 'low' priority transfers. 'low': These transfers have least priority and usually are scheduled after most 'normal' priority transfers. Possible values:<br>• "low" ,<br>• "normal" |
| **transfer-schedule-name** | | string optional | Specifies the name of the cron schedule, which is used to update the SnapMirror relationships. |
| **tries** | | string optional | Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. Valid input is a positive integer or 'unlimited'. The default is '8'. |
| **type** | | sm-policy-type-enum optional | The type of the Snapmirror policy. This field is only applicable on Data ONTAP 8.3 or later. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Policy type strict-sync-mirror and sync-mirror are not supported on Data ONTAP 9.4 or earlier. This parameter is required on Data ONTAP 9.5 and later. Possible values:<br>• "vault" ,<br>• "async_mirror" ,<br>• "mirror_vault" ,<br>• "smgr_mirror" ,<br>• "strict_sync_mirror" ,<br>• "sync_mirror" ,<br>• "active_strict_sync_mirror" ,<br>• "automated_failover" ,<br>• "migrate" ,<br>• "continuous" |
| **warn** | **[0..2^32-1]** | integer[] optional | Specifies the warning threshold count. |
| **window-size-for-tdp-mirror** | | size optional | Window size for TDP Mirror Transfer Operations. The default size is 2MB. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | snapmirror-policy-info optional | The snapmirror-policy created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| EINVALIDNPUTERROR | |
| EINTERNALERROR | |
| EOPNOTSUPPORTED | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# snapmirror-policy-delete

[top]

Delete the specified SnapMirror Policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| policy-name | | sm-policy | The name of the SnapMirror policy. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |
| EOPNOTSUPPORTED | |
| EPOLICY_CANNOT_DELETE_BUILTIN | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# snapmirror-policy-get

[top]

Get Information about a single SnapMirror Policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | snapmirror-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| policy-name | | sm-policy | The name of the SnapMirror policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | snapmirror-policy-info | The attributes of the snapmirror-policy. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINVALIDINPUTERROR | |

# snapmirror-policy-get-iter

[top]

Get Information about multiple SnapMirror Policies

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapmirror-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snapmirror-policy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snapmirror-policy object. All snapmirror-policy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snapmirror-policy-info[] optional | The list of attributes of snapmirror-policy objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snapmirror-policy objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |

# snapmirror-policy-modify

[top]

Modify the specified SnapMirror Policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **archive-after-days** | **[0..2^32-1]** | integer optional | Specifies the number of days before archiving objects for Snapshot copies in S3/Blob storage to the glacier/archive tier. Possible values are: integer from 0 to 999 and 'never'. Setting the value to 0 will enable sending objects for Snapshot copies to the glacier/archive tier as soon as possible. 999 means archive objects for Snapshot copies to the glacier/archive tier after retaining them for 999 days in S3/Blob storage. The value 'never' means never archive objects for Snapshot copies to the glacier/archive tier. If the parameter is not specified, archiving will behave as if it was specified as 'never'. This parameter is only supported for policies of type 'vault' and 'mirror-vault'. This parameter is only available on Data ONTAP 9.8 and later. |
| **are-data-ops-sequentially-** | | boolean optional | Configure splitter to split all data ops sequentially. |

| | | | |
|---|---|---|---|
| **split** | | | |
| **comment** | | string optional | A human readable description associated with the SnapMirror policy. |
| **common-snapshot-schedule** | | string optional | Specifies the common Snapshot copy creation schedule associated with the rule. |
| **discard-configs** | | svmdr-config-obj[] optional | Configurations Not Replicated During Identity Preserve Vserver DR Possible values:<br>• "network" - Network |
| **ignore-atime** | | boolean optional | Specifies whether incremental transfers will ignore files which have only their access time changed. Applies to SnapMirror vault relationships only. |
| **is-network-compression-enabled** | | boolean optional | Specifies whether network compression is enabled for transfers. The default value is 'false'. |
| **keep** | | string[] optional | Specifies the Snapshot copy retention count. |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred for the SnapMirror relationships. The default is unlimited (0) which permits the SnapMirror relationships to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. |
| **owner** | | policy-owner optional | The owner of the SnapMirror policy. Possible values:<br>• "cluster_admin" ,<br>• "vserver_admin" |
| **policy-name** | | sm-policy | The name of the SnapMirror policy. |
| **prefix** | | string[] optional | Specifies the Snapshot copy creation prefix name associated with the rule. |
| **preserve** | | boolean[] optional | Specifies whether Snapshot copy preserve is enabled, which determines the behavior when the Snapshot copy retention count is reached on the SnapMirror Vault destination. |
| **restart** | | sm-restart-enum optional | Defines the behavior of SnapMirror if an interrupted transfer exists. Applies to SnapMirror data protection relationship only. Possible values:<br>• "always" ,<br>• "never" ,<br>• "default" |
| **schedule** | | string[] optional | Specifies the Snapshot copy creation schedule name associated with the rule. |
| **sequential-split-op-timeout-secs** | **[0..2^32-1]** | integer optional | Configure sequential split op timeout. |
| **snapmirror-label** | | string[] optional | Specifies the Snapshot copy label. |
| **transfer-priority** | | sm-transfer-priority-enum optional | Specifies the priority at which a SnapMirror transfer runs. 'normal' : By default every transfer in the system has this priority. These transfers are scheduled before most 'low' priority transfers. 'low': These transfers have least priority and usually are scheduled after most 'normal' priority transfers. Possible values:<br>• "low" , |

| | | | |
|---|---|---|---|
| | | | • "normal" |
| **transfer-schedule-name** | | string optional | Specifies the name of the cron schedule, which is used to update the SnapMirror relationships. |
| **tries** | | string optional | Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. Valid input is a positive integer or 'unlimited'. The default is '8'. |
| **warn** | **[0..2^32-1]** | integer[] optional | Specifies the warning threshold count. |
| **window-size-for-tdp-mirror** | | size optional | Window size for TDP Mirror Transfer Operations. The default size is 2MB. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDNPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# snapmirror-policy-modify-rule

[top]

Modify a SnapMirror policy rule

| Input Name | Range | Type | Description |
|---|---|---|---|
| **keep** | | string optional | Specifies the Snapshot copy retention count. |
| **policy-name** | | sm-policy | The name of the SnapMirror policy. |
| **prefix** | | string optional | Specifies the Snapshot copy creation prefix name associated with the rule. |
| **preserve** | | boolean optional | Specifies whether Snapshot copy preserve is enabled. |
| **schedule** | | string optional | Specifies the Snapshot copy creation schedule name associated with the rule. |
| **snapmirror-label** | | string | Specifies the Snapshot copy label. |
| **warn** | **[0..2^32-1]** | integer optional | Specifies the warning threshold count. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# snapmirror-policy-remove-rule

[top]

Remove a rule from SnapMirror policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | sm-policy | The name of the SnapMirror policy. |
| **snapmirror-label** | | string | Specifies the Snapshot copy label. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# Element definition: **policy-owner**

[top]

cluster-admin|vserver-admin Possible values:

- "cluster_admin" ,
- "vserver_admin"

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **sm-policy**

[top]

SnapMirror Policy

[none]

# Element definition: **sm-policy-type-enum**

[top]

vault|async-mirror|mirror-vault|strict-sync-mirror|sync-mirror|automated-failover|continuous Possible values:

- "vault" ,
- "async_mirror" ,
- "mirror_vault" ,
- "smgr_mirror" ,
- "strict_sync_mirror" ,
- "sync_mirror" ,
- "active_strict_sync_mirror" ,
- "automated_failover" ,
- "migrate" ,
- "continuous"

[none]

# Element definition: **sm-restart-enum**

[top]

always|never|default Possible values:

- "always" ,
- "never" ,
- "default"

[none]

# Element definition: **sm-transfer-priority-enum**

[top]

low|normal Possible values:

- "low" ,
- "normal"

[none]

# Element definition: **snapmirror-policy-info**

[top]

Information about SnapMirror Policy When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **archive-after-days** | **[0..2^32-1]** | integer optional | Specifies the number of days before archiving objects for Snapshot copies in S3/Blob storage to the glacier/archive tier. Possible values are: integer from 0 to 999 and 'never'. Setting the value to 0 will enable sending objects for Snapshot copies to the glacier/archive tier as soon as possible. 999 means archive objects for Snapshot copies to the glacier/archive tier after retaining them for 999 days in S3/Blob storage. The value 'never' means never archive objects for Snapshot copies to the glacier/archive tier. If the parameter is not specified, archiving will behave as if it was specified as 'never'. This parameter is only supported for policies of type 'vault' and 'mirror-vault'. This parameter is only available on Data ONTAP 9.8 and later. Attributes: optional-for-create, modifiable |
| **are-data-ops-sequentially-split** | | boolean optional | Configure splitter to split all data ops sequentially. Attributes: optional-for-create, modifiable |
| **comment** | | string optional | A human readable description associated with the SnapMirror policy. Attributes: optional-for-create, modifiable |
| **common-snapshot-schedule** | | string optional | Specifies the common Snapshot copy creation schedule associated with the rule. Attributes: optional-for-create, modifiable |
| **create-snapshot** | | boolean optional | Specifies whether a new Snapshot Copy is created at the time of a SnapMirror transfer. This field is only applicable on Data ONTAP 8.3 or later. Attributes: non-creatable, non-modifiable |
| **discard-configs** | | svmdr-config-obj[] optional | Configurations Not Replicated During Identity Preserve Vserver DR Attributes: optional-for-create, modifiable Possible values:<br>• "network" - Network |
| **ignore-atime** | | boolean optional | Specifies whether incremental transfers will ignore files which have only their access time changed. Applies to SnapMirror vault relationships only. Attributes: optional-for-create, modifiable |
| **is-network-compression-enabled** | | boolean optional | Specifies whether network compression is enabled for transfers. The default value is 'false'. Attributes: optional-for-create, modifiable |
| **max-transfer-rate** | **[0..2^32-1]** | integer optional | Specifies the upper bound, in kilobytes per second, at which data is transferred for the SnapMirror relationships. The default is unlimited (0) which permits the SnapMirror relationships to fully utilize the available network bandwidth. For FlexGroup relationships, the max-transfer-rate value is applied individually to each constituent relationship. Attributes: optional-for-create, modifiable |
| **owner** | | policy-owner optional | The owner of the SnapMirror policy. Attributes: optional-for-create, modifiable Possible values:<br>• "cluster_admin" ,<br>• "vserver_admin" |
| **policy-name** | | sm-policy optional | The name of the SnapMirror policy. Attributes: key, required-for-create, non-modifiable |
| **restart** | | sm-restart-enum optional | Defines the behavior of SnapMirror if an interrupted transfer exists. Applies to SnapMirror data protection relationship only. Attributes: optional-for-create, modifiable Possible values:<br>• "always" , |

| | | | |
|---|---|---|---|
| | | | "never" ,<br>• "default" |
| **sequential-split-op-timeout-secs** | **[0..2^32-1]** | integer optional | Configure sequential split op timeout. Attributes: optional-for-create, modifiable |
| **snapmirror-policy-rules** | | snapmirror-policy-rule-info[] optional | Information about rules in the policy. |
| **total-keep** | **[0..2^32-1]** | integer optional | Total Retention Count for All Rules in the Policy Attributes: non-creatable, non-modifiable |
| **total-rules** | **[0..2^32-1]** | integer optional | Total Rules in the Policy Attributes: non-creatable, non-modifiable |
| **transfer-priority** | | sm-transfer-priority-enum optional | Specifies the priority at which a SnapMirror transfer runs. 'normal' : By default every transfer in the system has this priority. These transfers are scheduled before most 'low' priority transfers. 'low': These transfers have least priority and usually are scheduled after most 'normal' priority transfers. Attributes: optional-for-create, modifiable Possible values:<br>• "low" ,<br>• "normal" |
| **transfer-schedule-name** | | string optional | Specifies the name of the cron schedule, which is used to update the SnapMirror relationships. Attributes: optional-for-create, modifiable |
| **tries** | | string optional | Specifies the maximum number of times to attempt each manual or scheduled transfer for a SnapMirror relationship. Valid input is a positive integer or 'unlimited'. The default is '8'. Attributes: optional-for-create, modifiable |
| **type** | | sm-policy-type-enum optional | The type of the Snapmirror policy. This field is only applicable on Data ONTAP 8.3 or later. Policy type smgr-mirror is not supported on Data ONTAP 8.3 or earlier. Policy type strict-sync-mirror and sync-mirror are not supported on Data ONTAP 9.4 or earlier. This parameter is required on Data ONTAP 9.5 and later. Attributes: optional-for-create, non-modifiable Possible values:<br>• "vault" ,<br>• "async_mirror" ,<br>• "mirror_vault" ,<br>• "smgr_mirror" ,<br>• "strict_sync_mirror" ,<br>• "sync_mirror" ,<br>• "active_strict_sync_mirror" ,<br>• "automated_failover" ,<br>• "migrate" ,<br>• "continuous" |
| **vserver-name** | | vserver-name optional | Specifies the vserver for the SnapMirror policy. Attributes: key, non-creatable, non-modifiable |
| **window-size-for-tdp-mirror** | | size optional | Window size for TDP Mirror Transfer Operations. The default size is 2MB. Attributes: optional-for-create, modifiable |

# Element definition: **svmdr-config-obj**

[top]

network Possible values:

- "network" - Network

[none]

# Element definition: **policy-owner**

[top]

cluster-admin|vserver-admin Possible values:

- "cluster_admin" ,
- "vserver_admin"

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **sm-policy**

[top]

SnapMirror Policy

[none]

# Element definition: **sm-policy-type-enum**

[top]

vault|async-mirror|mirror-vault|strict-sync-mirror|sync-mirror|automated-failover|continuous Possible values:

- "vault" ,
- "async_mirror" ,
- "mirror_vault" ,
- "smgr_mirror" ,
- "strict_sync_mirror" ,
- "sync_mirror" ,
- "active_strict_sync_mirror" ,
- "automated_failover" ,
- "migrate" ,

- "continuous"

[none]

## Element definition: **sm-restart-enum** [top]

always|never|default Possible values:

- "always" ,
- "never" ,
- "default"

[none]

## Element definition: **sm-transfer-priority-enum** [top]

low|normal Possible values:

- "low" ,
- "normal"

[none]

## Element definition: **snapmirror-policy-rule-info** [top]

Information about rules in the policy.

| Name | Range | Type | Description |
|---|---|---|---|
| **keep** | | string optional | Specifies the maximum number of Snapshot copies that are retained on the SnapMirror destination volume for a rule. The total number of Snapshot copies retained for all the rules in a policy cannot exceed 251 on Data ONTAP 9.3 or earlier and 1019 on Data ONTAP 9.4 or later. For all the rules in SnapMirror policies of type async-mirror, this parameter must be set to value '1'. Attributes: optional-for-create, modifiable |
| **prefix** | | string optional | Specifies the Snapshot copy creation prefix name associated with the rule. Attributes: optional-for-create, modifiable |
| **preserve** | | boolean optional | Specifies the behavior when the Snapshot copy retention count is reached on the SnapMirror vault destination for the rule. The default value is 'false', which means that the oldest Snapshot copy will be rotated out to make room for new ones only if the number of Snapshot copies has exceeded the retention count specified in the keep parameter. When set to 'true', an incremental SnapMirror vault update will fail when the Snapshot copies have reached the retention count. For all the rules in SnapMirror policies of type async-mirror this parameter must be set to value 'false'. Attributes: optional-for-create, |

| | | | |
|---|---|---|---|
| | | | modifiable |
| **schedule** | | string optional | Specifies the Snapshot copy creation schedule name associated with the rule. Attributes: optional-for-create, modifiable |
| **snapmirror-label** | | string optional | Specifies the Snapshot copy label. It is used for the purpose of Snapshot copy selection for extended data protection relationships. Snapshot copies that have a SnapMirror label that matches this parameter will be transferred to the SnapMirror destination. The label can be 31 or fewer characters in length. SnapMirror policies of type async-mirror and mirror-vault have a rule added for label 'sm_created' at the time of policy creation. This rule cannot be removed or modified by the user. This rule when coupled with create-snapshot field set to 'true' indicates that the SnapMirror relationship using this policy shall create a new Snapshot copy and transfer it as part of an update operation. SnapMirror policies of type async-mirror support one additional rule with SnapMirorr label 'all_source_snapshots'. This rule along with the rule for SnapMirror label 'sm_created' indicates that all new Snapshot copies on the primary volume along with the newly created Snapsho155 :transferred on an initialize or update operation. Rules with any other SnapMirror labels may not be added to SnapMirror policies of type async-mirror. The rule for label sm_created when added to a SnapMirror policy of type vault indicates that all SnapMirror created Snapshot copies of the primary volume are selected for transfer. Attributes: optional-for-create, modifiable |
| **warn** | **[0..2^32-1]** | integer optional | Specifies the warning threshold count for the rule. The default value is 0. When set to a value greater than zero, an event is generated after the remaining number of Snapshot copies (for the particular rule) retained on a SnapMirror vault destination reaches the specified warn limit. The preserve parameter for the rule must be 'true' to set the warn parameter to a value greater than zero. Attributes: optional-for-create, modifiable |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **snapshot**


snapshot-autodelete-list-info
snapshot-autodelete-set-option
snapshot-create
snapshot-create-async
snapshot-delete
snapshot-delete-async
snapshot-delta-info
snapshot-get-iter
snapshot-get-reserve
snapshot-get-schedule
snapshot-list-info
snapshot-modify-iter
snapshot-modify-snaplock-expiry-time
snapshot-multicreate
snapshot-multicreate-validate
snapshot-multidelete
snapshot-multirename
snapshot-partial-restore-file
snapshot-partial-restore-file-list-info
snapshot-policy-add-schedule
snapshot-policy-create
snapshot-policy-delete
snapshot-policy-get
snapshot-policy-get-iter
snapshot-policy-modify
snapshot-policy-modify-schedule
snapshot-policy-remove-schedule
snapshot-reclaimable-info
snapshot-rename
snapshot-reserve-list-info
snapshot-restore-file
snapshot-restore-file-info
snapshot-restore-volume
snapshot-restore-volume-async
snapshot-set-reserve
snapshot-set-schedule
snapshot-volume-info


## snapshot-autodelete-list-info

[top]

Returns the current snapshot autodelete settings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the existing volume for which we want snapshot autodelete settings |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **options** | | snapshot-autodelete-info[] | List of snapshot autodelete options for this volume. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOLUMENOTONLINE** | |
| **EOPNOTSUPPORTED** | |
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **EAGGRRELOCATING** | |
| **EAPIMISSINGARGUMENT** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-autodelete-set-option

[top]

Set the option named 'option-name' to the value specified by 'option-value' in the autodelete settings of the specified volume.

This API is not supported on FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Name of the option to be set. Possible values:<br><br>"state" (value: "on" \| "off")<br>This option determines if the snapshot autodelete is currently enabled for the volume. Setting the option to "on" switches on the snapshot autodelete for the volume. Setting the option to "off" switches off the snapshot autodelete for the volume.<br><br>"commitment" (value: "try" \| "disrupt" \| "destroy" )<br>This option determines the snapshots which snapshot autodelete is allowed to delete to get back space. Setting this option to "try" only permits the snapshots which are not locked by data protection utilities (dump, mirroring, NDMPcopy) and data backing functionalities (volume, LUN, NVMe namespace and File clones) to be deleted. Setting this option to "disrupt" only permits the snapshots which are not locked by data backing functionalities (volume, LUN and File clones) to be deleted. Setting this option to "destroy", will destroy the data backing functionality (volume, LUN, NVMe namespace and File clones) if the backing snapshot is deleted. |

| | | | |
|---|---|---|---|
| **option-name** | | string | "trigger" (value: "volume" \| "snap_reserve" \| "(DEPRECATED)-space_reserve")<br>This option determines the condition which starts the automatic deletion of snapshots. Setting this option to "volume" triggers automatic deletion of snapshots when the volume reaches threshold capacity and the volume's snap reserve has been exceeded. Setting the option to "snap_reserve" triggers automatic deletion of snapshots when the snap reserve of the volume reaches threshold capacity. Setting the option to (DEPRECATED)-"space_reserve" triggers automatic deletion of snapshots when the space reserved the volume reaches threshold capacity and the volume's snap reserve has been exceeded. NOTE: The option "space_reserve" is deprecated. The threshold capacity is determined by the size of the volume as given below:<br>• If the volume size is less than 20 GB, the autodelete threshold is 85%.<br>• If the volume size is equal to or greater than 20 GB and less than 100 GB, the autodelete threshold is 90%.<br>• If the volume size is equal to or greater than 100 GB and less than 500 GB, the autodelete threshold is 92%.<br>• If the volume size is equal to or greater than 500 GB and less than 1 TB, the autodelete threshold is 95%.<br>• If the volume size is equal to or greater than 1 TB, the autodelete threshold is 98%.<br><br>"target_free_space" (value: <number>)<br>This option determines when snapshot autodelete should stop deleting snapshot. Depending on the trigger, snapshots are deleted till we reach the target free space percentage.<br><br>"delete_order" (value: newest_first \| oldest_first)<br>This option determines if the oldest or newest snapshot is deleted first.<br><br>"defer_delete" (value: scheduled \| user_created \| prefix \| none)<br>This option determines which kind of snapshots to delete in the end. Setting this option value to "scheduled" will delete the snapshots created by the snapshot scheduler last. Setting this option value to "user_created" will delete the snapshots not created by the snapshot scheduler last. Setting this option value to "prefix" will delete the snapshots matching the prefix string to be deleted last. Setting this option value to "none" will disable the above choices.<br><br>"prefix" (value: <string>)<br>This option can be set to provide the prefix string for the "prefix" value of the "defer_delete" option. The prefix string length can be 15 char long.<br><br>"destroy_list" (value: <string>)<br>A comma separated list of services which can be destroyed if the snapshot backing that service is deleted. For 7-mode, the possible values for this option are a combination of "lun_clone", "vol_clone", "cifs_share", "file_clone" or "none". For cluster-mode, the possible values for this option are a combination of "lun_clone,file_clone" (for LUN/NVMe namespace clone and/or file clone), "lun_clone,sfsr" (for LUN/NVMe namespace clone and/or sfsr), "vol_clone", "cifs_share", or "none". Please note that "lun_clone", "file_clone" and "sfsr" individually are not valid values. Only pairs "lun_clone,file_clone" and "lun_clone,sfsr" are supported. The option "sfsr" is not supported for |

| | | | |
|---|---|---|---|
| | | | 7-mode. The default value is "none" for 7-mode and cluster-mode. |
| **option-value** | | string | The value to set the named option |
| **volume** | | string | Name of the volume for which we want to change autodelete settings. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEBUSY** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EONTAPI_EVOLOPNOTSUPP** | |
| **EAGGRRELOCATING** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINCOMPATIBLE_AUTOSHRINK_AUTODELETE_TRIGGER** | |
| **EAPIMISSINGARGUMENT** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-create

[top]

Create a new snapshot on a specified volume.

This API is not supported on Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **async** | | boolean optional | If true, the snapshot is to be created asynchronously. The default value is false. |
| **comment** | | string optional | A human readable comment attached with the snapshot. The size of the comment can be at most 255 characters. This parameter is not supported on FlexGroups. |
| **expiry-time** | **[0..2^32-1]** | integer optional | Expiry time of the snapshot in seconds since Jan 1, 1970. Until time of expiry the snapshot will be protected against deletion by system processes. The snapshot is not explicitly deleted when expiry-time elapses. The protection can be bypassed by autodelete when it operates in destroy mode. |
| **is-valid-lun-clone-snapshot** | | boolean optional | If true, the snapshot create has been requested by snapvault hence all backing snapshots for all the LUN clones in this snapshot will be locked. This ensures the consistency of this snapshot. The default value is false. |
| **snapmirror-label** | | string optional | A human readable SnapMirror Label attached with the snapshot. Size of the label can be at most 31 characters. This label will be applied as an attribute to the snapshot that is created and will be used by the vaulting system to identify a vaulting scheme. This parameter is not supported on FlexGroups. |
| | | | |

| | | | |
|---|---|---|---|
| **snapshot** | | string<br>nonempty | Name of the snapshot to be created. The maximum string length is 256 characters. |
| **volume** | | string | Name of the volume on which the snapshot is to be created. The volume name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. |

| Errno | Description |
|---|---|
| **ESNAPSHOTEXISTS** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **ENOMORESNAPS** | |
| **ESNAPSHOTNOSPACE** | |
| **EONTAPI_ENOMEM** | |
| **EONTAPI_ETIMEDOUT** | |
| **EONTAPI_EINVAL** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **ECLONEINPROGRESS** | |
| **EAGGRRELOCATING** | |
| **EAGGRINSWITCHBACK** | |
| **EOP_DISALLOWED_DURING_GIVEBACK** | |
| **EAGGRFAILINGOVER** | |
| **EHALTING** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EAPIMISSINGARGUMENT** | |
| **ESNAPSHOTTAGSNOSPACE** | |
| **ENOSESSION** | |
| **ESNAPSHOTDOESNOTEXIST** | |
| **ESNAPDBNOTINITED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-create-async

[top]

This API is no longer supported as of ONTAP 9.5.0.

Create a new snapshot on a specified Infinite Volume.

This API is not supported on flexible volumes, Infinite Volume constituents, and FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string<br>optional | A human readable comment attached with the snapshot. The size of the comment can be at most 255 characters. |
| **snapshot** | | string<br>nonempty | Name of the snapshot to be created. The maximum string length is 256 characters. |

| | | | |
|---|---|---|---|
| **volume** | | string | Name of the Infinite Volume on which the snapshot is to be created. The Infinite Volume name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **ESNAPSHOTEXISTS** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **ENOMORESNAPS** | |
| **ESNAPSHOTNOSPACE** | |
| **EONTAPI_ENOMEM** | |
| **EONTAPI_ETIMEDOUT** | |
| **EONTAPI_EINVAL** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **ESNAPSHOTTAGSNOSPACE** | |
| **ESNAPSHOTDOESNOTEXIST** | |
| **ESNAPDBNOTINITED** | |

# snapshot-delete

[top]

Delete a snapshot on a specified volume. EBUSY is returned when the snapshot is in use. EROFS is returned when the volume is read-only. EAGAIN is returned when splitting a blockmap or reverting.

This API is not supported on Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ignore-owners** | | boolean optional | If this field is true, snapshot will be deleted even if some other processes are accessing it.<br><br>The default value is false. |
| **snapshot** | | string | Name of snapshot to be deleted on the specified volume. |
| **snapshot-instance-** | | UUID optional | The 128 bit unique snapshot identifier expressed in the form of UUID. This field is optional and can appear together with 'snapshot' to uniquely identify a snapshot for deletion. If this field is provided, 'snapshot' is a required parameter. |

| | | | |
|---|---|---|---|
| **uuid** | | | An example of an actual UUID is:<br><br>73a010ec-3d28-11df-84e8-123478563412 |
| **volume** | | string | Name of the volume on which the snapshot is to be deleted. |

| Errno | Description |
|---|---|
| **ESNAPSHOTDOESNOTEXIST** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EAPIERROR** | |
| **ESNAPSHOTNOTALLOWED** | |
| **EONTAPI_EBUSY** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_EAGAIN** | |
| **EONTAPI_ETIMEDOUT** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EOPNOTSUPPORTED** | |
| **EAGGRRELOCATING** | |
| **EAGGRINSWITCHBACK** | |
| **EOP_DISALLOWED_DURING_GIVEBACK** | |
| **EAGGRFAILINGOVER** | |
| **EHALTING** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EAPIMISSINGARGUMENT** | |
| **ESNAPSHOTBUSY** | |
| **ESNAPDBNOTINITED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-delete-async

[top]

This API is no longer supported as of ONTAP 9.5.0.

Delete a snapshot on a specified Infinite Volume. EBUSY is returned when the snapshot is in use. EROFS is returned when the Infinite Volume is read-only. EAGAIN is returned when splitting a blockmap or reverting.

This API is not supported on flexible volumes, Infinite Volume constituents, and FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ignore-owners** | | boolean<br>optional | If this field is true, snapshot will be deleted even if some other processes are accessing it. The default value is false. |
| **snapshot** | | string | Name of snapshot to be deleted on the specified Infinite Volume. |

| | | | |
|---|---|---|---|
| **snapshot-instance-uuid** | | UUID optional | The 128 bit unique snapshot identifier expressed in the form of UUID. This field is optional and can appear together with 'snapshot' to uniquely identify a snapshot for deletion. If this field is provided, 'snapshot' is a required parameter. An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412 |
| **volume** | | string | Name of the Infinite Volume on which the snapshot is to be deleted. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **ESNAPSHOTDOESNOTEXIST** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EAPIERROR** | |
| **ESNAPSHOTNOTALLOWED** | |
| **EONTAPI_EBUSY** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_EAGAIN** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EOPNOTSUPPORTED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **ESNAPDBNOTINITED** | |

# snapshot-delta-info

[top]

Returns the amount of space consumed between two snapshots or a snapshot and active filesystem.

This API is not supported on FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot1** | | string | Name of snapshot to be compared with snapshot2 for space consumption calculations. |
| **snapshot2** | | string optional | Name of snapshot to be compared with snapshot1 for space consumption calculations. If the snapshot is not specified, it is assumed to be Active File System. |
| **volume** | | string | Name of the volume on which the snapshot delta is to be calculated. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **consumed-size** | | integer | Size in bytes of space changed between the 2 specified snapshots or snapshot and the active file system. Range : [0 - 2^63-1]. |
| **elapsed-time** | | integer | Time in seconds elapsed between the 2 specified snapshots or the snapshot and the active file system. Range : [0 - 2^31-1]. |

| Errno | Description |
|---|---|
| **ESNAPSHOTDOESNOTEXIST** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EMULTIPLEVOLSFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EVOLUMENOTONLINE** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |
| **EAGGRRELOCATING** | |
| **EAGGRINSWITCHBACK** | |
| **EOP_DISALLOWED_DURING_GIVEBACK** | |
| **EAGGRFAILINGOVER** | |
| **EHALTING** | |
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_ETIMEDOUT** | |
| **EONTAPI_EAGAIN** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-get-iter

[top]

Iterate over a list of snapshot objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapshot-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snapshot-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snapshot object. All snapshot objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snapshot-info[] optional | The list of attributes of snapshot objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snapshot objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |
| **volume-errors** | | volume-error[] optional | Volume Error Info |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snapshot-get-reserve

[top]

Obtain the current snapshot reserve on a specified volume. Error Returns: Invalid volume name.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume that contains the snapshot reserve. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **blocks-reserved** | | integer | The number of 1024 byte blocks that has been set aside as reserve for snapshot usage. |
| **percent-reserved** | | integer | The percentage of disk space that has been set aside as reserve for snapshot usage. |

| Errno | Description |
|---|---|
| **ESNAPSHOTDOESNOTEXIST** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVOL_RESTRICTED** | |
| **EVOLUMEBUSY** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **E_VOLUME_INACCESSIBLE** | |
| **EAGGRRELOCATING** | |
| **EAPIMISSINGARGUMENT** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-get-schedule

[top]

Obtain the current snapshot schedule on a specified volume.

This API is not the preferred way of obtaining snapshot schedule information in Clustered Data ONTAP. Snapshot schedule information for a given volume may be obtained in Clustered Data ONTAP by using the following steps:

- Issue API 'volume-get-iter' and record the 'snapshot-policy' field.
- Issue API 'snapshot-policy-get' and use the previously obtained 'snapshot-policy' field as input to find out information about all the schedules attached to the given policy.
- Issue API 'job-schedule-get' to obtain information about each individual schedule in the given snapshot policy.

This API is not supported on FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | This the volume name where the snapshots are located. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **days** | | integer | The number of snapshots taken daily to keep on line. Range : [0..2^32-1]. |
| **hours** | | integer | The number of snapshots taken hourly to keep on line. Range : [0..2^32-1]. |
| **minutes** | | integer | The number of snapshots taken minutely to keep on line. Range : [0..2^32-1]. |
| **weeks** | | integer | The number of snapshots taken weekly to keep on line. Range : [0..2^32-1]. |
| **which-hours** | | string | A list of the hours at which the hourly snapshots are created. |
| **which-minutes** | | string | A list of the minutes at which the minutely snapshots are created. |

| Errno | Description |
|---|---|
| **ESNAPSHOTDOESNOTEXIST** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVSERVERNOTFOUND** | |
| **EUSECLUSTERNATIVEUI** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOLUMEBUSY** | |
| **EAPIMISSINGARGUMENT** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-list-info

[top]

Return snapshot information for a specified volume. A list of snapshots and information about each snapshot is returned. In Data ONTAP Cluster-Mode, 'snapshot-get-iter' API is the preferred way of retrieving snapshot information.

This API is not supported on FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-7-mode-snapshot** | | boolean optional | If set to true, check if snapshot is a 7-mode snapshot. A 7-mode snapshot can appear in a cluster-mode volume as a result of the volume being transitioned from 7-mode to cluster-mode. A 7-mode snapshot cannot be used in a volume snapshot restore. The default value is false. |
| **lun-clone-snapshot** | | boolean optional | If set to true, check if snapshot contains any LUN or NVMe namespace clones. The default value is false. |
| **snapowners** | | boolean optional | If set to true, owners of the busy snapshot are returned. If false, or if the option is omitted, the list of owners is not returned. |
| **target-name** | | string optional | Name of the object on which to list the snaplist information. Arguments "target-name" and "target-type" should be used together. Arguments "volume" and ("target-name", "target-type") pair are mutually exclusive. One and only one of them should be specified. |
| **target-type** | | string optional | Type of the object on which to list the snaplist information. Possible values: volume, aggregate. |
| **terse** | | boolean optional | If set to true, the snapshot block ownership values, namely the "total" and "cumulative-total" outputs, will be omitted. If set to false, the block ownership calculation will be included in the output. The default value is false. |
| **volume** | | string optional | Name of the volume on which to list the snaplist information. It is for backward compatibility. The recommended usage is to use arguments ("target-name", "target-type") pair. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshots** | | snapshot-info[] optional | |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVSERVERNOTFOUND** | |
| **EVOLUMEBUSY** | |
| **EAGGRRELOCATING** | |
| **EAGGRINSWITCHBACK** | |
| **EOP_DISALLOWED_DURING_GIVEBACK** | |
| **EAGGRFAILINGOVER** | |
| **EHALTING** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-modify-iter

[top]

Modify the attributes of snapshot or a group of snapshot objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapshot-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple snapshot objects match a given query. If set to true, the API will continue modifying the next matching snapshot even when modification of a previous snapshot fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching snapshot even when the modification of a previous matching snapshot fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | snapshot-info | If modifying a specific snapshot, this input element must specify all keys. If modifying snapshot objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of snapshot objects (just keys) that were not modified due to some error. If set to false, the list of snapshot objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of snapshot objects (just keys) that were successfully updated. If set to false, the list of snapshot objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | snapshot-modify-iter-info[] optional | Information about snapshot objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching snapshot objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of snapshot objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of snapshot objects that matched the query and were successfully updated. |
| **success-list** | | snapshot-modify-iter-info[] optional | The snapshot objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |
| **EINVALIDINPUTERROR** | |

# snapshot-modify-snaplock-expiry-time

[top]

Modifies snaplock expiry time of a snapshot copy. Expiry time can only be extended from existing expiry time.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **expiry-time** | | integer optional | |
| **infinite-expiry-time** | | boolean optional | If this option is set to true, API will set the infinite expiry time on the specified snapshot copy. |
| **snapshot** | | string nonempty | Specifies the name of the snapshot copy for which snaplock expiry time needs to be modified. The snapshot must have already been retained by snaplock. |
| **volume** | | string | Specifies the name of the volume that contains snapshot copy. |

| Errno | Description |
|---|---|
| **ENOENT** | |
| **EONTAPI_EWORMMNOTWORMA** | |
| **EONTAPI_EWORMNOCLOCK** | |
| **EINTERNALERROR** | |
| **EONTAPI_EWORMVOLNOTWORM** | |
| **EVOLUMEOFFLINE** | |

# snapshot-multicreate

[top]

Create a snapshot with the specific name, on each of the specified volumes. It is the caller's responsibility to ensure that the data in the snapshots across all volumes is consistent, by quiescing I/O to these volumes (or the LUNs or NVMe namespaces of interest in these volumes), across the call to this API. The API is asynchronous by default and responds once the snapshot creation consistency point starts. To make it synchronous this API should be called with the async flag set as false by using wait-for-sync parameter. When a failure is encountered while creating a Snapshot copy on a volume, this API stops and returns the error immediately. It does not continue on to create Snapshot copies on the remaining volumes. When the API fails, the returned error code is for the failed volume. For clustered systems, the output 'status' will be set to FALSE in case of failure. In such case the caller should look at the output 'volume-errors' to find out in which volume snapshot creation failed. When an error occurs, it is possible that some snapshots may have been created. If the option cleanup is set to TRUE (default), API will attempt to delete these snapshots (but snapshot deletion may fail). When set to FALSE, it is users' responsibility to delete them. The output array volume-snapcreated-list records for each volume, if a snapshot has been created or not. There are at least two expected use cases for this API. The first one is to call this API with the cleanup option set to TRUE (default). If the call fails, any successfully created snapshots will be deleted before the function returns. This is a simple use case, but has the downside that in case of a failure, the call may take a long time to return due to snapshot cleanup. Another use case would be to call this API in a time critical environment. In such a scenario, it would be good to reduce the impact due to a failure. Hence, it would be better to first call the snapshot-multicreate-validate ZAPI, which would reduce the likelihood of failure of the snapshot-multicreate API. In case a failure does occur, the caller could avoid the cleanup delay by setting the cleanup option to FALSE, and performing snapshot cleanup later, outside the time-critical window.

This API is not supported on FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **cleanup** | | boolean optional | When the API fails, some snapshots may have been created for some volumes. When set to TRUE, the API will attempt to delete these snapshots. Note that newly created snapshots cannot be deleted right away until the snapshots are on-disk, which may take up to 10 secs. When set to FALSE, newly created snapshots are not deleted. Users can delete them later as needed. Default is TRUE. |
| **snapmirror-label** | | string optional | The SnapMirror Label for the schedule. This label will be used to define vaulting policies at a vault destination. Maximum length of this field is 31 characters |
| **snapshot** | | string nonempty | Name of the snapshot to be created. The maximum string length is 256 characters. |
| **volume-names** | | volume-name[] | Names of the volumes across which the snapshot is to be created. The maximum number of volumes on a cluster system is 1200 (100 for traditional volumes and 500 for flexible volumes. The number is then doubled for a cluster system). |
| **wait-for-sync** | | boolean optional | Specifies if we should wait for the snapshot creating consistency point to complete before responding to the user for the multicreate API. Default value is 'false'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **status** | | boolean optional | Set to 'FALSE' in case of failure of the API. The output 'volume-errors' will contain the error code and reason for the volume on which snapshot creation failed. This output is only returned for clustered systems. |
| **volume-errors** | | volume-error[] optional | Error code and reason due to which snapshot creation failed on a volume. This output is only returned for clustered systems. |
| **volume-is-snapcreated-list** | | volume-is-snapcreated[] optional | An array records if a snapshot has been created for a given volume. This is returned only in case of failure. |

| Errno | Description |
|---|---|
| **ESNAPSHOTEXISTS** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEBUSY** | |
| **EOPNOTSUPPORTED** | |
| **ENOMORESNAPS** | |
| **ESNAPSHOTNOSPACE** | |
| **EONTAPI_ENOMEM** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EPERM** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_EAGAIN** | |
| **EONTAPI_EWORMPERIOD** | |
| **EONTAPI_EWORMNOCLOCK** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| | |

| |
|---|
| **EINVALIDINPUTERROR** |
| **EOPNOTSUPPORTED** |
| **EAGGRRELOCATING** |
| **EAGGRINSWITCHBACK** |
| **EOP_DISALLOWED_DURING_GIVEBACK** |
| **EAGGRFAILINGOVER** |
| **EHALTING** |
| **EAPIMISSINGARGUMENT** |

| Vfiler-enabled |
|---|
| Yes |

# snapshot-multicreate-validate

[top]

This is a companion API of snapshot-multicreate. It validates the snapshot creation operation on the specified volumes. But it does not actually create any snapshot. This API only does validations on all volumes and report all errors in the output array. This API is intended to be issued before the snapshot-multicreate API to find out all the errors that may be found during the snapshot create. Its main purpose is to enable snapshot-multicreate's caller to reduce the likelihood of snapshot-multicreate's failure, thereby attempting to avoid the cleanup overhead (of deleting any newly created snapshots) during failure processing. However, this validation API does not guarantee that snapshot-multicreate API will actually work. Something could change between the two calls to cause the actual snapshot creations to fail.

This API is not supported on FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | string nonempty | Name of the snapshot to be created. The maximum string length is 256 characters. |
| **volume-names** | | volume-name[] | Names of the volumes across which the snapshot creation is to be validated. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **volume-errors** | | volume-error[] | An array records the error code associated with each volume. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EOPNOTSUPPORTED** | |
| **EVOLUMEBUSY** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |

| | |
|---|---|
| **EAGGRRELOCATING** | |
| **EAGGRINSWITCHBACK** | |
| **EOP_DISALLOWED_DURING_GIVEBACK** | |
| **EAGGRFAILINGOVER** | |
| **EHALTING** | |
| **EAPIMISSINGARGUMENT** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

# snapshot-multidelete

[top]

Delete the snapshot from the given flexible volumes. This API will return failure if the volume could not be found or it is busy. All the volumes should be online when this API is invoked. It will only delete snapshots on Read-Write volumes. Once all the necessary information to delete snapshots is available, this API will start deleting snapshots on the volumes. If any of the snapshot delete failed, the API will remember the failed volume and continue deleting snapshot on the remaining volumes. In case of failure to delete the snapshots from all the given volumes, the API will return a SUCCESS and also return information about the failed snapshot deletes via the 'volume-errors' output. If the API returns SUCCESS, the applications should check if the 'volume-errors' output is returned or not to check for failed snapshot deletions.

This API is not supported on FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **reverting** | | boolean optional | When the reverting flag is set to true, this API will delete a snapshot on each volume that was created in the current release. The default value is false. |
| **reverting-fg** | | boolean optional | When the reverting FG flag is set to true, this API will delete a snapshot that was created in the current release on each flexgroup. The default value is false. |
| **snapshot** | | string nonempty optional | Name of the snapshot to be deleted. The maximum string length is 256 characters. This field is ignored when the reverting flag is set to true. |
| **snapshot-tags** | | d-snapshot-tag-info[] optional | If the snapshot is locked by the given snapshot tag, the snapshot lock will be ignored and the snapshot will be deleted. |
| **use-snapshot-as-prefix** | | boolean optional | If this option is set to true, this API will delete all snapshots whose names start with the given snapshot name from the volumes specified in the input. The snapshots will be deleted asynchronously in the background. If set to true, the API will not return a list of volume errors. The default value is false. |
| **volume-names** | | volume-name[] | Names of the volumes across which the snapshot is to be deleted. |
| | | | The identities of the volumes from which the snapshot will be deleted.<br><br>The volume identity string is its 128-bit universally-unique identifier (UUID) or its DSID.<br><br>UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second |

| | | | |
|---|---|---|---|
| **volume-uuids** | | UUID[] optional | through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.<br><br>Here is an example of an actual UUID:<br><br>49e370d6-5b5a-11d9-9eb5-000100000529<br><br>This field is ignored when the reverting flag is set to true. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshots-deleted** | | integer optional | The number of snapshots deleted. |
| **volume-errors** | | volume-error[] optional | Error code and reason due to which snapshot deletion failed on a volume. This output is only returned when the API returns SUCCESS but snapshot on some volumes could not be deleted. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEBUSY** | |
| **EONTAPI_ENOMEM** | |
| **EONTAPI_EINVAL** | |
| **EONTAPI_EPERM** | |
| **EONTAPI_EROFS** | |
| **EONTAPI_EAGAIN** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |
| **EAGGRRELOCATING** | |
| **EAGGRINSWITCHBACK** | |
| **EOP_DISALLOWED_DURING_GIVEBACK** | |
| **EAGGRFAILINGOVER** | |
| **EHALTING** | |
| **ESNAPSHOTBUSY** | |
| **EONTAPI_ENOMORESNAPS** | |

# snapshot-multirename

[top]

Rename Snapshot copies with a specific name to a new name across multiple volumes. The API processes all the specified volumes even if rename fails on one or more volumes. The snapshot-multirename-errors field should be inspected for failures even if the API is successful.This API is not supported on FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-snapshot-name** | | snapshot-id | The new snapshot name. |

| | | | |
|---|---|---|---|
| **snapshot-name** | | snapshot-id | The current snapshot name. |
| **volume-names** | | volume-name[] | Names of the volumes across which the snapshot is to be renamed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-multirename-errors** | | snapshot-multirename-error[] optional | Information of the error details for snapshot multirename operation |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EAPIUNSUPPORTEDVERSION** | |
| **EINVALIDINPUTERROR** | |
| **ESNAPSHOTNOSPACE** | |

# snapshot-partial-restore-file

[top]

Restores a particular range of bytes in a file from a specified snapshot.

Partial file restores are used to restore particular pieces of LUNs, NVMe namespace and NFS or CIFS container files that are used by a host to store multiple sources of data. For example, a host may be storing multiple user databases in the same LUN. A partial file restore can be used to restore one of those databases in the LUN while not touching the other databases that are also stored in the LUN. Compressed files will not be restored, though compression may be enabled on the volume.

Partial file restores require significant management by the caller. The caller must understand the metadata of the host LUN, NVMe namespace or container file so that they can know which bytes belong to the object being restored.

Partial file restore is supported only between LUNs or NVMe namespaces with equal block sizes and is supported from source LUN to destination NVMe namespace and from source NVMe namespace to destination LUN.

Before the restore operation begins, the caller must quiesce the object being restored. It must remain quiesced for the duration of the restore operation. No host I/O should be issued for the object while it is being restored because the snapshot-partial-restore-file commands will be incrementally restoring the file, LUN, or NVMe namespace and the host will therefore see inconsistent content for the object until the restore operation is completed. Host I/O is permitted for the other objects stored in the LUN, NVMe namespace or container file because the partial file restore will not touch the bytes belonging to those other objects.

During the restore the caller must issue a snapshot-partial-restore-file command for each of the byte ranges that belong to the object being restored, based on the metadata of the LUN, NVMe namespace or container file. Once each command returns, that byte range is restored and the changes are persistent. If the filer should halt while processing a command, that byte range of the LUN, NVMe namespace or container file is inconsistent. Some of the bytes at the beginning of the range may have been restored while bytes at the end of the range have not been restored. Once the filer is rebooted the

caller should re-issue the command to restore that byte range to complete the restore.

Once the restore is completed, the caller must purge any host operating system or application buffers that may hold data for the file, LUN, or NVMe namespace that is now stale. For NFS or CIFS mounted volumes the easiest way to purge any host buffers is to unmount and remount the volume. Applications holding buffered data may need to be shut down and restarted.

Multiple partial file restore requests may be issued to the same file, LUN, or NVMe namespace simultaneously. There is no requirement that the requests are all restoring from the same snapshot so that multiple restore operations for different objects may be concurrent on the same file. There is no checking to prevent overlapping byte ranges between requests. Preventing this condition is the responsibility of the caller.

Partial file restores are not intended for restoring parts of normal user-level files that are stored in an NFS or CIFS exported volume. Use snapshot-restore-file to restore normal files like these.

The volume where the LUN, NVMe namespace or container file to restore and where the snapshot to restore from live must be online and must not be a mirror volume.

The partial file restore request may fail if there is not sufficient free space to overwrite all of the blocks in the byte range to be restored.

The partial file restore request is synchronous, meaning that the command will not return until the entire byte range is restored. The snapshot being restored from cannot be deleted while a request is being executed, but it can be deleted between requests. If this happens the next request will notice that the snapshot has been deleted and will return an error.

The maximum number of bytes of data that can be restored in a single request is given by the max-byte-count value returned by the snapshot-partial-restore-file-list-info command. This limit ensures that requests are periodically interruptible and avoids overloading the filer.

If the system halts while a partial file restore request is being executed, the request will not be restarted upon reboot. Some of the bytes at the beginning of the range may have been restored while bytes at the end of the range have not been restored. The caller should reissue the partial file restore request for that byte range to complete the restore.

This API is not supported on FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **byte-count** | | integer | The number of bytes to restore, beginning at start-byte. The byte count must be a multiple of 4096. Use snapshot-partial-restore-file-list-info to determine the maximum number of bytes that can be restored in a single request. Range : [0 - 2^64-1] |
| **path** | | string | Path of the file to restore. Path syntax has two forms: /vol/<volumename>/<rest of path> /<rest of path> In the latter case (relative path), if volume was not specified, the root volume will be used. |
| **snapshot** | | string | The simple name of the snapshot to restore from. The snapshot must be from same volume as the file to partially restore. |
| **snapshot-instance-uuid** | | string optional | A unique physical version identifier for a given snapshot within a volume or an aggregate. A typical snapshot instance UUID will look like: c0335624-21f3-450c-aea1-55884d0218b9 |
| **start-byte** | | integer | The starting byte offset in the file to partially restore. The first byte of the file is byte zero. The start byte must be a multiple of 4096. Range : [0 - 2^64-1] |
| **volume** | | string optional | Volume to restore to/from. If this is passed in, the path argument should be relative to the volume. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |

| | |
|---|---|
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EONTAPI_EVOLOPNOTSUPP** | |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EONTAPI_EBUSY** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMEBUSY** | |
| **EAGGRRELOCATING** | |
| **EAPIMISSINGARGUMENT** | |
| **EVDISK_ERROR_7MODE_LUN** | |
| **EOP_DISALLOWED_VOL_IS_SYNC_SM** | |
| **EVDISK_INVALID_SECTOR_SIZE** | |
| **EVDISK_LUN_CROSS_NVME_NS** | |
| **EVDISK_NVME_NS_CROSS_LUN** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-partial-restore-file-list-info

[top]

Returns partial file restore settings of the vserver.

This API is not supported on FlexGroups or Infinite Volumes.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **max-byte-count** | | integer | The maximum number of bytes that can be restored in a single request. This limit ensures that requests are periodically interruptible and avoids overloading the filer. Range : [0 - 2^64-1] |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-policy-add-schedule

[top]

Add a new schedule to the Snapshot Policy. A schedule can be created by using 'job-schedule-cron-create' or 'job-schedule-interval-create' APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..1023]** | integer | The maximum number of snapshots to be retained for the schedule. The count of all the snapshots to be retained for this policy cannot be more than 1023. |
| | | snapshot- | A human readable string describing the name of the snapshot |

| | | | |
|---|---|---|---|
| **policy** | | policy | scheduling policy. |
| **prefix** | | string optional | The snapshot name prefix for the schedule. This field should be unique within the policy. |
| **schedule** | | string | A human readable string describing the name of a new schedule to be added inside the snapshot policy. Maximum length of this field can be 255 characters. The schedule name can be any one of the reserved schedules like 'hourly', 'weekly' or 'daily' or it can be a user created schedule. |
| **snapmirror-label** | | string optional | The SnapMirror Label for the schedule. This label will be used to define vaulting policies at a vault destination. Maximum length of this field is 31 characters |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |

# snapshot-policy-create

[top]

This API creates a Snapshot policy and adds the schedules to it. A Snapshot policy includes at least one schedule, up to a maximum of 5 schedules, and a maximum number of Snapshot copies per schedule. A schedule can be created by using 'job-schedule-cron-create' or 'job-schedule-interval-create' APIs. When applied to a volume, the Snapshot policy specifies the schedule on which Snapshot copies are taken and the maximum number of Snapshot copies that each schedule can take. The total count of all the Snapshot copies to be retained for the policy cannot be more than 1023.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | A human readable description associated with the snapshot policy. The maximum length of this field can be 255 characters. |
| **count1** | **[0..1023]** | integer | Retention count for the snapshots created by the first schedule. |
| **count2** | **[0..1023]** | integer optional | Retention count for the snapshots created by the second schedule. |
| **count3** | **[0..1023]** | integer optional | Retention count for the snapshots created by the third schedule. |
| **count4** | **[0..1023]** | integer optional | Retention count for the snapshots created by the fourth schedule. |
| **count5** | **[0..1023]** | integer optional | Retention count for the snapshots created by the fifth schedule. |
| **enabled** | | boolean | Status of the snapshot policy indicating whether the policy will be enabled or disabled. If set to true, the policy will be enabled. |
| **policy** | | string | The name of the snapshot scheduling policy which has to be created. Maximum length of this string can be 256 characters. |
| **prefix1** | | string optional | Snapshot name prefix for the first schedule. Prefix name should be unique within the policy. |
| **prefix2** | | string optional | Snapshot name prefix for the second schedule. Prefix name should be unique within the policy. |
| **prefix3** | | string optional | Snapshot name prefix for the third schedule. Prefix name should be unique within the policy. |
| **prefix4** | | string optional | Snapshot name prefix for the fourth schedule. Prefix name should be unique within the policy. |

| | | | |
|---|---|---|---|
| **prefix5** | | string optional | Snapshot name prefix for the fifth schedule. Prefix name should be unique within the policy. |
| **schedule1** | | string | First schedule to be added inside the policy. At least one schedule has to be added to create a policy. |
| **schedule2** | | string optional | Second schedule to be added inside the policy. |
| **schedule3** | | string optional | Third schedule to be added inside the policy. |
| **schedule4** | | string optional | Fourth schedule to be added inside the policy. |
| **schedule5** | | string optional | Fifth schedule to be added inside the policy. |
| **snapmirror-label1** | | string optional | Label for SnapMirror Operations for first schedule. Maximum length of this field is 31 characters. |
| **snapmirror-label2** | | string optional | Label for SnapMirror Operations for second schedule. Maximum length of this field is 31 characters. |
| **snapmirror-label3** | | string optional | Label for SnapMirror Operations for third schedule. Maximum length of this field is 31 characters. |
| **snapmirror-label4** | | string optional | Label for SnapMirror Operations for fourth schedule. Maximum length of this field is 31 characters. |
| **snapmirror-label5** | | string optional | Label for SnapMirror Operations for fifth schedule. Maximum length of this field is 31 characters. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |

# snapshot-policy-delete

[top]

Delete the specified Snapshot Scheduling Policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | snapshot-policy | A human readable string describing the name of the snapshot scheduling policy. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |

# snapshot-policy-get

[top]

Get Information about a single Snapshot Policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapshot-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **policy** | | snapshot-policy | A human readable string describing the name of the snapshot scheduling policy. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | snapshot-policy-info | The attributes of the snapshot. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |

# snapshot-policy-get-iter

[top]

Get Information about multiple Snapshot Policies

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | snapshot-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | snapshot-policy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the snapshot object. All snapshot objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | snapshot-policy-info[] optional | The list of attributes of snapshot objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more snapshot objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |

# snapshot-policy-modify

[top]

Enable or Disable the specified Snapshot Scheduling Policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | A human readable comment attached with the snapshot. The size of the comment can be at most 255 characters. |
| **enabled** | | boolean optional | The state of the snapshot policy. If true, the snapshot policy is enabled and scheduled snapshots will be created on the volume associated with this policy. |
| **policy** | | string | A human readable string describing the name of the snapshot scheduling policy. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINVALIDNPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |

# snapshot-policy-modify-schedule

[top]

Modify a snapshot policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-count** | **[0..1023]** | integer optional | The new maximum number of snapshots to be retained for the schedule. The count of all the snapshots to be retained for this policy cannot be more than 1023. |
| **new-snapmirror-label** | | string optional | The new SnapMirror Label for the schedule. This label will be used to define vaulting policies at a vault destination. If an empty label is specified, the existing label will be deleted. The maximum length of this field is 31 characters |
| **policy** | | snapshot-policy | A human readable string describing the name of the snapshot scheduling policy. |
| **schedule** | | string | A human readable string describing the name of a schedule whose retention count will be modified. Maximum length of this field can be 255 characters. The schedule name can be any one of the reserved schedules like 'hourly','weekly' or 'daily' or it can be user created schedule. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |

[top]

# snapshot-policy-remove-schedule

Remove a snapshot schedule from policy

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy** | | snapshot-policy | A human readable string describing the name of the snapshot scheduling policy. |
| **schedule** | | string | A human readable string describing the name of a schedule which will be removed from the snapshot policy. Maximum length of this field can be 255 characters. The schedule name can be any one of the reserved schedules like 'hourly','weekly' or 'daily' or it can be a user created schedule. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# snapshot-reclaimable-info

[top]

Returns the amount of space that would be freed when a set of snapshots are deleted from a specified volume.

This API is not supported on FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshots** | | snapshot-name[] | List of snapshots. A maximum of 1023 snapshots can be listed. |
| **volume** | | string | Name of the volume on which the snapshot reclaimable space info is to be collected. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **reclaimable-size** | | integer | Size in bytes of space reclaimable if the snapshots were deleted. Range : [0 - 2^63-1]. |

| Errno | Description |
|---|---|
| **ESNAPSHOTDOESNOTEXIST** | |
| **ESNAPSHOTTOOMANY** | |
| **ESNAPSHOTCORRUPT** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EOPNOTSUPPORTED** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EAGGRFAILINGOVER** | |

| | |
|---|---|
| **EAGGRRELOCATING** | |
| **EAGGRINSWITCHBACK** | |
| **EOP_DISALLOWED_DURING_GIVEBACK** | |
| **EHALTING** | |
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_ETIMEDOUT** | |

| Vfiler-enabled |
|---|
| Yes |

# snapshot-rename

[top]

Rename a specified snapshot to a new name on a specified volume. This API is not supported on FlexGroups or Infinite Volume constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **current-name** | | string | Name of snapshot to be renamed. |
| **new-name** | | string | New name of snapshot as a result of the rename. |
| **volume** | | string | Name of the volume where the current snapshot and the new snapshot are located. |

| Errno | Description |
|---|---|
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EOPNOTSUPPORTED** | |
| **EOBJECTNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **ESNAPSHOTDOESNOTEXIST** | |
| **ESNAPSHOTEXISTS** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EAGGRRELOCATING** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **ESNAPSHOTACSLOCKED** | |
| **EAPIMISSINGARGUMENT** | |
| **EONTAPI_ETIMEDOUT** | |
| **ESNAPSHOTNOSPACE** | |
| **ESNAPDBNOTINITED** | |

| Vfiler-enabled |
|---|
| Yes |

# snapshot-reserve-list-info

[top]

Gets the percentage of disk space that is reserved for snapshots in the indicated volume. If no volume

is specified, this will return the percentage of disk space reserved for snapshots for each of the volumes in the system. Reserve space can be used only by snapshots and not by the active file system. This API is deprecated in Data ONTAP Cluster-Mode 8.2 and later. Use volume-get-iter instead.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string<br>optional | Volume to get percentage of space reserved for snapshots. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-reserve-details** | | snapshot-reserve-detail-info[] | List of volumes along with their snapshot space reservation configuration. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EVSERVERNOTFOUND** | |
| **EVOLUMEBUSY** | |
| **EOPNOTSUPPORTED** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **EAGGRRELOCATING** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-restore-file

[top]

Restores a single file, LUN, or NVMe namespace from the specified snapshot. This operation can be executed to overwrite an existing version of the file, LUN, or NVMe namespace present in the active file system or create a new copy of the file, LUN, or NVMe namespace at a separate location within the same volume. Only normal files, LUNs, and NVMe namespaces are restored. Special files and directories (and their contents) are not restored. Starting Data ONTAP 9.0, restore operation is supported on file with streams. The file, LUN, or NVMe namespace is ready for read/write access once this API returns.

This API is not supported on FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ignore-streams** | | boolean<br>optional | Use this option to control the behavior while restoring file with streams. If false, streams are restored along with the file. If true, the file is restored without its streams. The default value is false. This option is only supported on Data ONTAP 9.0 and later. |
| **path** | | string | Path of the file to restore. Path syntax has two forms: /vol/<volumename>/<rest of path> /<rest of path> In the latter case (relative path), if volume was not specified, the root volume will be used. |
| **restore-path** | | string<br>optional | Path to restore to. The path must be a full path to a filename, and must be in the same volume as the volume used for the restore. If not specified, restore-path is defaulted to the original path. |
| **snapshot** | | string | Name of snapshot to restore from. Snapshot must be from same volume as the file to restore. |
| **snapshot-** | | string | A unique physical version identifier for a given snapshot within a volume |

| | | | |
|---|---|---|---|
| **instance-uuid** | | optional | or an aggregate. A typical snapshot instance UUID will look like: c0335624-21f3-450c-aea1-55884d0218b9 |
| **space-efficient-split-disabled** | | boolean optional | By default 'false', space-efficient LUN/NVMe namespace clone split is allowed during restore. This parameter, if set to 'true', disables space-efficient splitting for this specific operation. |
| **volume** | | string optional | Volume to restore to/from. If this is passed in, the path argument should be relative to the volume. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EONTAPI_EVOLOPNOTSUPP** | |
| **EINTERNALERROR** | |
| **EOBJECT_NOT_FOUND** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EONTAPI_EBUSY** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMEBUSY** | |
| **EAGGRRELOCATING** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EAPIMISSINGARGUMENT** | |
| **EVDISK_ERROR_7MODE_LUN** | |
| **EONTAPI_ENOMEM** | |
| **EVDISK_ERROR_TOO_MANY_LUNS** | |
| **EOP_DISALLOWED_VOL_IS_SYNC_SM** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-restore-file-info

[top]

Get information about snapshot file restores on a given vserver. Returns maximum snapshot file restores limit and snapshot file restores in progress numbers.

This API is not supported on FlexGroups.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **max-sfsr-limit** | | integer | The maximum number of parallel single file snapshot restores (SFSR) allowed on a filer. |
| **sfsr-in-progress** | | integer | Number of single file snapshot restores (SFSR) in progress on a filer. |

| Errno | Description |
|---|---|
| **EVERSERVERNOTFOUND** | |
| **EVOLUMEBUSY** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

| Vfiler-enabled |
|---|

| Yes |
|---|

# snapshot-restore-volume

[top]

Reverts a volume to a specified snapshot. The volume must be online and must not be a mirror. If reverting the root volume, the filer will be rebooted. Non-root volumes do not require a reboot. A volume cannot have both a volume snaprestore and a single-file snaprestore executing simultaneously. Multiple single-file snaprestores can be in progress simultaneously. After the reversion, the volume is in the same state as it was when the snapshot was taken.

This API is not supported on Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | If this field is set to "true", the Snapshot copy is restored even if the volume has one or more newer Snapshot copies which are currently used as reference Snapshot copy by SnapMirror. If a restore is done in this situation, this will cause future SnapMirror transfers to fail. The SnapMirror relationship may be repaired using "snapmirror resync" command if a common Snapshot copy is found between the source and destination volume. If there is no common Snapshot copy between the source and the destination volume, a baseline SnapMirror copy would be required.<br><br>The default value is false. |
| **preserve-lun-ids** | | boolean optional | When this field is specified, LUNs in the volume being restored will remain mapped and their identities preserved such that host connectivity will not be disrupted during the restore operation. I/O's to the LUN will be fenced during the restore operation by placing the LUNs in an unavailable state. Once the restore operation has completed, hosts will be able to resume I/O access to the LUNs.<br><br>The default value is false. |
| **snapshot** | | string | Name of snapshot to restore from. |
| **snapshot-instance-uuid** | | UUID optional | The 128 bit unique snapshot identifier expressed in the form of UUID. This field is optional and can appear together with 'snapshot' to uniquely identify a snapshot to restore. If this field is provided, 'snapshot' is a required parameter.<br><br>An example of an actual UUID is:<br><br>84a010ec-3d28-11df-84e8-123478653412 |
| **volume** | | string | Name of volume to restore. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |
| **EONTAPI_EWORMVOLSLC** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **ESNAPSHOTDOESNOTEXIST** | |
| | |

| | |
|---|---|
| **EOPNOTSUPPORTED** | |
| **EAGGRRELOCATING** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOP_DISALLOWED_DURING_TAKEOVER** | |
| **EAPIMISSINGARGUMENT** | |
| **ESNAPRESTORE_ONDEMAND_DEST** | |
| **ESNAPRESTORE_ONDEMAND_SOURCE** | |
| **EOP_DISALLOWED_VOL_IS_SYNC_SM** | |

| Vfiler-enabled |
|---|
| Yes |

# snapshot-restore-volume-async

[top]

This API is no longer supported as of ONTAP 9.5.0.

Reverts an Infinite Volume to a specified snapshot. The Infinite Volume must be online and unmounted and must not be a mirror. After the reversion, the Infinite Volume is in the same state as it was when the snapshot was taken.

This API is not supported on flexible volumes, Infinite Volume constituents, and FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | string | Name of snapshot to restore from. |
| **snapshot-instance-uuid** | | UUID optional | The 128 bit unique snapshot identifier expressed in the form of UUID. This field is optional and can appear together with 'snapshot' to uniquely identify a snapshot to restore. If this field is provided, 'snapshot' is a required parameter. An example of an actual UUID is: 84a010ec-3d28-11df-84e8-123478653412 |
| **volume** | | string | Name of Infinite Volume to restore. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EINVALIDINPUTERROR** | |
| **EOPNOTSUPPORTED** | |
| **EONTAPI_EWORMVOLSLC** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| | |

| | |
|---|---|
| **ESNAPSHOTDOESNOTEXIST** | |
| **EOPNOTSUPPORTED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **ESNAPRESTORE_ONDEMAND_DEST** | |
| **ESNAPRESTORE_ONDEMAND_SOURCE** | |

# snapshot-set-reserve

[top]

Sets the size of the indicated volume's snapshot reserve to the specified percentage. Reserve space can be used only by snapshots and not by the active file system.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **percentage** | | integer | Percentage to set. Range [0-100]. |
| **volume** | | string | Name of volume on which to set the snapshot space reserve. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMECREATING** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUMEBUSY** | |
| **EONTAPI_ENOSPC** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EOPNOTSUPPORTED** | |
| **EAGGRRELOCATING** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EAPIMISSINGARGUMENT** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-set-schedule

[top]

Set the snapshot schedule on a specified volume. If number of snapshots requested is greater than ONTAP allows, then ESNAPTOOMANY will be returned with the maximum allow snapshots in the reason.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **days** | | integer optional | Number of snapshots taken daily to keep on line. If not provided, the number of daily snapshots is left at the previous value. |
| **hours** | | integer optional | Number of snapshots taken hourly to keep on line. If not provided, the number of weekly snapshots is left at the previous value. |
| **minutes** | | integer optional | Number of snapshots taken minutely to keep on line. If not provided, the number of minutely snapshots is left at the previous value. |
| **volume** | | string | Name of the volume name where the snapshots are located. |
| | | | |

| | | | |
|---|---|---|---|
| **weeks** | | integer optional | Number of snapshots taken weekly to keep on line. If not provided, the number of weekly snapshots is left at the previous value. |
| **which-hours** | | string optional | Comma-separated list of the hours at which the hourly snapshots are created. If hours is 0, which-hours is ignored and cleared. |
| **which-minutes** | | string optional | Comma-separated list of the minutes at which the minutely snapshots are created. If minutes is 0, which-minutes is ignored and cleared. |

| Errno | Description |
|---|---|
| **ESNAPSHOTDOESNOTEXIST** | |
| **ESNAPSHOTTOOMANY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEMOUNTING** | |
| **EVOLUMEOFFLINE** | |
| **EVOLUMEBUSY** | |
| **EAPIMISSINGARGUMENT** | |

| Vfiler-enabled |
|---|
| **Yes** |

# snapshot-volume-info

[top]

Returns snapshot related volume information. The information returned is valid at the time the API call reached the filer and maybe outdated soon after.

This API is not supported on FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume on which the space needs to be checked. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **size-available** | | integer | Total bytes that when exhausted will disable us from taking snapshots. If this value is 0, snapshots cannot be taken. Any other value would allow us to take a reliable snapshot. This space may or may not get exhausted by taking a snapshot. Also it may get used by writes/allocations in the volume. This is not equal to the free space in the active file system or anyway related to the size of the next snapshot. Range : [0..2^64-1]. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMEOFFLINE** | |
| **EVOL_RESTRICTED** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EOPNOTSUPPORTED** | |
| **E_VOLUME_INACCESSIBLE** | |
| **EAGGRRELOCATING** | |
| **EAPIMISSINGARGUMENT** | |

| Vfiler-enabled |
|---|

**Yes**

# Element definition: **UUID**

[top]

The 128-bit universally-unique identifier (UUID). UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412

[none]

# Element definition: **snapshot-autodelete-info**

[top]

Option name and value.

| Name | Range | Type | Description |
|---|---|---|---|
| **option-name** | | string | Option key. Possible values: "state" (value: "on" \| "off") "commitment" (value: "try" \| "disrupt") "trigger" (value: "volume" \| "snap_reserve" \| "(DEPRECATED)-space_reserve") "target_free_space" (value: <number>) "delete_order" (value: newest_first \| oldest_first) "defer_delete" (value: scheduled \| user_created \| prefix \| none) "destroy_list" (value: <user-defined>) "prefix" (value: <string>) |
| **option-value** | | string | Option value. |

# Element definition: **snapshot-id**

[top]

Snapshot Id

[none]

# Element definition: **snapshot-info**

[top]

One snapshot contained in the specified volume. This type is used by snapshot-get-iter, snapshot-modify-iter and snapshot-list-info ZAPIs. When using this type to modify snapshot information, every field except snapmirror-label is non-modifiable.

| Name | Range | Type | Description |
|---|---|---|---|
| **access-time** | | integer optional | The volume access time when the snapshot was created in seconds since Jan 1, 1970. This value will not change even if the snapshot is accessed. Range : [0..2^32-1]. |
| **afs-used** | **[0..2^64-** | integer | Size of the active filesystem at the time the snapshot was taken in |

| | | | |
|---|---|---|---|
| | **1]** | optional | bytes. |
| **busy** | | boolean optional | Indicates whether the snapshot can be deleted or not. The snapshot cannot be deleted in the following circumstances:<br><br>If set to true, the snapshot is hard-locked by some application(s) and hence cannot be deleted. The lock cannot be over-ridden and only the application(s) locking the snapshot can release the lock. The output 'snapshot-owners-list' will report the application(s) who have hard-locked the snapshot.<br><br>If set to false and some applications are dependent on it, the snapshot is soft-locked and hence cannot be deleted. The output 'dependency' will report the application(s) who have soft-locked the snapshot. In order to over-ride the soft-lock, use the 'ignore-owners' field while deleting the snapshot.<br><br>If above conditions don't hold, then snapshot is not locked and can be deleted. |
| **comment** | | string optional | A human readable comment for the snapshot. It can be at most 255 characters. This field is returned only if it is explicitly requested using desired-attributes. |
| **compress-savings** | **[0..2^64-1]** | integer optional | Savings due to compression at the time the snapshot was taken in bytes. |
| **compression-type** | | string optional | The compression type enabled on the volume at the time the Snapshot copy was taken. Possible values:<br><br>• 'none' ... There was no compression enabled on the volume<br>• 'secondary' ... Secondary compression was enabled on the volume<br>• 'adaptive' ... Adaptive compression was enabled on the volume |
| **contains-lun-clones** | | boolean optional | This snapshots contains LUN clones. If true, this snapshot contains LUN clones. This is available only if the 'lun-clone-snapshot' option is specified. |
| **convert-recovery** | | boolean optional | Snapshot copy was created during a volume conversion operation. |
| **cumulative-percentage-of-total-blocks** | | integer optional | Percentage of blocks owned by this snapshot and all more recent snapshots, relative to the total number of blocks in the volume. Not returned for Infinite Volumes. |
| **cumulative-percentage-of-used-blocks** | | integer optional | Percentage of blocks owned by this snapshot and all more recent snapshots, relative to the number of blocks currently used in the volume. Not returned for Infinite Volumes. |
| **cumulative-total** | | integer optional | Cumulative total of 1024 byte blocks of this snapshot and previous snapshots. If the "terse" input is true, this value is omitted. |
| **dedup-savings** | **[0..2^64-1]** | integer optional | Savings due to dedup at the time the snapshot was taken in bytes. |
| **dependency** | | string | Application(s) dependent on this snapshot. The list is comma-separated if more than one application depends on this snapshot. It includes "busy" string if the snapshot is hard-locked by an application. This field is returned only if it is explicitly requested using desired-attributes.<br><br>Possible values include:<br><br>• "acs"<br>• "backup" |

| | | | |
|---|---|---|---|
| | | optional | • "dump"<br>• "file_clone"<br>• "LUNs"<br>• "snaplock"<br>• "snapmirror"<br>• "snapvault"<br>• "vclone"<br>• "snap restore" |
| **expiry-time** | **[0..2^32-1]** | integer optional | Expiry time of the snapshot in seconds since Jan 1, 1970. Until time of expiry the snapshot will be protected against deletion by system processes. The snapshot is not explicitly deleted when expiry-time elapses. The protection can be bypassed by autodelete when it operates in destroy mode. This field is returned only if it is explicitly requested using desired-attributes. |
| **infinite-snaplock-expiry-time** | | boolean optional | Indicates if the snaplock expiry time is infinite. If this flag is set, snaplock-expiry-time field will not carry any value. |
| **inofile-version** | | integer optional | The inofile-version of the snapshot. |
| **is-7-mode-snapshot** | | boolean optional | True if the snapshot is a 7-mode snapshot. |
| **is-constituent-snapshot** | | boolean optional | True if the snapshot is a constituent snapshot. |
| **logical-used** | **[0..2^64-1]** | integer optional | Snapshot logical size at the time the snapshot was taken in bytes. |
| **name** | | string optional | Name of the snapshot to be listed. |
| **percentage-of-total-blocks** | | integer optional | Percentage of blocks owned by this snapshot, relative to the total number of blocks in the volume. |
| **percentage-of-used-blocks** | | integer optional | Percentage of blocks owned by this snapshot, relative to the number of blocks currently used in the volume. |
| **performance-metadata** | **[0..2^64-1]** | integer optional | Amount of space in use for performance optimization at the time the snapshot was taken, in bytes. |
| **reserved-size** | **[0..2^64-1]** | integer optional | Reserved (holes and overwrites) at the time the snapshot was taken in bytes. |
| **snap-state** | | boolean optional | State of Snapshot. Only applicable for Firefly. True if snapshot is created/valid, false otherwise. |
| **snaplock-expiry-time** | **[0..2^64-1]** | integer optional | SnapLock expiry time of the snapshot in seconds since Jan 1, 1970. Snapshot will not be allowed to be deleted or renamed until the SnapLock ComplianceClock time goes beyond this retention time. |
| **snapmirror-label** | | string optional | A human readable SnapMirror Label attached with the snapshot. Size of the label can be at most 31 characters. This label will be used by the vaulting system to identify a vaulting scheme. |
| **snapshot-instance-uuid** | | UUID optional | The 128 bit unique snapshot identifier expressed in the form of UUID. This field uniquely identifies the snapshot's physical data layout. |
| **snapshot-owners-list** | | snapshot-owner[] optional | The list of owners of a busy snapshot. |
| **snapshot-** | | UUID | The 128 bit unique snapshot identifier expressed in the form of UUID. This field uniquely identifies the snapshot's logical data |

| | | | |
|---|---|---|---|
| **version-uuid** | | optional | layout. |
| **state** | | string optional | The state of the snapshot. Possible values:<br>• 'valid' ... For an Infinite Volume, the snapshot is complete and consistent. For a FlexGroup, the snapshot is consistent, exists on all of its constituents and can be managed normally.<br>• 'invalid' ... The namespace constituent snapshot is missing for an Infinite Volume.<br>• 'partial' ... For an Infinite Volume, one or more data constituent snapshots are missing. For a FlexGroup, the snapshot is consistent but exists only on the subset of the constituents that existed prior to the FlexGroup's expansion. Partial snapshots cannot be used for a snapshot restore operation.<br><br>Only a snapshot on an Infinite Volume can have a state of invalid. Only a snapshot on an Infinite Volume or a FlexGroup can have the states of valid and partial.<br><br>The default value is valid. |
| **total** | | integer optional | Number of 1024 byte blocks in the snapshot. If the "terse" input is true, this value is omitted. |
| **vbn0-savings** | **[0..2^64-1]** | integer optional | Savings due to vbn0 at the time the snapshot was taken in bytes. This field is returned only if it is explicitly requested using desired-attributes. |
| **volume** | | string optional | Volume name. |
| **volume-provenance-uuid** | | UUID optional | Provenance UUID of the volume at the time the snapshot was created. Refer to the volume-get-iter API for a description of the volume provenance UUID. |
| **vserver** | | string optional | Name of the vserver to which this volume belongs. |

# Element definition: **snapshot-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against snapshot object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **snapshot-key** | | snapshot-info | The keys for the snapshot object to which the modify operation applies. |

# Element definition: **snapshot-multirename-error**

[top]

Information of the error details for snapshot multirename operation When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s

description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-number** | **[0..2^32-1]** | integer optional | Error code due to which snapshot rename failed on a volume. Attributes: non-creatable, non-modifiable |
| **error-reason** | | string optional | Error reason due to which snapshot rename failed on a volume. Attributes: non-creatable, non-modifiable |
| **volume-name** | | string optional | Volume name on which snapshot rename failed. Attributes: non-creatable, non-modifiable |

# Element definition: **snapshot-name**

[top]

Name of snapshot.

[none]

# Element definition: **snapshot-policy**

[top]

Snapshot Policy

[none]

# Element definition: **snapshot-policy-info**

[top]

A typedef containing information about the Snapshot Scheduling Policies. When returned as part of the output, all elements of this typedef are reported, unless limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | A human readable description associated with the snasphot policy. The maximum length of this field can be 255 characters. Attributes: optional-for-create, modifiable |
| | | boolean | The state of the snapshot policy. If true, the snapshot policy is enabled |

| | | | |
|---|---|---|---|
| **enabled** | | optional | and scheduled snapshots will be created on the volume associated with this policy. Attributes: required-for-create, modifiable |
| **policy** | | snapshot-policy optional | A human readable string describing the name of the snapshot scheduling policy. Attributes: key, required-for-create, non-modifiable |
| **policy-owner** | | string optional | Owner of the policy Attributes: non-creatable, non-modifiable |
| **snapshot-policy-schedules** | | snapshot-schedule-info[] optional | Information about individual snapshot schedules. To obtain information about invocation times for individual schedules, use API 'job-schedule-get'. |
| **total-schedules** | **[0..5]** | integer optional | Total Number of Schedules in this Policy Attributes: non-creatable, non-modifiable |
| **vserver-name** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **snapshot-reserve-detail-info**

[top]

Information about a volume's snapshot space reservation configuration.

| Name | Range | Type | Description |
|---|---|---|---|
| **percentage** | | integer | Percentage of volume reserved for snapshots. Range : [0 - 100]. |
| **size** | | integer | Size in bytes of volume reserved for snapshots. Range : [0 - 2^64-1]. |
| **volume** | | string | Name of volume. |
| **vserver** | | string optional | Name of the vserver to which this volume belongs. This field is returned only when request is sent to Admin Vserver LIF. |

# Element definition: **volume-error**

[top]

The error code of a given volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **errno** | | integer optional | The error code of the snapshot operation for a given volume. It is returned only when an error is found. |
| **name** | | volume-name | Name of a volume. |
| **reason** | | string optional | Description of the error. It is returned only when an error is found. |
| **vserver** | | string optional | Virtual server containing the volume. |

# Element definition: **volume-is-snapcreated**

[top]

The status of the snapshot creation for a given volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-snapcreated** | | boolean | TRUE means a snapshot has been created for the volume. |
| **name** | | volume-name | Name of a volume. |

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **UUID**

[top]

The 128-bit universally-unique identifier (UUID). UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412

[none]

# Element definition: **snapshot-info**

[top]

One snapshot contained in the specified volume. This type is used by snapshot-get-iter, snapshot-modify-iter and snapshot-list-info ZAPIs. When using this type to modify snapshot information, every field except snapmirror-label is non-modifiable.

| Name | Range | Type | Description |
|---|---|---|---|
| **access-time** | | integer optional | The volume access time when the snapshot was created in seconds since Jan 1, 1970. This value will not change even if the snapshot is accessed. Range : [0..2^32-1]. |
| **afs-used** | **[0..2^64-1]** | integer optional | Size of the active filesystem at the time the snapshot was taken in bytes. |
| | | | Indicates whether the snapshot can be deleted or not. The snapshot cannot be deleted in the following circumstances: |

| | | | |
|---|---|---|---|
| **busy** | | boolean optional | If set to true, the snapshot is hard-locked by some application(s) and hence cannot be deleted. The lock cannot be over-ridden and only the application(s) locking the snapshot can release the lock. The output 'snapshot-owners-list' will report the application(s) who have hard-locked the snapshot.<br><br>If set to false and some applications are dependent on it, the snapshot is soft-locked and hence cannot be deleted. The output 'dependency' will report the application(s) who have soft-locked the snapshot. In order to over-ride the soft-lock, use the 'ignore-owners' field while deleting the snapshot.<br><br>If above conditions don't hold, then snapshot is not locked and can be deleted. |
| **comment** | | string optional | A human readable comment for the snapshot. It can be at most 255 characters. This field is returned only if it is explicitly requested using desired-attributes. |
| **compress-savings** | **[0..2^64-1]** | integer optional | Savings due to compression at the time the snapshot was taken in bytes. |
| **compression-type** | | string optional | The compression type enabled on the volume at the time the Snapshot copy was taken. Possible values:<br><br>• 'none' ... There was no compression enabled on the volume<br>• 'secondary' ... Secondary compression was enabled on the volume<br>• 'adaptive' ... Adaptive compression was enabled on the volume |
| **contains-lun-clones** | | boolean optional | This snapshots contains LUN clones. If true, this snapshot contains LUN clones. This is available only if the 'lun-clone-snapshot' option is specified. |
| **convert-recovery** | | boolean optional | Snapshot copy was created during a volume conversion operation. |
| **cumulative-percentage-of-total-blocks** | | integer optional | Percentage of blocks owned by this snapshot and all more recent snapshots, relative to the total number of blocks in the volume. Not returned for Infinite Volumes. |
| **cumulative-percentage-of-used-blocks** | | integer optional | Percentage of blocks owned by this snapshot and all more recent snapshots, relative to the number of blocks currently used in the volume. Not returned for Infinite Volumes. |
| **cumulative-total** | | integer optional | Cumulative total of 1024 byte blocks of this snapshot and previous snapshots. If the "terse" input is true, this value is omitted. |
| **dedup-savings** | **[0..2^64-1]** | integer optional | Savings due to dedup at the time the snapshot was taken in bytes. |
| **dependency** | | string optional | Application(s) dependent on this snapshot. The list is comma-separated if more than one application depends on this snapshot. It includes "busy" string if the snapshot is hard-locked by an application. This field is returned only if it is explicitly requested using desired-attributes.<br><br>Possible values include:<br><br>• "acs"<br>• "backup"<br>• "dump"<br>• "file_clone"<br>• "LUNs" |

| | | | |
|---|---|---|---|
| | | | • "snaplock"<br>• "snapmirror"<br>• "snapvault"<br>• "vclone"<br>• "snap restore" |
| **expiry-time** | **[0..2^32-1]** | integer<br>optional | Expiry time of the snapshot in seconds since Jan 1, 1970. Until time of expiry the snapshot will be protected against deletion by system processes. The snapshot is not explicitly deleted when expiry-time elapses. The protection can be bypassed by autodelete when it operates in destroy mode. This field is returned only if it is explicitly requested using desired-attributes. |
| **infinite-snaplock-expiry-time** | | boolean<br>optional | Indicates if the snaplock expiry time is infinite. If this flag is set, snaplock-expiry-time field will not carry any value. |
| **inofile-version** | | integer<br>optional | The inofile-version of the snapshot. |
| **is-7-mode-snapshot** | | boolean<br>optional | True if the snapshot is a 7-mode snapshot. |
| **is-constituent-snapshot** | | boolean<br>optional | True if the snapshot is a constituent snapshot. |
| **logical-used** | **[0..2^64-1]** | integer<br>optional | Snapshot logical size at the time the snapshot was taken in bytes. |
| **name** | | string<br>optional | Name of the snapshot to be listed. |
| **percentage-of-total-blocks** | | integer<br>optional | Percentage of blocks owned by this snapshot, relative to the total number of blocks in the volume. |
| **percentage-of-used-blocks** | | integer<br>optional | Percentage of blocks owned by this snapshot, relative to the number of blocks currently used in the volume. |
| **performance-metadata** | **[0..2^64-1]** | integer<br>optional | Amount of space in use for performance optimization at the time the snapshot was taken, in bytes. |
| **reserved-size** | **[0..2^64-1]** | integer<br>optional | Reserved (holes and overwrites) at the time the snapshot was taken in bytes. |
| **snap-state** | | boolean<br>optional | State of Snapshot. Only applicable for Firefly. True if snapshot is created/valid, false otherwise. |
| **snaplock-expiry-time** | **[0..2^64-1]** | integer<br>optional | SnapLock expiry time of the snapshot in seconds since Jan 1, 1970. Snapshot will not be allowed to be deleted or renamed until the SnapLock ComplianceClock time goes beyond this retention time. |
| **snapmirror-label** | | string<br>optional | A human readable SnapMirror Label attached with the snapshot. Size of the label can be at most 31 characters. This label will be used by the vaulting system to identify a vaulting scheme. |
| **snapshot-instance-uuid** | | UUID<br>optional | The 128 bit unique snapshot identifier expressed in the form of UUID. This field uniquely identifies the snapshot's physical data layout. |
| **snapshot-owners-list** | | snapshot-owner[]<br>optional | The list of owners of a busy snapshot. |
| **snapshot-version-uuid** | | UUID<br>optional | The 128 bit unique snapshot identifier expressed in the form of UUID. This field uniquely identifies the snapshot's logical data layout. |
| | | | The state of the snapshot. Possible values: |

| | | | |
|---|---|---|---|
| **state** | | string optional | 'valid' ... For an Infinite Volume, the snapshot is complete and consistent. For a FlexGroup, the snapshot is consistent, exists on all of its constituents and can be managed normally.<br>• 'invalid' ... The namespace constituent snapshot is missing for an Infinite Volume.<br>• 'partial' ... For an Infinite Volume, one or more data constituent snapshots are missing. For a FlexGroup, the snapshot is consistent but exists only on the subset of the constituents that existed prior to the FlexGroup's expansion. Partial snapshots cannot be used for a snapshot restore operation.<br><br>Only a snapshot on an Infinite Volume can have a state of invalid. Only a snapshot on an Infinite Volume or a FlexGroup can have the states of valid and partial.<br><br>The default value is valid. |
| **total** | | integer optional | Number of 1024 byte blocks in the snapshot. If the "terse" input is true, this value is omitted. |
| **vbn0-savings** | **[0..2^64-1]** | integer optional | Savings due to vbn0 at the time the snapshot was taken in bytes. This field is returned only if it is explicitly requested using desired-attributes. |
| **volume** | | string optional | Volume name. |
| **volume-provenance-uuid** | | UUID optional | Provenance UUID of the volume at the time the snapshot was created. Refer to the volume-get-iter API for a description of the volume provenance UUID. |
| **vserver** | | string optional | Name of the vserver to which this volume belongs. |

# Element definition: **snapshot-owner**

[top]

owner of a busy snapshot

| Name | Range | Type | Description |
|---|---|---|---|
| **owner** | | string | Name of the owner of a busy snapshot |

# Element definition: **snapshot-policy**

[top]

Snapshot Policy

[none]

# Element definition: **snapshot-schedule-info**

[top]

Information about individual snapshot schedules

| Name | Range | Type | Description |
|---|---|---|---|
| **count** | **[0..2^32-1]** | integer optional | Maximum number of snapshots to retain for the schedule present in the snapshot policy. Attributes: non-creatable, non-modifiable |
| **prefix** | | string optional | Snapshot name prefix for the schedule present in the snapshot policy. Prefix will be used in the snapshot name instead of the schedule name. If prefix is not provided, schedule name will be used in the snapshot name. For eg, if the prefix name 'hourly-even' is assigned to the schedule name 'hourly' then the snapshot name will look like 'hourly-even.2010-05-10_0205'. If no prefix is associated with the schedule 'hourly' then prefix will be set to 'hourly' as the default value. Attributes: non-creatable, non-modifiable |
| **schedule** | | string optional | A human readable string describing the name of a schedule present in the snapshot policy. Maximum length of this field can be 255 characters. The schedule name can be any one of the reserved schedules like 'hourly', 'weekly','daily' or it can be a user created schedule. Attributes: non-creatable, non-modifiable |
| **snapmirror-label** | | string optional | Snapshot SnapMirror Label for the schedule present in the snapshot policy. The value specified will be added as an attribute to the snapshot created by the schedule. The maximum length of this field is 31 characters Attributes: non-creatable, non-modifiable |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **UUID**

[top]

The 128-bit universally-unique identifier (UUID). UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

An example of an actual UUID is: 73a010ec-3d28-11df-84e8-123478563412

[none]

# APIs in Category: **snapvault**


snapvault-add-softlock
snapvault-get-all-softlocked-snapshots
snapvault-get-softlocks
snapvault-primary-abort-snapshot-create
snapvault-primary-abort-transfer
snapvault-primary-delete-snapshot-schedule
snapvault-primary-destinations-list-info
snapvault-primary-get-relationship-status
snapvault-primary-initiate-incremental-restore-transfer
snapvault-primary-initiate-restore-transfer
snapvault-primary-initiate-snapshot-create
snapvault-primary-relationship-status-list-iter-end
snapvault-primary-relationship-status-list-iter-next
snapvault-primary-relationship-status-list-iter-start
snapvault-primary-release-relationship
snapvault-primary-set-snapshot-schedule
snapvault-primary-snapshot-schedule-list-info
snapvault-primary-snapshot-schedule-status-list-info
snapvault-remove-softlock
snapvault-secondary-abort-snapshot-create
snapvault-secondary-abort-transfer
snapvault-secondary-configuration-list-info
snapvault-secondary-create-relationship
snapvault-secondary-delete-relationship


SnapVault functionality within Data ONTAP provides disk-to-disk remote backup, archival and recovery. Note that the value expected for volume-name is only the volume name string. The path arguments used in these APIs are of the form: /vol/<volume>/<qtree>.

snapvault-secondary-delete-snapshot-schedule
snapvault-secondary-destinations-list-info
snapvault-secondary-get-configuration
snapvault-secondary-get-relationship-status
snapvault-secondary-initiate-incremental-transfer
snapvault-secondary-initiate-snapshot-create
snapvault-secondary-modify-configuration
snapvault-secondary-relationship-status-list-iter-end
snapvault-secondary-relationship-status-list-iter-next
snapvault-secondary-relationship-status-list-iter-start
snapvault-secondary-release-relationship
snapvault-secondary-resync-relationship
snapvault-secondary-set-snapshot-schedule
snapvault-secondary-snapshot-schedule-list-info
snapvault-secondary-snapshot-schedule-status-list-info

# snapvault-add-softlock

[top]

Request the system to add softlock for the specified snapshot. Softlocks can be added to preserve the snapshots which user wants to retain down the cascade.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | string | Name of the snapshot to be softlocked. |
| **softlock-name** | | string optional | Name of softlock which uniquely identifies the softlock for the snapshot. When not specified, softlock will be added with default name. Name of softlock can contain letters, numbers, and underscore character (_), and can be up to 64 characters long. |
| **volume** | | string | Name of the volume where the snapshot exists. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |

# snapvault-get-all-softlocked-snapshots

[top]

List all snapshots which are softlocked for snapvault by external means.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume for which softlocked snapshots to be listed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-list** | | snapshot-name[] optional | List of snapshots which are softlocked by external means. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |

# snapvault-get-softlocks

[top]

List all snapvault softlocks on the given snapshot which are locked by external means.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | string | Name of the snapshot for which softlocks to be listed. |
| **volume** | | string | Name of the volume where the snapshot exists. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapvault-softlocks** | | snapvault-softlock-info | snapvault softlock information for the snapshot. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |

# snapvault-primary-abort-snapshot-create

[top]

Request the primary to abort a snapshot creation that is already in progress. The snapshot schedule for which the snapshot creation is in progress must be specified as input.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **schedule-name** | | string | Name of the schedule used for snapshot creation. |
| **volume-name** | | string | Primary volume in which snapshot create is in progress. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| | |

| Errno | Description |
|---|---|
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| snapvault_client |

# snapvault-primary-abort-transfer

[top]

Request the primary system to abort an active transfer. The abort can be hard abort, which means the transfer will not be restartable. Or it could be a soft abort, which will not clean the restart checkpoints. In that case the transfer may be restartable. An aborted transfer may be restarted by using the same API used to initiate the transfer in the previous attempt. If that request cannot restart the aborted transfer, then it will initiate a fresh new transfer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| is-hard-abort | | boolean optional | When set to 'true' a hard abort is performed. In that case the restart checkpoints are cleared. Default value is 'false'. |
| system-path | | string | The system path which is the target of transfer. |
| target-system | | string optional | The system filer which is the target of transfer. |

| Errno | Description |
|---|---|
| ESNAPVAULTERR | |
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| snapvault_client |

# snapvault-primary-delete-snapshot-schedule

[top]

Request the primary system to delete the specified snapshot schedules. The snapshot schedules that match the volume name and if specified the schedule name, will be deleted.

| Input Name | Range | Type | Description |
|---|---|---|---|
| schedule-name | | string optional | Name of the schedule to be deleted. |
| | | | |

| | | | |
|---|---|---|---|
| **volume-name** | | string | The primary volume for which the schedules are to be deleted. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-destinations-list-info

[top]

Request the primary to list all snapvault destinations that have been replicated from any source path on this primary system. If a source path is provided, then the primary will return destinations information only for that source path. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-destinations-list-info

| Input Name | Range | Type | Description |
|---|---|---|---|
| **source-path** | | string<br>optional | Source path on this primary for which the destination information is desired. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **destinations** | | snapvault-destination-info[] | List of all snapvault destinations known to this primary. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-get-relationship-status

[top]

Request the primary to return the status entries for desired relationships. The relationships whose status is desired must be specified using the system path. When snapvault primary and secondary are

licensed on the same filer, output of this API is identical to the output of snapvault-secondary-get-relationship-status

| Input Name | Range | Type | Description |
|---|---|---|---|
| **system-path** | | string | System path for relationships whose status is desired. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **status** | | snapvault-status-info[] | Status entries for desired relationships. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-initiate-incremental-restore-transfer

[top]

Request to initiate an incremental restore from a given secondary path to an existing primary path, using the specified secondary snapshot. The request will only initiate the restore and return. The actual restore operation will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-primary-get-relationship- status API should be used to determine progress of the restore operation. If the dataset contains LUNs, the restore will attempt to prevent disruptions to clients using those LUNs. Upon success, the primary path will have the exact same contents as the specified secondary path in the specified secondary snapshot.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection-mode** | | string optional | This option specifies the mode to be used for establising connection between primary and secondary. If this option is set to "inet6", connections between primary and secondary will be established using IPv6 addresses only. If there are no IPv6 addressess configured, then the connection will fail. If the option is set to "inet", connections between primary and secondary will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail. When this option is not specified, Connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet". This argument is not effective when an IP address is specified instead of secondary hostname. If the IP address format and connection mode do not match, the operation will fail with proper error message. |
| **max-transfer-rate** | | integer optional | |
| **no-lun-clone-** | | boolean | This option dictates how a lun clone would be transferred from source to destination. If this option is "flase", a LUN clone would be transferred as a |

| | | | |
|---|---|---|---|
| **expansion** | | optional | LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false". |
| **primary-path** | | string | The pre-existing primary path to which data is being restored. |
| **secondary-path** | | string | The secondary path to restore from. |
| **secondary-snapshot** | | string optional | Name of the secondary snapshot to be used for this restore transfer. |
| **secondary-system** | | string | The secondary system to restore from. This input will be used by the primary system to establish contact with the secondary. Therefore it is expected to be a hostname that the primary can resolve. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-initiate-restore-transfer

[top]

Request the primary system to begin a baseline restore transfer from the given secondary path to the given primary path. If the primary path does not already exist, it will be created before starting the restore transfer. If it already exists, its contents will be overwritten by the restore transfer if overwrite-existing-content is set to true else an error is returned. If an existing primary path contains LUNs, then under certain conditions, restore will prevent disruptions to clients using those LUNs. The request will only start the restore transfer and return. The actual transfer will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-primary-get-relationship-status API should be used to check the status of the restore.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **connection-mode** | | string optional | This option specifies the mode to be used for establising connection between primary and secondary. If this option is set to "inet6", connections between primary and secondary will be established using IPv6 addresses only. If there are no IPv6 addressess configured, then the connection will fail. If the option is set to "inet", connections between primary and secondary will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail. When this option is not specified, Connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet". This argument is not effective when an IP address is specified instead of secondary hostname. If the IP address format and connection mode do not match, the operation will fail with proper error message. |
| | | | The maximum transfer rate in kilobytes (1024 bytes) per second to be |

| | | | |
|---|---|---|---|
| **max-transfer-rate** | | integer optional | applied only for this update transfer. If this option is not provided the default behavior will be to allow the transfer to proceed as fast as possible. Range:[1..2^31-2] |
| **no-lun-clone-expansion** | | boolean optional | This option dictates how a lun clone would be transferred from source to destination. If this option is "false", a LUN clone would be transferred as a LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false". |
| **overwrite-existing-content** | | boolean optional | This option specifies to overwrite an existing primary qtree or not. If specified primary qtree path already exists and the option is set to "true" the existing qtree will be overwritten and and previous data will be lost. If specified primary qtree path already exists and the option is set to "false" then an error is returned. The default value of the option is "true". |
| **primary-path** | | string | The primary path to which data is being restored. The primary path will be created during the restore if it doesn't already exist. |
| **secondary-path** | | string | The secondary path to restore from. |
| **secondary-snapshot** | | string optional | Name of the secondary snapshot to be used for this restore transfer. If this option is not provided, the secondary system will choose the snapshot that contains the most recent back-up for this secondary path. |
| **secondary-system** | | string | The secondary system to restore from. This input will be used by the primary system to establish contact with the secondary. Therefore it is expected to be a hostname that the primary can resolve. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-initiate-snapshot-create

[top]

Request the primary to force a snapshot creation for a specified snapshot schedule. The snapshot schedule must be identified by the volume name and the snapshot prefix. All the properties of the specified schedule will be applied to the snapshot creation. This API should be used when it is desirable to create snapshots right away, without having to wait for the pre-configured scheduled time. This API returns after only initiating the snapshot creation, and there is no guarantee that the snapshot creation will succeed. The snapvault-primary-snapshot-schedule-status-list-info API should be used to track progress of the snapshot creation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **options** | | snapvault-snapcreate-options optional | Describes options for snap create request. |
| **schedule-** | | | The name of the schedule to be used for this snapshot |

| | | | |
|---|---|---|---|
| **name** | | string | creation. |
| **volume-name** | | string | The primary volume for which the snapshot schedule was configured. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-relationship-status-list-iter-end

[top]

Terminate the status list iteration set up by the snapvault-primary-relationship-status-list-iter-start API. The primary will clean up any saved info for this iteration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from the previous primary-relationship-status-list-iter-start. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-relationship-status-list-iter-next

[top]

Request the primary to continue the iteration set up with the snapvault-primary-relationship-status-list-iter-start API. A list consisting of a number of status entries, upto the specified maximum, will be returned. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-secondary-relationship-status-list-iter-next

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **maximum** | | integer | The maximum number of entries to retrieve. Range:[0..2^32-1] |
| **tag** | | string | Tag from a previous primary-relationship-status-list-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | The number of records being returned by this particular request. When this value is 0, there are no more records to be returned. Range:[0..2^32-1] |
| **status-list** | | snapvault-status-info[] optional | List of entries, each representing status entry for a relationship. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-relationship-status-list-iter-start

[top]

Request the primary to start an iteration through the list of the status entries for all relationships.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **records** | | integer | This tells you the number of items that have been saved for future retrieval with primary-relationship-status-list-iter-next. Range:[0..2^32-1] |
| **tag** | | string | Tag to be used in subsequent iterations. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-release-relationship

[top]

Request the release of a snapvault relationship formed by a "create-relationship" or "resync-relationship" operation. This operation deletes the registry entry and the softlocks on the source snapshot.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **primary-path** | | string | The primary path for the relationship. |
| **secondary-path** | | string | The secondary path for the relationship. |
| **secondary-system** | | string | The secondary system for the relationship. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-set-snapshot-schedule

[top]

Request the primary system to configure the specified snapshot schedule. It can also update existing snapshot schedules. If the optional input schedule is skipped, the days-of-week is set to "mon-sun" and hours-of-day set to 0, i.e. midnight.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-schedule** | | snapvault-primary-snapshot-schedule-info | Specifies details of the schedule to be set. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-snapshot-schedule-list-info

[top]

Request the primary to return a list of configured snapshot schedules. Without any input arguments this request returns the list of all snapshot schedules configured on the primary. If a volume is specified then only the list of schedules configured for that volume will be returned. When snapvault primary and secondary are licensed on the same filer, snapvault-secondary-snapshot-schedule-list-info and this API return the same number of schedules.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string<br>optional | The primary volume for which the list of snapshot schedules are desired. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-schedules** | | snapvault-primary-snapshot-schedule-info[]<br>optional | List of snapshot schedule entries. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_client** |

# snapvault-primary-snapshot-schedule-status-list-info

[top]

Request the primary to return status for all configured snapshot schedules. If a specific volume is provided as input, this API will return only the status for schedules within that volume. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-secondary-snapshot-schedule-status-list-info

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string<br>optional | Primary volume for which snapshot schedule status is desired. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-schedule-status** | | snapvault-snapshot-schedule-status-info[] | List of status entries, one for each snapshot schedule. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| | |

| |
|---|
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **snapvault_client** |

# snapvault-remove-softlock

[top]

request the system to remove softlock for the given snapshot.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot** | | string | Name of the snapshot for which softlock to be removed. |
| **softlock-name** | | string optional | Name of softlock which uniquely identifies the softlock for the snapshot. When not specified, softlock with default name will be removed. When softlock-name has value "-all", all softlocks on the snapshot will be removed. Name of softlock can contain letters, numbers, and underscore character (_), and can be up to 64 characters long. |
| **volume** | | string | Name of the volume where the snapshot exists. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |

# snapvault-secondary-abort-snapshot-create

[top]

Request the secondary to abort a snapshot creation that is already in progress. The snapshot schedule for which the snapshot creation is in progress must be specified as input.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **schedule-name** | | string | The name of the schedule used by the snapshot creation. |
| **volume-name** | | string | The secondary volume in which snapshot create is in progress. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| **Vfiler-enabled** |
|---|
| **Yes** |

| **License** |
|---|
| **snapvault_server** |

# snapvault-secondary-abort-transfer

[top]

Request the secondary system to abort the current transfer. The abort can be hard abort, which means the transfer will not be restartable. By default, a soft abort is used, which means the transfer is restartable. An aborted transfer may be restarted by using the same API used to initiate the transfer in the previous attempt. If that request cannot restart the aborted transfer, then it will initiate a fresh new transfer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-hard-abort** | | boolean optional | When set to 'true' a hard abort is performed. In that case the restart checkpoints are cleared. Default value is 'false'. |
| **system-path** | | string | The system path which is the target of update. |
| **target-system** | | string optional | The system filer which is the target of transfer. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_server** |

# snapvault-secondary-configuration-list-info

[top]

Request to return a list of all configuration entries found on the secondary system.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **configurations** | | snapvault-configuration-info[] optional | List of configuration entries. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| |

| snapvault_server |
|---|

# snapvault-secondary-create-relationship

[top]

Request the secondary system to configure a new snapvault relationship with the given primary and secondary systems and paths. This API is equivalent to the 'snapvault start' Data ONTAP command. All the inputs provided with this request will be stored in the configuration entry maintained by the secondary system. These values will be used as default settings for further incremental update transfers for this relationship. The snapvault-secondary-modify-configuration API can be used to change these configured settings. A successful configuration will automatically be followed by a baseline transfer from the primary to the secondary. The secondary path will be created during the baseline transfer hence it is required that the secondary path must not exist when issuing this request. This request will only begin the baseline transfer and return. The transfer will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-get-relationship-status API should be used to check the status of the transfer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **configuration** | | snapvault-configuration-info | Relationship configuration |
| **no-lun-clone-expansion** | | boolean optional | This option dictates how a lun clone would be transferred from source to destination. If this option is "false", a LUN clone would be transferred as a LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false". |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_server** |

# snapvault-secondary-delete-relationship

[top]

Request the secondary system to unconfigure and delete the relationship permanently. The secondary path will be deleted. But none of the snapshots that capture this secondary path will be deleted. This API corresponds to the 'snapvault stop' Data ONTAP command.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **secondary-path** | | string | The secondary-path to be deleted. The path will be unconfigured and deleted. |

| | |
|---|---|

| Errno | Description |
|---|---|
| ESNAPVAULTERR | |
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |
| ESNAPVAULTBUSY | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| snapvault_server |

# snapvault-secondary-delete-snapshot-schedule

[top]

Request the secondary system to delete the specified snapshot schedules. The snapshot schedules that match the volume name and the snapshot prefix when specified, will be deleted.

| Input Name | Range | Type | Description |
|---|---|---|---|
| delete-schedule-softlock | | boolean optional | When set to 'true', snapvault will delete ACS softlock set by this schedule. The default value for this option is 'false'. |
| schedule-name | | string optional | The name of the schedule to be deleted. |
| volume-name | | string | The secondary volume for which the schedule is to be deleted. |

| Errno | Description |
|---|---|
| ESNAPVAULTERR | |
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |
| ESNAPVAULTBUSY | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| snapvault_server |

# snapvault-secondary-destinations-list-info

[top]

Request the secondary to list all snapvault destinations that have been replicated from any source path on this secondary system. If a source path is provided, then the secondary will return destinations information only for that source path. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-destinations-list-info

| Input Name | Range | Type | Description |
|---|---|---|---|
| source-path | | string optional | Source path on this secondary for which the destination information is desired. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| destinations | | snapvault-destination-info[] | List of all snapvault destinations known to this secondary. |

| Errno | Description |
|---|---|
| ESNAPVAULTERR | |
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| snapvault_server |

# snapvault-secondary-get-configuration

[top]

Request the secondary to return the configuration entry for a relationship. The relationship must be specified by providing the secondary path as input.

| Input Name | Range | Type | Description |
|---|---|---|---|
| secondary-path | | string | The secondary path for the relationship whose configuration entry is desired. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| configuration | | snapvault-configuration-info optional | A single configuration entry. |

| Errno | Description |
|---|---|
| ESNAPVAULTERR | |
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| snapvault_server |

# snapvault-secondary-get-relationship-status

[top]

Request the secondary to return the status entries for desired relationships. The relationships whose status is desired must be specified using the system path. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-get-relationship-status

| Input Name | Range | Type | Description |
|---|---|---|---|
| **system-path** | | string | System path for the relationships whose status is desired. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **status** | | snapvault-status-info[] | Status entries for desired relationships. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_server** |

# snapvault-secondary-initiate-incremental-transfer

[top]

Request the snapvault secondary system to begin an incremental transfer to the given secondary path. This API is equivalent to the 'snapvault update' Data ONTAP command. It is required that this secondary path has already been configured as part of a snapvault relationship. The primary system and path configured in that relationship will be used as the source for this transfer. The request will only start the transfer and return. The actual transfer will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-secondary-get-relationship-status API should be used to check the status of the update.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **max-transfer-rate** | | integer optional | The maximum transfer rate in kilobytes (1024 bytes) per second to be applied only for this update transfer. If this option is not provided the default behavior will be to allow the transfer to proceed as fast as possible. Range:[1.. 2^31-2] |
| **no-lun-clone-expansion** | | boolean optional | This option dictates how a lun clone would be transferred from source to destination. If this option is "false", a LUN clone would be transferred as a LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false". |
| **primary-snapshot** | | string optional | Name of the primary snapshot to be used for this update transfer. This option is supported for only primary systems. If this option is not provided, the primary system will create a new source snapshot for this transfer. |
| **secondary-** | | | The secondary path that will be used as the destination for this update |

| | | | |
|---|---|---|---|
| **path** | | string | transfer. It is required that this secondary path is already a part of some configured snapvault relationship. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_server** |

# snapvault-secondary-initiate-snapshot-create

[top]

Request the secondary to force a snapshot creation for a specified snapshot schedule. The snapshot schedule must be identified by the volume name and the schedule name. All the properties of the specified schedule will be applied to the snapshot creation. This API should be used when it is desirable to create snapshots right away, without having to wait for the pre-configured scheduled time. This API returns after only initiating the snapshot creation, and there is no guarantee that the snapshot creation will succeed. The snapvault-secondary-snapshot-schedule-status-list-info API should be used to track progress of the snapshot creation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **lock-backing-snapshot** | | boolean optional | When set to 'true' any snapshots backing the LUN clones present in the snapshot being created will be locked down. As a result, the locked backing snapshots can't be deleted as long as the snapshot that is locking them exists. The default value for this option is 'false', which doesn't lock any backing snapshots. |
| **options** | | snapvault-snapcreate-options optional | Describes options for snap create request. |
| **schedule-name** | | string | The name of the schedule to be used for creating the snapshot. The schedule-name will be used as a prefix in the name of each snapshot created by this schedule. If an empty string is provided, the snapshot creation process will be started, but a snapshot will not be created. This is useful to bring all the relationships of a secondary volume to a consistent state. |
| **volume-name** | | string | The secondary volume in which the snapshot is to be created. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| snapvault_server |

## snapvault-secondary-modify-configuration

[top]

Request change in one or more configuration parameters of an existing snapvault relationship identified by the secondary path provided. Only the parameters that are specified as input will be changed for this configuration.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| configuration | | snapvault-configuration-info | Relationship configuration |

| Errno | Description |
| --- | --- |
| ESNAPVAULTERR | |
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |
| snapvault_server |

## snapvault-secondary-relationship-status-list-iter-end

[top]

Terminate the status list iteration set up by the snapvault-secondary-relationship-status-list-iter-start API. The secondary will clean up any saved info for this iteration.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| tag | | string | Tag from the previous secondary-relationship-status-list-iter-start. |

| Errno | Description |
| --- | --- |
| ESNAPVAULTERR | |
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |

| Vfiler-enabled |
| --- |
| Yes |

| License |
| --- |

| snapvault_server |
|---|

# snapvault-secondary-relationship-status-list-iter-next

[top]

Request the secondary to continue the iteration set up with the snapvault-secondary-relationship-status-list-iter-start API. A list consisting of a number of status entries, upto the specified maximum, will be returned. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-relationship-status-list-iter-next

| Input Name | Range | Type | Description |
|---|---|---|---|
| maximum | | integer | The maximum number of entries to retrieve. Range:[0..2^32-1] |
| tag | | string | Tag from a previous secondary-relationship-status-list-iter-start. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| records | | integer | The number of records being returned by this particular request. When this value is 0, there are no more records to be returned. Range:[0..2^32-1] |
| status-list | | snapvault-status-info[] optional | List of entries, each representing status entry for a relationship. |

| Errno | Description |
|---|---|
| ESNAPVAULTERR | |
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| snapvault_server |

# snapvault-secondary-relationship-status-list-iter-start

[top]

Request the secondary to start an iteration through the list of the status entries for all relationships. This list will also include entries for snapvault restores from this secondary.

| Output Name | Range | Type | Description |
|---|---|---|---|
| records | | integer | This tells you the number of items that have been saved for future retrieval with secondary-relationship-status-list-iter-next. Range: [0..2^32-1] |
| tag | | string | Tag to be used in subsequent iterations. |

| Errno | Description |
|---|---|
| | |

| ESNAPVAULTERR | |
|---|---|
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| snapvault_server |

# snapvault-secondary-release-relationship

[top]

Request the release of a snapvault relationship formed after a restore operation on the primary system. This operation deletes the registry entry and removes the softlock on the source base snapshot.

| Input Name | Range | Type | Description |
|---|---|---|---|
| primary-path | | string | The primary path that had been used for the restore. |
| primary-system | | string | The primary system which had performed the restore. |
| secondary-path | | string | The secondary path that was used as source for restore. |

| Errno | Description |
|---|---|
| ESNAPVAULTERR | |
| EAPILICENSE | |
| ESNAPVAULTSETUP | |
| ESNAPVAULTRESOURCE | |
| ESNAPVAULTBUSY | |

| Vfiler-enabled |
|---|
| Yes |

| License |
|---|
| snapvault_server |

# snapvault-secondary-resync-relationship

[top]

Request to resynchronize the relationship for an existing secondary path. This API is equivalent to the 'snapvault start -r' Data ONTAP command. In addition the configuration entry for this relationship will be updated with any parameters that are provided as input. Finally an update transfer to this secondary path will be started. The resynchronization is commonly used when the primary dataset has been migrated to a different location for e.g. via snapvault restore. This functionality is also required if the secondary path was made writable for e.g. via wafl iron. This request will only start the resync process and return. The process will proceed asynchronously and there is no guarantee that it will succeed. The snapvault-secondary-get-relationship-status API should be used to check the status of this restore.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **configuration** | | snapvault-configuration-info | Relationship configuration |
| **no-lun-clone-expansion** | | boolean optional | This option dictates how a lun clone would be transferred from source to destination. If this option is "false", a LUN clone would be transferred as a LUN and if it is "true", it will be transferred as a clone. By default the value of the option is "false". |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_server** |

# snapvault-secondary-set-snapshot-schedule

[top]

Request the secondary system to configure the specified snapshot schedule. If this request is made for an existing snapshot schedule, then that snapshot schedule is updated with any new values specified. If the optional input schedule is skipped, the days-of-week is set to "mon-sun" and hours-of-day set to 0, i.e. midnight.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-schedule** | | snapvault-secondary-snapshot-schedule-info | Specifies details of the schedule to be set. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |
| **ESNAPVAULTBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_server** |

# snapvault-secondary-snapshot-schedule-list-info

[top]

Request the secondary to return a list of configured snapshot schedules. Without any input arguments this request returns the list of all snapshot schedules configured on the secondary. If a volume is specified then only the list of schedules configured for that volume will be returned. When snapvault primary and secondary are licensed on the same filer, snapvault-primary-snapshot-schedule-list-info and this API return the same number of schedules.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string<br>optional | The secondary volume for which the list of snapshot schedules are desired. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-schedules** | | snapvault-secondary-snapshot-schedule-info[]<br>optional | List of snapshot schedule entries. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

| License |
|---|
| **snapvault_server** |

# snapvault-secondary-snapshot-schedule-status-list-info

[top]

Request the secondary to return status for all configured snapshot schedules. If a specific volume is provided as input, this API will return only the status for schedules within that volume. This API corresponds to the 'snapvault status -s' Data ONTAP command. When snapvault primary and secondary are licensed on the same filer, output of this API is identical to the output of snapvault-primary-snapshot-schedule-status-list-info

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string<br>optional | Secondary volume for which snapshot schedule status is desired. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **snapshot-schedule-status** | | snapvault-snapshot-schedule-status-info[] | List of status entries, one for each snapshot schedule. |

| Errno | Description |
|---|---|
| **ESNAPVAULTERR** | |
| **EAPILICENSE** | |
| **ESNAPVAULTSETUP** | |
| **ESNAPVAULTRESOURCE** | |

**Vfiler-enabled**
**Yes**

**License**
**snapvault_server**

# Element definition: **snapshot-name**

[top]

Name of snapshot.

[none]

# Element definition: **snapvault-configuration-info**

[top]

Describes the elements of the snapvault configuration entry.

| Name | Range | Type | Description |
|---|---|---|---|
| **connection-mode** | | string optional | This option specifies the mode to be used for establising connection between primary and secondary. If this option is set to "inet6", connections between primary and secondary will be established using IPv6 addresses only. If there are no IPv6 addressess configured, then the connection will fail. If the option is set to "inet", connections between primary and secondary will be established using IPv4 addresses only. If there are no IPv4 addresses configured, then the connection will fail. When this option is not specified, Connection will be tried using both "inet6" and "inet". "inet6" will have higher precedence than "inet". If connection request using "inet6" fails, SnapMirror will retry the connection using "inet". This argument is not effective when an IP address is specified instead of primary hostname. If the IP address format and connection mode do not match, the operation will fail with proper error message. |
| **is-access-time-change-ignored** | | boolean optional | Sets the ignore_atime option in snapvault configuration entry. When set to 'true', snapvault primary does not send files with only access time changes during incremental transfers. The default value is 'false' |
| **is-open-file-backup-allowed** | | boolean optional | Sets the back_up_open_files option in the snapvault configuration entry. This option is used to allow or disallow the inclusion of open files on the primary system at the time of the transfer. This option is currently applicable only for OSSV relationships. When set to 'false' the OSSV primary agents will exclude files that are open from the transfer. The default value for this parameter is 'true'. |
| **is-primary-path-utf8-encoded** | | boolean optional | Specifies encoding format for the primary pathname. A 'true' value indicates that the primary pathname is in UTF8 format. The default encoding format is ASCII/extended ASCII. The default value is 'false'. |
| **max-transfer-rate** | | integer optional | The maximum transfer rate in kilobytes (1024 bytes) per second that will be used for this relationship as well as baseline transfer. The default value for this parameter will allow transfers to proceed as fast as possible. Range:[1..2^31-2] |
| | | | The primary path that will be used as the source for this relationship as well as for baseline transfer. This can be either in UTF8 or |

| | | | |
|---|---|---|---|
| **primary-path** | | string | ASCII/extended ASCII depending on whether or not 'is-primary-path-utf8-encoded' flag is set. If option 'is-primary-path-utf8-encoded' is not specified, then the primary-path considered as in ASCII/extended ASCII. |
| **primary-system** | | string | The primary system for this relationship as well as for the baseline transfer. This input will be used by the secondary system to establish contact with the primary. Therefore this input is expected to be a hostname that the primary can resolve. |
| **secondary-path** | | string | The secondary path that will be used as destination for this relationship as well as baseline transfer. The secondary path will be created during the baseline transfer and hence it must not exist when issuing this request. |
| **tries-count** | | integer optional | The maximum number of times a transfer will be tried. Transfers that are retried using this mechanism may be capable of restarting from where the previous attempt failed. If a transfer does not succeed even after those many attempts, then the secondary will give up. All the data that was transferred during previous tries for this transfer will be discarded. The default value for this parameter is 2. When set to 0, the relationship will become dormant. In other words no transfers will be allowed to this secondary path. The maximum value accepted for this input is 120. Range:[0..120] |
| **use-compression** | | string optional | Specifies whether to compress the network data stream. Possible values are 'on', 'off', and 'default'. When the value is set to 'on', stream compression will be enabled. When the value is set to 'off', stream compression will be disabled. When the value is set to 'default' then the default value will be used. In case of snapvault create relationship API, when this option is not specified, the default value will be used. In case of snapvault modify API, when this option is not specified, the last configured value for this relationship will be used. The default value for this option is the value of global compression option. |

# Element definition: **snapvault-destination-info**

[top]

Structure of each entry of destinations list.

| Name | Range | Type | Description |
|---|---|---|---|
| **chained-destinations** | | snapvault-chained-destination-info[] | List of destinations that form a dependency chain starting from the source-path. This list will contain only one element for non-cascaded configurations. The last element of this list represents the destination for which the snapshot returned in source-snapshot has been preserved on the source system. |
| **source-path** | | string | The source path for this destination. |
| **source-snapshot** | | string | The source snapshot that has been preserved on the source system for the destination. |

# Element definition: **snapvault-primary-snapshot-schedule-info**

[top]

Structure of each snapshot schedule.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **is-auto-update** | | boolean optional | Schedules that have is-auto-update set to 'true' will initiate update transfers for all relationships in that volume before creating a new snapshot. Default value is 'false'. This setting is honoured only for the secondary schedules. It is ignored for the SnapVault primary schedules. |
| **options** | | snapvault-schedule-options optional | Describes snapvault schedule options. |
| **preserve-snapshots** | | string optional | Allowed values are on/off/default. It prevents SnapVault from auto-deleting older snapshots from this SnapVault snapshot schedule to create new snapshots when set to on. When unspecified, value is set to default. When set to default, the behaviour of preserving snapshots is guided by the global snapvault.preservesnap option. This setting is honoured only for the secondary schedules. It is ignored for the SnapVault primary schedules. |
| **retention-count** | | integer | Denotes the maximum number of most recent snapshots that will be retained by this schedule. Range:[0..254] |
| **schedule** | | snapvault-schedule-info optional | Describes the actual schedule. |
| **schedule-name** | | string | Uniquely identifies this schedule within a primary volume. The schedule-name will be used as a prefix in the name of each snapshot created by this schedule. |
| **volume-name** | | string | The primary volume for which this schedule has been configured. |
| **warn-at-count** | | integer optional | On SnapVault secondary, when preserve-snapshots is set, SnapVault sends a warning message when the number of remaining snapshots for this backup schedule is less than this input. Setting this to zero turns off the same warning. Default value is 0. This setting is honoured only for the secondary schedules. It is ignored for the SnapVault primary schedules. Range:[0..retention-count - 1] |

# Element definition: **snapvault-secondary-snapshot-schedule-info**

[top]

Snapshot schedules for each volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-auto-update** | | boolean | Schedules that have is-auto-update set to 'true' will initiate update transfers for all relationships in that volume before creating a new snapshot. |
| **options** | | snapvault-schedule-options optional | Describes schedule options. |
| **preserve-snapshots** | | string optional | Allowed values are on/off/default. It prevents SnapVault from auto-deleting older snapshots from this SnapVault snapshot schedule to create new snapshots when set to on. When unspecified, value is set to default. When set to default, the behaviour of preserving snapshots is guided by the global snapvault.preservesnap option. This setting is honoured only for the secondary schedules. It is ignored for the SnapVault primary schedules. |
| **retention-** | | integer | Denotes the maximum number of most recent snapshots that will be |

| | | | |
|---|---|---|---|
| **count** | | | retained by this schedule. Range:[0..254] |
| **schedule** | | snapvault-schedule-info optional | Describes the actual schedule. |
| **schedule-name** | | string | Uniquely identifies the schedule within a secondary volume. The schedule-name is used as a prefix in the name of each snapshot created by this schedule. |
| **volume-name** | | string | The secondary volume for which these schedules have been configured. |
| **warn-at-count** | | integer optional | On SnapVault secondary, when preserve-snapshots is set, SnapVault sends a warning message when the number of remaining snapshots for this backup schedule is less than this input. Setting this to zero turns off the same warning. Default value is 0. Range:[0..retention-count - 1] |

# Element definition: **snapvault-snapcreate-options**

[top]

Snap create options.

| Name | Range | Type | Description |
|---|---|---|---|
| **tries-count** | | integer | This option is similar to one in snapvault-schedule-options. Range:[-1..120] |

# Element definition: **snapvault-snapshot-schedule-status-info**

[top]

Structure of the snapshot schedule status entry.

| Name | Range | Type | Description |
|---|---|---|---|
| **schedule-name** | | string | Uniquely identifies schedule within a volume. |
| **status** | | string | Status of this schedule. Possible values are: "Idle", "Active", "Aborting", "Queued", "Saving". |
| **volume-name** | | string | Volume for which this schedule is configured. |

# Element definition: **snapvault-softlock-info**

[top]

Structure of the snapvault softlock.

| Name | Range | Type | Description |
|---|---|---|---|
| **softlock-name** | | string | Name of the softlock. This field will be empty if softlock-name is not specified while adding softlock. |
| **type** | | string | Type of snapvault softlock. This indicates whether the softlock added using zapi or command line interface. Possible types are "cli", "api" |

# Element definition: **snapvault-status-info**

[top]

Format of each status entry.

| Name | Range | Type | Description |
|---|---|---|---|
| **base-snapshot** | | string optional | Snapshot the relationship is currently based upon. |
| **compressed-bytes** | | integer optional | Number of compressed bytes transferred if QSM compression is being used. This field is absent if the transfer is not compressed. Range:[0..2^64-1] |
| **contents** | | string optional | State of the active file system of the snapvault path on this system. Possible values are: "replica", "transitioning" and "original". This field is present only on the destination. |
| **current-transfer-error** | | string optional | A human readable error string for the current transfer. |
| **current-transfer-type** | | string optional | Type of the current transfer. Possible values are: "initialize", "update", "retry", "resync". Only available for active transfers. |
| **destination-path** | | string | Destination path. |
| **destination-system** | | string | Destination hostname. |
| **inodes-replicated** | **[0..2^64-1]** | integer optional | Shows the number of inodes replicated. Present during directory processing phase. |
| **lag-time** | | integer optional | Amount of time in seconds since the beginning of the most recently successful transfer from source. This field is present only when there has been a successful baseline transfer. Range: [1..2^32-1] |
| **last-transfer-duration** | | integer optional | Duration of last transfer in seconds. Range:[0..2^32-1] |
| **last-transfer-from-path** | | string optional | Source path used for the last transfer. |
| **last-transfer-from-system** | | string optional | Source system used for the last transfer. |
| **last-transfer-size** | | integer optional | Size in kilobytes (1024 bytes) of the last transfer. Range: [0..2^32-1] |
| **last-transfer-type** | | string optional | Last transfer type. Possible values are: "initialize", "update", "retry", "resync". |
| **mirror-timestamp** | | integer optional | Creation time of the snapshot used for the most recent successful transfer. Specified in seconds since Jan 1, 1970. This field is present only when there has been a successful baseline transfer. Range:[1..2^32-1] |
| **replication-ops** | **[0..2^64-1]** | integer optional | Counter that is incremented for every replication operation. Present during directory processing phase. |
| **source-path** | | string | Source path. |
| **source-system** | | string | Source hostname. |
| **state** | | string | State of this relationship. Possible values are: "uninitialized","snapvaulted","broken-off","unknown", "source","restoring","quiesced". |
| **status** | | string | Transfer status for this relationship. Possible values are: "idle", "transferring", "pending", "aborting", "quiescing", "resyncing", "restoring". |
| | | | Number of kilobytes (1024 bytes) transferred so far. This field is |

| | | | |
|---|---|---|---|
| **transfer-progress** | | integer optional | valid only for active transfers. If there is no active transfer in progress, this field is absent. Range:[0..2^32-1] |
| **uncompressed-bytes** | | integer optional | Number of uncompressed bytes transferred if QSM compression is being used. This field is absent if the transfer is not compressed. Range:[0..2^64-1] |

# Element definition: **snapvault-chained-destination-info**

[top]

Structure of each entry of destinations-chain.

| Name | Range | Type | Description |
|---|---|---|---|
| **destination-path** | | string | Destination path. |
| **destination-system** | | string optional | Hostname of the destination system. |

# Element definition: **snapvault-schedule-info**

[top]

Representation of the scheduling information.

| Name | Range | Type | Description |
|---|---|---|---|
| **days-of-week** | | string optional | Days of the week for which this schedule has been set. This is a comma separated list of days, where a day is specified by the first three letters of the day. Day ranges are also allowed. Here are the possible formats:<br>• - := matches no day of the week<br>• mon := matches Monday<br>• tue,thu := matches Tuesday and Thursday<br>• mon-fri := matches mon,tue,wed,thu,fri<br>Default value is mon-sun, i.e. every day. |
| **hours-of-day** | | string optional | Hours of the day for which this schedule has been set. This is a comma separated list of the hours during the day where hours are specified as integers from 0 to 23. Hour ranges are also allowed. Step values are allowed in conjunction with ranges. Here are the possible formats:<br>• 4 := matches 4 am.<br>• 0,13 := matches midnight and 1pm.<br>• 0-23 := matches all hours<br>• 0-8/2 := matches 'every 2 hours' starting from midnight until 8am.<br>Default value is 0, i.e. midnight. |

# Element definition: **snapvault-schedule-options**

[top]

Describes snapvault schedule options.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **retention-period** | | string optional | This option is used to specify a retention period for snapshots, which are created by this schedule, for SnapLock volumes. The retention period is specified as a count followed by a suffix. the valid suffixes are d - for days m - for months y - for years For example a value of 6m represents a retention period of 6 months. THe maximum valid retention period is 30 years, or the maximum retention period set for the volume, whichever is shorter. The minimum valid retention period is 0 days, ir the minimum retention period set for the volume, whichever is longer. If the option value is default or the retention-period option is not specified, the snapshots will be created with retention period equal to the default retention period of the secondary SnapLock volume, or 30 years, whichever is shorter. |
| **tries-count** | | integer optional | Number of times SnapVault should try creating each scheduled snapshot before giving up. If the snapshot creation fails due to transient errors such as the volume being out of space, SnapVault will keep trying to create the snapshot every minute untill the request is fulfilled. The allowed range is from 0 to 120. The default value is unlimited. If tries-count is not use, then the value will remain unchanged and the already configured value will be used. The default value for this option is -1. Range:[-1..120] |

# APIs in Category: **snmp**


snmp-community-add
snmp-community-delete
snmp-community-delete-all
snmp-disable
snmp-enable
snmp-enable-snmpv3
snmp-get
snmp-get-next
snmp-status
snmp-test-trap-trigger
snmp-trap-disable
snmp-trap-enable
snmp-traphost-add
snmp-traphost-delete


A note on snmp-community-* ZAPI:

The snmp-community-* ZAPI must be executed on the Cluster LIF. Vserver tunneling must be used to add/delete an SNMP community for a Vserver. If Vserver tunneling is not used while executing these ZAPI, then it will default to Cserver.

## snmp-community-add

[top]

Adds a community to the list of communities.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-control** | | string | Access control for the community. The only supported value is "ro" (read-only). |
| **community** | | string | Community name to be added. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **E_COMMUNITY_CREATE_FAILED** | |

## snmp-community-delete

[top]

Deletes a community from the list of communities.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **access-control** | | string | Access control for the community.The only supported value is "ro" (read-only). |
| **community** | | string | Community name to be deleted. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |

# snmp-community-delete-all

[top]

Deletes all the communities.

| Errno | Description |
|---|---|
| EONTAPI_EINVAL | |

# snmp-disable

[top]

Disables snmp protocol.

# snmp-enable

[top]

Enables snmp protocol.

# snmp-enable-snmpv3

[top]

Enable SNMPv3 cluster-wide

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| E_FIPS_USERS_AND_TRAPHOSTS_DELETE_FAILED | |
| E_ENABLE_SNMPV3_DISABLED | |

# snmp-get

[top]

Retrieves the value of a snmp object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| object-id | | string | Fully qualified object identifier of a snmp object. Only numeric OID's (ex: .1.3.6.1.4.1.789.1.1.1.0) are allowed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | If true, the string returned in 'value' is the hexadecimal representation |

| | | | |
|---|---|---|---|
| **is-value-hexadecimal** | | boolean optional | of the octet string returned by a snmp call to the object-id. This output is not present if 'value' is a normal string. |
| **value** | | string | Value of the snmp object specified through the input argument "object-id". |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |

# snmp-get-next

[top]

This is used to retrieve the next OID in the mib tree of data. Instead of returning the data you requested, it returns the next OID in the tree and its value. Unlike the snmp-get api, this api does return data for a OID which is too short or is missing the index part of the OID.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **object-id** | | string | Object Identifier of a snmp object. The OID can be a fully qualified OID or a partial OID. Only numeric OID's (ex: .1.3.6.1.4.1.789.1.1.1.0) are allowed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-value-hexadecimal** | | boolean optional | If true, the string returned in 'value' is the hexadecimal representation of the octet string returned by a snmp call to the object-id. This output is not present if 'value' is a normal string. |
| **next-object-id** | | string | Object Identifier of the next snmp object in the mib. |
| **value** | | string | Value of the snmp object reported through the output argument "next-object-id". |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |

# snmp-status

[top]

Returns configuration information of the SNMP agent daemon.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **communities** | | community-info[] optional | Returns a list of communities and their access control settings. |
| **contact** | | string | Contact name. |
| **is-trap-enabled** | | boolean | Retuns "true" if traps are enabled. "false" otherwise. |
| **location** | | string | Location name. |
| **traphosts** | | traphost-info[] optional | Returns a list of registered trap hosts followed by their IP addresses. Only resolvable trap hosts are returned. If a host name cannot be found in /etc/hosts for a previously registered IP address, its name defaults to a string representation of its IP address. |

# snmp-test-trap-trigger

[top]

Trigger SNMP test trap

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# snmp-trap-disable

[top]

Disables snmp traps.

# snmp-trap-enable

[top]

Enables snmp traps.

# snmp-traphost-add

[top]

Adds a host to the list of trap hosts.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **host** | | string | Specify the host to be added. Host may be specified in Domain Name format such as MyHost.MyNetwork.com, or as an IP address such as 10.20.30.40. If a Domain Name is used, the host must resolve to an IP address. |
| **username** | | string optional | Specify the USM user name to indicate SNMPv3 traphost. USM user must have already been defined before adding a SNMPv3 traphost. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |
| **E_TRAPHOST_CREATE_FAILED** | |

# snmp-traphost-delete

[top]

Deletes a host from the list of trap hosts.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **host** | | string | Specify the host to be added. Host may be specified in Domain Name format such as MyHost.MyNetwork.com, or as an IP address such as 10.20.30.40. If a Domain Name is used, the host must resolve to an IP address. |
| **username** | | string optional | Specify the USM user name to indicate SNMPv3 traphost. |

| Errno | Description |
|---|---|
| **EONTAPI_EINVAL** | |

# Element definition: **community-info**

[top]

Information about a single community.

| Name | Range | Type | Description |
|---|---|---|---|
| **access-control** | | string | Access control of the community.The only supported value is "ro" (read-only). |
| **community** | | string | Community name. |

# Element definition: **traphost-info**

[top]

Information about a single registered trap host.

| Name | Range | Type | Description |
|---|---|---|---|
| **host-name** | | string | Name of the trap host given by the user. Can be one of the following: hostname, ip-address, or alias Hostname will be a fully qualified Domain Name. |
| **ip-address** | | string | IP address of the trap host. |

# APIs in Category: **storage-acp-firmware**

| | |
|---|---|
| storage-acp-firmware-file-get-iter | This is an auto generated category. |

## storage-acp-firmware-file-get-iter

[top]

return the firmware file list

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-acp-firmware-file optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-acp-firmware-file optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-acp-firmware object. All storage-acp-firmware objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-acp-firmware-file[] optional | The list of attributes of storage-acp-firmware objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-acp-firmware objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **storage-acp-firmware-file**

[top]

Show firmware files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **filename** | | string optional | Storage Firmware File Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# APIs in Category: **storage-adapter**


storage-adapter-enable-adapter
storage-adapter-get-adapter-info
storage-adapter-get-adapter-list


## storage-adapter-enable-adapter

[top]

Enables specified host adapter. I/O traffic can be issued on the adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | The adapter name is either a slot number, or, if a port letter is also present, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b". If adapter-name is not supplied, the command will return EAPIMISSINGARGUMENT. |
| **node-name** | | string | This field is only valid when the request is sent to the Admin Vserver LIF. This is the storage system name the command will be executed on. |

| Errno | Description |
|---|---|
| **EAPIMISSINGARGUMENT** | |
| **EOPNOTSUPPORTED** | |
| **EINVALIDINPUTERROR** | |
| **ENODENOTFOUND** | |

## storage-adapter-get-adapter-info

[top]

Display the information about a specified host adapter. The information is displayed base on the controller interface type. ATA, Parallel SCSI, SAS, FC.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | The adapter name is either a slot number, or, if a port letter is also presented, a slot number and port letter concatenated into a single name -- for example, "8a" or "11b". |
| **node-name** | | string optional | This field is only valid when the request is sent to the Admin Vserver LIF. If node-name is not specified when the request is sent to Admin VserverLIF, then all matching adapters in the cluster will be returned. This is the storage system name the command will be executed on. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **adapter-details** | | adapter-detail-info[] | List of detail info for given adapter. |

# storage-adapter-get-adapter-list

[top]

Get the list of adapters present on this system.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node-name** | | string optional | This field is only valid when the request is sent to the Admin Vserver LIF. If node-name is not specified when the request is sent to Admin VserverLIF, then all matching adapters in the cluster will be returned. This is the storage system name the command will be executed on. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **adapter-list** | | adapter-name-elem[] | The adapter-list is a list of the names of adapters on this system. These adapter names can be used by other commands, including storage-adapter-enable-adapter and storage-adapter-disable-adapter. |

# Element definition: **adapter-detail-info**

[top]

Detailed information for specific adapter. Display different info base on the type of adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-fc** | | adapter-fc-info optional | Information for fc (Fibre Channel) adapter. |
| **adapter-name** | | string | Adapter port name, which is adapter slot number and, if presented, the port letter designator together. Examples are 8a, 11b. Note that a physical adapter may contain multiple ports. |
| **adapter-parallel-scsi** | | adapter-parallel-scsi-info optional | Information for parallel SCSI adapter. |
| **adapter-sas** | | adapter-sas-info optional | Information for sas (serial attached SCSI) adapter. |
| **adapter-type** | | string | Type of adapter present in the system. Possible values: "ADT_IF_ATA", "ADT_IF_PARALLEL_SCSI", "ADT_IF_SAS", "ADT_IF_FC". |
| **node-name** | | string optional | This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name. |

# Element definition: **adapter-name-elem**

[top]

A list of adapter-names that can be used in other storage-adapter interface calls.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | The adapter name is the slot number and, if present, the port letter designate. Examples are 8a, 11b |

| | | | |
|---|---|---|---|
| **node-name** | | string optional | This field is only valid when the request is sent to the Admin Vserver LIF, in which case it is the storage system name. |

# Element definition: **adapter-fc-info**

[top]

Detailed information for fc adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-bar** | | adapter-bar-info[] optional | List of base address information |
| **adapter-model** | | string | Model of the adapter. |
| **adapter-sff-info** | | adapter-sff-info optional | If the port has a small form factor transceiver/connector (also known as sff), then this is the vendor information on the sff. |
| **adapter-sfp-info** | | adapter-sfp-info optional | If the port has a small form factor pluggable transceiver/connector (also known as sfp), then this is the vendor information on the sfp. |
| **cache-line-sz** | **[0..2^8-1]** | integer optional | Storage port adapter's data cache size, |
| **fc-link-rate** | **[0..2^16-1]** | integer | Link rate of Fibre Channel port. |
| **fc-node-name** | | string | Fibre Channel node name. |
| **fc-packet-size** | **[0..2^32-1]** | integer | Size of Fibre Channel packets. |
| **fc-port-name** | | string optional | Fibre Channel World Wide Port Name (WWPN) of adapter. |
| **firmware-rev** | | string | Firmware revision of adapter. |
| **hardware-rev** | | string | Hardware revision of adapter. |
| **host-loop-id** | **[0..125]** | integer optional | Storage port adapter's Fibre Channel loop id, |
| **host-port-id** | **[0..125]** | integer optional | Storage port adapter's port id, |
| **is-enabled** | | boolean | Is the adapter enabled? true or false. |
| **is-ext-gbic** | | boolean | Is the Fibre Channel gbic external? true or false. |
| **is-in-use** | | boolean | Is the adapter inuse? true or false |
| **is-pci-64-capable** | | boolean optional | Is the adapter pci-64-capable? true or false. |
| **is-redundant** | | boolean | Is the adapter used in dual-attached config? true or false |
| **is-sram-parity** | | boolean optional | Is the adapter sram parity configured and enabled? true or false. |
| **preload-table-rev** | | string optional | Preload table revision of adapter. |

# Element definition: **adapter-parallel-scsi-info**

[top]

Detailed information for parallel SCSI adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-model** | | string | Model of the adapter. |
| **bus-width** | | string | Possible values: "narrow", or "wide". |
| **firmware-rev** | | string | Firmware revision of adapter. |
| **hardware-rev** | | string | Hardware revision of adapter. |
| **is-enabled** | | boolean | Is the adapter enabled? |

# Element definition: **adapter-sas-info**

[top]

Detailed information for sas (Serial Attached SCSI) adapter.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-board-revision** | | string optional | Adapter board revision as assigned by the manufacturer. Will be missing if data not available or not supported. |
| **adapter-date-code** | | string optional | Adapter data code assigned by the manufacturer. Will be missing if data not available or not supported. |
| **adapter-family** | | string optional | Adapter family as assigned by the vendor. Example: 2432. Will be missing if data not available or not supported. |
| **adapter-manufacturer** | | string optional | Manufacturing facility where adapter was built. Will be missing if data not available or not supported. |
| **adapter-manufacturer-part-number** | | string optional | Adapter part number assigned by the manufacturer. Will be missing if data not available or not supported. |
| **adapter-model** | | string | Model of the adapter. This is the same as adapter-vendor followed with adapter-family. Example: "Qlogic 2432" |
| **adapter-part-number** | | string optional | Adapter part number assigned by the vendor. Will be missing if data not available or not supported. |
| **adapter-serial-number** | | string optional | Adapter serial number. If the serial number is missing, a) It could be an internal connection , i.e. platforms with an embedded shelf b) The cable serial number can't be read or has a mal-formed serial number, part number. If the serial number is missing, but disks are present, a connection is present. |
| **adapter-slot** | **[0..20]** | integer | Slot number for the adapter port. |
| **adapter-state** | | string | Current state of the adapter. Possible values: "up", "down", "offline_soft", "offline_hard", "offline_loopback". |
| **adapter-vendor** | | string optional | Represents the adapter vendor. Example: Qlogic. Will be missing if data not available or not supported. |
| **base-wwn** | | string | Physical base node world-wide name |
| **firmware-rev** | | string | Firmware revision of adapter |
| **hardware-rev** | | string | This is the hardware chip revision of adapter. |
| **is-enabled** | | boolean | Is the adapter enabled? |
| **is-in-use** | | boolean | Is adapter in use? true or false. |
| **is-redundant** | | boolean | Is adapter dual-attached? true or false. |

| | | | |
|---|---|---|---|
| **sas-adapter-disabled-phy-count** | **[0..4]** | integer optional | Number of disabled PHYs on the host adapter. |
| **sas-adapter-enabled-phy-count** | **[0..4]** | integer optional | Number of enabled PHYs on the host adapter. |
| **sas-adapter-expander-phy-states** | | sas-adapter-expander-phy-state-info[] optional | List of expander PHYs, a SAS adapter transceivers, state info. It will be missing if data is not available or if no expander is connected to the adapter. |
| **sas-phy** | | phy-state-info[] optional | List of adapter PHY state info. |
| **sas-qsfp-cable** | | sas-qsfp-cable-info optional | QSFP information of the cable. QSFP is acronym for Quad Small Form-factor Pluggable.. Will be missing if data not available or not or cable not present supported. |

# Element definition: **adapter-bar-info**

[top]

display base address information

| Name | Range | Type | Description |
|---|---|---|---|
| **bar-base** | | integer | Base address occupied by the storage port adapter. Range : [0..2^32-1] |
| **bar-size** | | integer | Address range occupied by the storage port adapter. Range : [0..2^32-1] |
| **bar-type** | | string | Type of base address information. Possible values are: "I/O", and "memory mapped I/O". |

# Element definition: **adapter-sff-info**

[top]

Information on small form factor transceiver/connector (also known as sff).

| Name | Range | Type | Description |
|---|---|---|---|
| **part-number** | | string | Vendor's part number for the sff. If data not available, value will be "not_available". |
| **serial-number** | | string | Serial number for sff. If data not available, value will be "not_available". |
| **speed-capabilities** | | string | Comma separated list of speed capabilities of the sff. Example: "1, 2 Gbit/Sec". If data not available, value will be "not_available". |
| **vendor** | | string | sff vendor name. If data not available, value will be "not_available". |

# Element definition: **adapter-sfp-info**

[top]

Information on small form factor pluggable transceiver/connector (also known as sfp).

| Name | Range | Type | Description |
|---|---|---|---|
| **part-number** | | string | Vendor's part number for the sfp. If data not available, value will be "not_available". |
| **serial-number** | | string | Serial number for sfp. If data not available, value will be "not_available". |
| **speed-capabilities** | | string optional | Comma separated list of speed capabilities of the sfp. Example: "1, 2 Gbit/Sec". If data not available, value will be "not_available". |
| **vendor** | | string | sfp vendor name If data not available, value will be "not_available". |

# Element definition: **phy-state-info**

[top]

Adapter PHY state information.

| Name | Range | Type | Description |
|---|---|---|---|
| **phy** | **[0..3]** | integer | A PHY is a transceiver; it is the object in a device that electrically interfaces to a physical link. |
| **phy-state** | | string | Adapter PHY state info. Possible values: "sas_phy_state_enabled_rate_unknown", "sas_phy_state_disabled", "sas_phy_state_speed_neg_failed", "sas_phy_state_SATA_OOB_failed", "sas_phy_state_enabled_15gbs", "sas_phy_state_enabled_30gbs", "sas_phy_state_enabled_60gbs", "sas_phy_state_enabled_120gbs", "unknown". |
| **phy-wwn** | | string optional | Adapter PHY's world-wide name. |

# Element definition: **sas-adapter-expander-phy-state-info**

[top]

Adapter PHY and list of connected expander PHYs.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-phy** | **[0..3]** | integer | Adapter PHY connected to a list of expander PHYs. |
| **expander-phy-states** | | expander-phy-state-info[] | List of all expanders connected to an adapter's PHY. |

# Element definition: **sas-qsfp-cable-info**

[top]

QSPF Cable information.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | Serial number of the attached cable as assigned by the cable |

| | | | |
|---|---|---|---|
| **attached-serial-number** | | string optional | manufacturer. This field will not be present if the information is not available, or if a cable is not connected at this connector. Note that depending on the cable, the serial number at the two ends of the cable may or may not match. An example of this is SAS optical cables that do not have integrated QSFP's, which will show different attached serial numbers at the ends of cable. Cables with integrated QSFP's will have matching serial numbers at both ends. |
| **cable-end-identifier** | | string optional | Each cable has two ends. This field shows which end of the cable is connected to the shelf. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector. Possible values: "end_0", "end_1". |
| **cable-length** | | string optional | Length of the cable. Will be missing if data not available or not present. |
| **cable-manufacturer** | | string optional | Manufacturer of the cable. Will be missing if data not available or not present. |
| **cable-part-number** | | string optional | Cable part number as assigned by the manufacturer. Will be missing if data not available or not present. |
| **cable-serial-number** | | string optional | This is actually not serial number, but rather cable identifier. For backwards compatibility this is reported as cable-serial-number. For the actual serial number see attached-serial-number. The connectors at both ends of the same cable will report the same value for this field. This field can be used to generate topology. This field will not be present if a cable is not connected to the connector or if the cable is not connected to a functioning device. |
| **cable-technology** | | string optional | Cable technology. This field will not be present if the information is not available or accessible, or if a cable is not connected at this connector. Possible values: "active_copper", "passive_copper", "copper", "optical". |

# Element definition: **expander-phy-state-info**

[top]

Expander PHY state information.

| Name | Range | Type | Description |
|---|---|---|---|
| **expander-phy** | **[0..70]** | integer | A PHY is a transceiver; it is the object in a device that electrically interfaces to a physical link. |
| **expander-phy-attached-device-type** | | string | Device type attached to an adapter PHY. Possible values:<br>• "initiator" - A device type that can initiate a SAS communication,<br>• "expander" - A device type that facilitates communication between multiple SAS devices,<br>• "sas_end_device" - A SAS device that is not contained within an expander device,<br>• "sata_end_device" - A SATA end device,<br>• "unknown" - An unknown device type. |
| | | | Expander PHY state info. Possible values:<br>• "sas_phy_state_enabled_rate_unknown" - PHY is enabled but data transfer rate is unknown,<br>• "sas_phy_state_disabled" - PHY is disabled,<br>• "sas_phy_state_speed_neg_failed" - Data tranfer rate negotiation failed,<br>• "sas_phy_state_sata_oob_failed" - SATA OOB(Out Of |

| | | | |
|---|---|---|---|
| **expander-phy-state** | | string | Band) signaling failed,<br>• "sas_phy_state_enabled_15gbs" - 1.5 Gb/s data transfer rate,<br>• "sas_phy_state_enabled_30gbs" - 3.0 Gb/s data transfer rate,<br>• "sas_phy_state_enabled_60gbs" - 6.0 Gb/s data transfer rate,<br>• "sas_phy_state_enabled_120gbs" - 12.0 Gb/s data transfer rate,<br>• "unknown" - Unknown PHY state. |
| **expander-phy-wwn** | | string | Expander PHY's world-wide name. |

# APIs in Category: **storage-array**


storage-array-get-config-summary
storage-array-list-info
storage-array-modify
storage-array-port-modify
storage-array-ports-list-info
storage-array-rename


Storage arrays are external units that supply storage to NetApp systems. These APIs allow us to define, manipulate and map the storage arrays to the services they provide.

## storage-array-get-config-summary

[top]

Generates a high level summary of array LUN pathing (connectivity) information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | Obtain array LUN pathing information for a specified node. |
| **ownership-type** | | string optional | Option that allows the user to select which array LUNs are displayed. Valid values for ownership-type are 'assigned', 'unassigned' and 'all'. If ownership-type is set to 'assigned' only assigned array LUNs are displayed. If ownership-type is set to 'unassigned' only unassigned array LUNs are displayed. If ownership-type is set to 'all', all array LUNs are displayed. Default: 'all'. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **config-summary** | | storage-array-config-summary[] optional | A summary of array LUN connectivity for each attached array. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## storage-array-list-info

[top]

Retrieves a list of all array profiles known to the controller.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string optional | When specified, only the named array profile record will be returned. (28 chars) |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **array-profiles** | | storage-array-profile[] | A list of arrays (and their details) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EARRAYNOTFOUND** | |

# storage-array-modify

[top]

Update an array profile with new or changed information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **all-path-fail-delay** | | integer optional | The time delay (in secs) to hold IO during All Path Failure Event. |
| **array-name** | | string | The name of the array profile to update. (28 chars max) |
| **is-upgrade-pending** | | boolean optional | Used to indicate that the specified array will under go an upgrade in the near future. |
| **lun-queue-depth** | | integer optional | The queue depth assigned to array LUNs from this array. |
| **max-queue-depth** | | integer optional | The target port queue depth for all target ports on this array. |
| **model** | | string optional | The model of the array. (16 chars max) |
| **options** | | string optional | Array profile specific options. (comma separated list of name/value pairs) (127 chars max) |
| **path-failover-time** | | integer optional | The time delay (in secs) before switching the I/O path when the path is deleted. |
| **prefix** | | string optional | A short label used to refer to this array. (7 chars max) |
| **vendor** | | string optional | The name of the array's manufacturer. (8 chars max) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# storage-array-port-modify

[top]

Update an array port with new or changed information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string | The name of the array profile to update. (28 chars max) |
| **max-queue-depth** | | integer optional | The target port queue depth for this target port. |

| | | | |
|---|---|---|---|
| **target-iqn** | | string<br>optional | Target IQN. |
| **tpgt** | | string<br>optional | TPGT |
| **utilization-policy** | | utilizationpolicytypes<br>optional | The policy used while sending I/O to an array target port when it reaches queue depth. |
| **wwnn** | | string<br>optional | World wide node name of array's target port (64 chars). |
| **wwpn** | | string<br>optional | World wide port name of array's target port (64 chars). |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# storage-array-ports-list-info

[top]

generate a list of online array ports and their associated arrays

| Input Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string<br>optional | When supplied, only port records for the named array are returned. (28 chars) |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **array-ports** | | storage-array-port[]<br>optional | A list of all array ports, or just the ports for the named array |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EARRAYNOTFOUND** | |

# storage-array-rename

[top]

Rename an array profile

| Input Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string | The name of the array profile to update. (28 chars max) |
| **new-name** | | string | The new name to assign to this array profile. (28 chars max) |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |

| EVSERVER_OPERATION_NOT_PERMITTED | |
|---|---|

# Element definition: **storage-array-config-summary**

[top]

A summary of array LUN connectivity for each attached array.

| Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string | The name assigned to the array this group of array LUNs is exported from. 28 character string, no spaces. |
| **chassis-serial-number** | | string | The serial number assigned to the array. |
| **device-type** | | string optional | Type of LUN device. Describes the type of lun device or tape library. Possible Values are:<br>• "array_lun" - Array LUN type<br>• "tape_mc" - Tape Drive or Media Changer/library type<br>• "unknown" - Unknown device type |
| **group-number** | | integer | A unique number associated with a set of array LUNs that share the exact same pathing/connectivity information. Range: [0..65535] |
| **initiator-port** | | string | Initiator port name, e.g. 0a. |
| **lun-count** | | integer | The number of array LUNs assigned to this group. Range: [0..65535] |
| **switch-port** | | string | Name of switch port connected to the HBA (controller's initiator port), or UNKNOWN if direct attached. |
| **target-iqn** | | string | World wide port name of array's target port (224 chars). |
| **target-side-switch-port** | | string | Name of switch port connected to target array, or UNKNOWN if direct attached. |
| **target-wwpn** | | string | World wide port name of array's target port (64 chars). |

# Element definition: **storage-array-port**

[top]

Maps array definition to target port

| Name | Range | Type | Description |
|---|---|---|---|
| **array-id** | | integer | Primary key (system defined) for the array record. Range: [0..2^64-1] |
| **array-name** | | string | Name of the array in the array record. (28 char max) |
| **connection-type** | | string optional | Describes the type of connection between the controller and the back end storage.<br>Possible values are:<br>• "direct" - Direct Attached<br>• "fabric" - Fabric Attached |
| **max-queue-depth** | | integer optional | The target port queue depth for this target port. Range: [0..2048] |

| | | | |
|---|---|---|---|
| **port-stat-info** | | storage-array-port-stats[] optional | Contains statistics about each array port. |
| **switch-port** | | string optional | For fabric attached connections, the switch port the array target port is connected to. N/A for direct attached. |
| **target-iqn** | | string | The IQN of the iSCSI target. |
| **target-port-speed** | | string optional | The speed that the target port has negotiated with its connected switch port, or initiator port if direct attached. |
| **tpgt** | | integer | The target portal group of the array. Range: [0..2^16-1] |
| **utilization-policy** | | string optional | Describes the behavior of Data ONTAP when an array target port reaches its queue depth and is being forced to wait before sending additional I/O.<br><br>Possible values are:<br><br>• "normal" - This policy aggressively competes for target port resources, in effect competing with other hosts. (default)<br>• "defer" - This policy does not aggressively compete for target port resources, in effect deferring to other hosts. |
| **wwnn** | | string | World wide node name of array's target port (64 chars). |
| **wwpn** | | string | World wide port name of array's target port (64 chars). |

# Element definition: **storage-array-profile**

[top]

data describing characteristics/parameters of/about a storage array

| Name | Range | Type | Description |
|---|---|---|---|
| **affinity** | | string | Describes the affinity model supported by the array.<br><br>Possible values are:<br><br>• "none" - None<br>• "aaa" - Active/Active Asymmettric<br>• "ap" - Active/Passive<br>• "mixed" - This array is presenting different affinity models to different controllers within the cluster. |
| **all-path-fail-delay** | | integer | Extend All Path Failure Event (secs). Range: [0\|30..90] |
| **array-id** | | integer | primary key (system defined) for the array record. Range: [0..2^64-1] |
| **errors** | | storage-array-error-info[] optional | A list of all errors for the requested array. |
| **firmware** | | string | The firmware revision of the array. (64 chars max) |
| **is-upgrade-pending** | | boolean | The is-upgrade-pending status for the array. |
| **lun-queue-depth** | | integer | The default queue depths assigned to array LUNs from this array. Range: [3..32] |
| **max-queue-depth** | | integer | The target port queue depth for all target ports on this array. Range: [8..2048] |

| | | | |
|---|---|---|---|
| **model** | | string | The model name of the array. (16 chars max) |
| **name** | | string | A unique node-level user supplied name for the array. (28 char max) |
| **network-address** | | string | IP address/node name of the array's SNMP management port. (1024 char max) |
| **optimization-policy** | | string | Describes the I/O optimization policy used by this array.<br><br>Possible values are:<br><br>• "ialua" - The array supports iALUA.<br>• "ealua" - The array supports eALUA.<br>• "symmetric" - All ports on the array will be treated equally.<br>• "proprietary" - A vendor specific optimization is supported for this array.<br>• "mixed" - This array supports multiple optimization policies, one per node.<br>• "unknown" - No known optimization method is supported for this array (will be treated as if Symmetric) |
| **options** | | string | A comma separated list of name value pairs of array specific settings. (128 chars max) |
| **path-failover-time** | | integer | Path Failover Timeout (sec). Range: [0..32] |
| **port-failover-type** | | string | The pathing failover supported by the array, either ACTIVE-ACTIVE or ACTIVE-PASSIVE. |
| **prefix** | | string | A unique character code used to refer to this array. (7 chars max) |
| **serial-number** | | string | The serial number of the array. (17 char max) |
| **vendor** | | string | The name of the array's vendor, e.g. NetApp. (8 chars max) |

# Element definition: **utilizationpolicytypes**

[top]

normal|defer Possible values:

- "normal" - This policy aggressively competes for target port resources, in effect competing with other hosts. (default),
- "defer" - This policy does not aggressively compete for target port resources, in effect deferring to other hosts.

[none]

# Element definition: **storage-array-error-info**

[top]

Contains error messages associated with array.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-id** | | integer | A unique ID for each error returned. ID is unique on a per API call basis only. Range: [0..2^32-1] |
| **error-** | | | |

| | | | |
|---|---|---|---|
| **text** | | string | A description of the error being reported. |
| **error-type** | | string | Enum describing type of error. ARRAY_INCONSISTENT_LUN_ADDRESSING_METHOD - 1. Array is using inconsistent LUN addressing schemes. ARRAY_DEVTYPE_ERROR - 2. Array has encountered a device class error. ARRAY_PATH_HIGH_ERROR - 3. Array has exceeded an error rate threshold on a given path. ARRAY_NON_OPTIMIZED_TP - 4. Array is experiencing service times greater than the threshold on the given target port. ARRAY_EXCESSIVE_TP_LATENCY - 5. Array is experiencing latency times greater than the threshold on the given target port. |

# Element definition: **storage-array-port-stats**

[top]

Contains statistics about an array port.

| Name | Range | Type | Description |
|---|---|---|---|
| **average-dynamic-queue-depth** | | integer | The average value of the dynamic target port queue depth. Range: [0..2^32-1] |
| **average-latency-per-iop** | | integer | The average latency for I/O operations performed by this controller on this target port. Range: [0..2^32-1] |
| **average-pending** | | integer | An average over time of how many commands are on the outstanding queue. Range: [0..2^32-1] |
| **average-waiting** | | integer | An average over time of how many commands are on the waiting queue. Range: [0..2^32-1] |
| **dynamic-queue-depth** | | integer | Current dynamic target port queue depth, the maximum number of commands allowed outstanding. Range: [0..2^32-1] |
| **initiator-port** | | string | Initiator port name, e.g. 0a. |
| **max-pending** | | integer | The largest number of commands observed on the outstanding queue. Range: [0..2^32-1] |
| **max-waiting** | | integer | The largest number of commands observed on the waiting queue. Range: [0..2^32-1] |
| **node** | | string | Node name of array's target port. |
| **path-link-errors** | | integer | Number of link errors reported on the path. Range: [0..2^32-1] |
| **percent-busy** | | integer | The percentage of time I/Os are outstanding on the port. Range: [0..100] |
| **percent-waiting** | | integer | The percentage of time there are I/Os waiting on the waiting queue on the target port. Range: [0..100] |
| **target-io-kbps** | | integer | Rolling average of kilobytes per second read and written to this target port. Range: [0..2^64-1] |
| **target-iops** | | integer | Rolling average of I/O operations per second read and written to this target port. Range: [0..2^64-1] |
| **target-lun-in-use-count** | | integer | Number of disks in the IN-USE state on this target port. Range: [0..2^64-1] |

# APIs in Category: **storage-bridge**


storage-bridge-config-dump-collect
storage-bridge-config-dump-delete
storage-bridge-config-dump-get-iter
storage-bridge-coredump-collect
storage-bridge-coredump-delete
storage-bridge-coredump-get-iter
storage-bridge-firmware-firmware-update
storage-bridge-get
storage-bridge-get-iter


These APIs enable the retrieval of values associated with system bridges that have been added for monitoring. These are read-only APIs and hence require pre-addition of the bridges to be used for monitoring before these can be used. A system bridge is identified by its name (set by the administrator and fetched over SNMP) and the information about the same is broadly categorized into following areas:

1. Profile Information: It includes information like bridge's WWN, model, vendor etc. 2. Cooling Information: It includes information about the bridge's temperature sensors. 3. Connectivity Information: It includes information about the paths to the bridge from nodes via switch. 4. Interface Information: It includes information about the bridge's ports, their statistics and Small Form-factor Pluggable (SFP) connectors. 5. Error Information: It includes information about the errors logged in the bridge.

## storage-bridge-config-dump-collect

[top]

Retrieve the dumpconfiguration file from the bridge.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **bridge** | | string | Bridge Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer optional | Job ID |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## storage-bridge-config-dump-delete

[top]

Delete a saved dumpconfiguration file.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **file** | | string | The name of the dumpconfiguration file. The file name has the following format: dsbridge_config.serial_no.timestamp.txt. |
| **node** | | node-name | The node where the dumpconfiguration file is located. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# storage-bridge-config-dump-get-iter

[top]

Get a list of available bridge dumpconfiguration files.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-bridge-config-dump-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | storage-bridge-config-dump-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-bridge object. All storage-bridge objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | storage-bridge-config-dump-info[] optional | The list of attributes of storage-bridge objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more storage-bridge objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# storage-bridge-coredump-collect

[top]

Collect the coredump file from the bridge.

| Input Name | Range | Type | Description |
|---|---|---|---|
| name | | string | Bridge Name |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer optional | Job ID |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# storage-bridge-coredump-delete

[top]

Delete a saved coredump file

| Input Name | Range | Type | Description |
|---|---|---|---|
| **corename** | | string | Coredump Filename |
| **name** | | string | Bridge Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# storage-bridge-coredump-get-iter

[top]

Return a list of coredumps available.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-bridge-coredump-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-bridge-coredump-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-bridge-coredump object. All storage-bridge-coredump objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-bridge-coredump-info[] optional | The list of attributes of storage-bridge-coredump objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-bridge-coredump objects to return. |

| num-records | [0..2^32-1] | integer | The number of records returned in this call. |
|---|---|---|---|

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# storage-bridge-firmware-firmware-update

[top]

Download firmware to the specified bridge. The bridge needs to be rebooted for the firmware to be updated successfully.

| Input Name | Range | Type | Description |
|---|---|---|---|
| bridge | | string | The bridge to be updated. |
| force | | boolean optional | Force a firmware download to the bridge. |
| skip | | boolean optional | Skip checking for port path = 2. |
| uri | | string | The URI location of the firmware file. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# storage-bridge-get

[top]

Get the attributes of the storage-bridge.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-bridge-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| name | | string | Name of the bridge. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | storage-bridge-info | The attributes of the storage-bridge. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# storage-bridge-get-iter

[top]

Iterate over a list of storage-bridge objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-bridge-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-bridge-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-bridge object. All storage-bridge objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-bridge-info[] optional | The list of attributes of storage-bridge objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-bridge objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **storage-bridge-config-dump-info**

[top]

System bridge config-dump file When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **bridge** | | string optional | The Bridge name of the bridge that generated the dumpconfiguration file. Attributes: non-creatable, non-modifiable |
| **file** | | string optional | The name of the dumpconfiguration file. The file name has the following format: dsbridge_config.serial_no.timestamp.txt. Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | The node where the dumpconfiguration file is located. Attributes: key, non-creatable, non-modifiable |
| **serial-number** | | string optional | Serial number of the bridge that generated the dumpconfiguration file. Attributes: non-creatable, non-modifiable |
| **timestamp** | | datetime optional | Time when the dumpconfiguration file was collected. This is expressed in seconds since the Epoch. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-bridge-coredump-info**

[top]

Information about a bridge coredump When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **corename** | | string optional | The name of the coredump file. The coredump filename has the following format: core....mem Attributes: key, non-creatable, non-modifiable |
| **name** | | string optional | The Bridge name of the bridge that generated the coredump. Attributes: non-creatable, non-modifiable |
| **node** | | filer-id optional | The node where the coredump file is located. Attributes: non-creatable, non-modifiable |
| **panic-string** | | string optional | Panic string for the panic that generate the coredump. Attributes: non-creatable, non-modifiable |
| **panic-time** | | datetime optional | Time when the panic occurred. This is expressed in seconds since the Epoch. Attributes: non-creatable, non-modifiable |
| **serial-number** | | string optional | Serial number of the bridge that generated the coredump. Attributes: key, non-creatable, non-modifiable |

# Element definition: **storage-bridge-info**

[top]

Storage Bridge When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | IP Address of the bridge. Attributes: required-for-create, modifiable |
| **chassis-throughput-status** | | storage-bridge-throughput-status optional | Chassis throughput status. Attributes: non-creatable, non-modifiable Possible values:<br>• "normal" ,<br>• "warning" |
| **dram-single-bit-error-count** | **[0..2^32-1]** | integer optional | Number of DRAM single-bit errors since reboot. Attributes: non-creatable, non-modifiable |
| **firmware-version** | | string optional | Firmware version of the bridge. Attributes: non-creatable, non-modifiable |
| **is-being-monitored** | | boolean optional | Is bridge being monitored under Fabric Health Monitor? Attributes: non-creatable, non-modifiable |
| **is-bridge-secure** | | boolean optional | Is bridge secured? Attributes: non-creatable, non-modifiable |
| **last-reboot-reason** | | string optional | Reason for last reboot. Attributes: non-creatable, non-modifiable |
| **last-reboot-time** | | datetime optional | Last time bridge was rebooted. Attributes: non-creatable, non-modifiable |
| **managed-by** | | storage-bridge-mgmt-method optional | Monitoring method used by the bridge. Attributes: required-for-create, modifiable Possible values:<br>• "snmp" ,<br>• "in_band" |
| **model** | | string optional | Model of the bridge. Attributes: non-creatable, non-modifiable |
| **name** | | string optional | Name of the bridge. Attributes: key, required-for-create, non-modifiable |
| **serial-number** | | string optional | Serial Number of the bridge. Attributes: non-creatable, non-modifiable |
| **status** | | storage-device-status optional | Status of the bridge. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Device Status Unknown,<br>• "ok" - Device Status Ok,<br>• "error" - Device Status Erroneous |
| **storage-bridge-connectivity-list** | | storage-bridge-connectivity-info[] optional | Information about the individual storage path to the bridge. |
| **storage-bridge-cooling-info** | | storage-bridge-cooling-info optional | Information about the storage bridge cooling environment. |
| **storage-bridge-error-list** | | storage-bridge-error-info[] optional | Information about the invidual error. |
| **storage-bridge-fc-** | | storage-brige-fc-port-info[] | Information about the individual fibre channel |

| | | | |
|---|---|---|---|
| **port-list** | | optional | port. |
| **storage-bridge-fc-port-sfp-list** | | storage-bridge-fc-port-sfp-info[] optional | Information about the individual sfp. |
| **storage-bridge-fc-port-statistics-list** | | storage-bridge-fc-port-statistics-info[] optional | Statistics information about the individual fibre channel port. |
| **storage-bridge-mini-sas-hd-list** | | storage-bridge-mini-sas-hd-info[] optional | Information about the individual Mini-SAS HD. |
| **storage-bridge-power-supply-list** | | storage-bridge-power-supply-info[] optional | Information about the bridge power supplies. |
| **storage-bridge-sas-port-list** | | storage-bridge-sas-port-info[] optional | Information about the individual SAS port. |
| **storage-bridge-sas-port-qsfp-list** | | storage-bridge-sas-port-qsfp-info[] optional | Information about the individual sfp. |
| **storage-bridge-sas-port-statistics-list** | | storage-bridge-sas-port-statistics-info[] optional | Statistics information about the individual SAS port. |
| **symbolic-name** | | string optional | If set, symbolic name of the bridge, 'Not Set' otherwise. Attributes: non-creatable, non-modifiable |
| **vendor** | | storage-bridge-vendor optional | Vendor of the bridge. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "atto" |
| **wwn** | | string optional | World Wide Name of the bridge. Attributes: non-creatable, non-modifiable |

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **filer-id**

[top]

Filer UUID

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **storage-bridge-connectivity-info**

[top]

Information about the individual storage path to the bridge.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-name** | | string optional | Name of the adapter in the node to which the bridge is connected. Attributes: non-creatable, non-modifiable |
| **initiator-side-switch-port-id** | | string optional | WWN of the port and switch to which the adapter in the node is directly connected. Attributes: non-creatable, non-modifiable |
| **initiator-side-switch-port-name** | | string optional | Name of the port and switch to which the adapter in the node is directly connected. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | Name of the node to which the bridge is connected. Attributes: non-creatable, non-modifiable |
| **node-uuid** | | uuid optional | UUID of the node to which the bridge is connected. Attributes: non-creatable, non-modifiable |
| **target-port-wwn** | | string optional | World wide name of the port in the bridge to which the node is connected. Attributes: non-creatable, non-modifiable |
| **target-side-switch-port-id** | | string optional | WWN of the port and switch to which the bridge is directly connected. Attributes: non-creatable, non-modifiable |
| **target-side-switch-port-name** | | string optional | Name of the port and switch to which the bridge is directly connected. Attributes: non-creatable, non-modifiable |

## Element definition: **storage-bridge-cooling-info**

[top]

Information about the storage bridge cooling environment.

| Name | Range | Type | Description |
|---|---|---|---|
| **maximum-safe-operating-temperature** | **[0..2^32-1]** | integer optional | Maximum safe operating temperature (in degree cesius) reported by the sensor. Attributes: non-creatable, non-modifiable |
| **minimum-safe-operating-temperature** | **[-2^31..2^31-1]** | integer optional | Minimum safe operating temperature (in degree celsius) reported by the sensor. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **temperature-sensor-name** | | string optional | Name of the temperature sensor in the bridge. Attributes: non-creatable, non-modifiable |
| **temperature-sensor-operational-status** | | storage-bridge-chassis-temp-status optional | Operational Status of the Temperature Sensor. Attributes: non-creatable, non-modifiable Possible values:<br>• "normal" ,<br>• "warning" ,<br>• "critical" |
| **temperature-sensor-reading** | **[-2^31..2^31-1]** | integer optional | Temperature Sensor reading in degree celsius. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-bridge-error-info**

[top]

Information about the invidual error.

| Name | Range | Type | Description |
|---|---|---|---|
| **bridge-component-id** | **[0..2^32-1]** | integer optional | SNMP identifier for the bridge component with error. Attributes: non-creatable, non-modifiable |
| **bridge-component-name** | | string optional | Name of the bridge component with error. Attributes: non-creatable, non-modifiable |
| **bridge-component-unique-id** | | string optional | Unique textual identifier for the bridge component with error. It refers to World Wide Name of the component if available, SNMP identifier otherwise. Attributes: non-creatable, non-modifiable |
| **error-message** | | string optional | Text describing the error occurred in the bridge. Attributes: non-creatable, non-modifiable |
| **error-type** | | storage-bridge-error-type optional | Type of the error occurred in the bridge. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "bridge_unreachable" - Bridge is Unreachable over Management Network,<br>• "temp_above_critical_level" - Bridge Temperature Above Critical Level,<br>• "temp_below_critical_level" - Bridge Temperature Below Critical Level,<br>• "temp_sensor_status_critical" - Temperature Sensor Status is Critical,<br>• "temp_sensor_status_unavailable" - Temperature Sensor Status is Unavailable,<br>• "invalid_configuration" - Bridge FC Ports are not correctly configured,<br>• "sas_port_offline" - Bridge SAS Port is Offline,<br>• "link_failure" - Link to Bridge has Failed,<br>• "fc_port_offline" - Bridge FC Port is Offline,<br>• "sas_port_online" - Bridge SAS Port is Online,<br>• "power_supply_offline" - Bridge Power Supply is Offline |
| **severity** | | storage-bridge-error- | Severity of the error occurred in the bridge. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Severity Unknown, |

| | | | |
|---|---|---|---|
| | | severity optional | • "notice" - Notice,<br>• "warning" - Warning,<br>• "error" - Error |

## Element definition: **storage-bridge-fc-port-sfp-info**

[top]

Information about the individual sfp.

| Name | Range | Type | Description |
|---|---|---|---|
| **data-rate-capability** | | storage-bridge-fc-sfp-data-rate-capability optional | Data Rate capability of the small form-factor pluggable. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "2gbps" - 2 gigabits/second.,<br>• "4gbps" - 4 gigabits/second.,<br>• "8gbps" - 8 gigabits/second.,<br>• "16gbps" - 16 gigabits/second.,<br>• "32gbps" - 32 gigabits/second. |
| **fc-port-index** | **[0..2^32-1]** | integer optional | Index of FC port. Attributes: non-creatable, non-modifiable |
| **part-number** | | string optional | Part number of the small form-factor pluggable. Attributes: non-creatable, non-modifiable |
| **serial-number** | | string optional | Serial number of the small form-factor pluggable. Attributes: non-creatable, non-modifiable |
| **vendor** | | string optional | Vendor of the small form-factor pluggable. Attributes: non-creatable, non-modifiable |

## Element definition: **storage-bridge-fc-port-statistics-info**

[top]

Statistics information about the individual fibre channel port.

| Name | Range | Type | Description |
|---|---|---|---|
| **index** | **[0..2^32-1]** | integer optional | Index of FC port. Attributes: non-creatable, non-modifiable |
| **invalid-crc-count** | **[0..2^32-1]** | integer optional | Invalid CRC count for the FC port. Attributes: non-creatable, non-modifiable |
| **invalid-primitive-count** | **[0..2^32-1]** | integer optional | Bridge FC Port Error Primitive Count List Attributes: non-creatable, non-modifiable |
| **invalid-txword-count** | **[0..2^32-1]** | integer optional | Bridge FC Port Invalid TX Words List Attributes: non-creatable, non-modifiable |
| **link-failures-count** | **[0..2^32-1]** | integer optional | Link Failure count for the FC port. Attributes: non-creatable, non-modifiable |
| **lip-count** | **[0..2^32-1]** | integer optional | LIP count for the FC port. Attributes: non-creatable, non-modifiable |
| **nos-count** | **[0..2^32-1]** | integer optional | NOS count for the FC port. Attributes: non-creatable, non-modifiable |
| **rx-words-count** | **[0..2^32-** | integer | Number of words received by the FC port. Attributes: non- |

| | | | |
|---|---|---|---|
| | **1]** | optional | creatable, non-modifiable |
| **signal-loss-count** | **[0..2^32-1]** | integer optional | Signal Loss count for the FC port. Attributes: non-creatable, non-modifiable |
| **sync-losses-count** | **[0..2^32-1]** | integer optional | Sync Loss count for the FC port. Attributes: non-creatable, non-modifiable |
| **time-since-reset** | **[0..2^32-1]** | integer optional | Bridge FC Port Time Since Statistics Reset List Attributes: non-creatable, non-modifiable |
| **tx-words-count** | **[0..2^32-1]** | integer optional | Number of words transmitted by the FC port. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-bridge-mgmt-method**

[top]

SNMP|in-band Possible values:

- "snmp" ,
- "in_band"

[none]

# Element definition: **storage-bridge-mini-sas-hd-info**

[top]

Information about the individual Mini-SAS HD.

| Name | Range | Type | Description |
|---|---|---|---|
| **mini-sas-hd-index-list** | **[0..2^32-1]** | integer optional | Index of Mini-SAS HD. Attributes: non-creatable, non-modifiable |
| **mini-sas-hd-part-number-list** | | string optional | Part number of the Mini-SAS HD. Attributes: non-creatable, non-modifiable |
| **mini-sas-hd-serial-number-list** | | string optional | Serial Number of the Mini-SAS HD. Attributes: non-creatable, non-modifiable |
| **mini-sas-hd-type-list** | | string optional | Type of the Mini-SAS HD. Attributes: non-creatable, non-modifiable |
| **mini-sas-hd-vendor-list** | | string optional | Vendor of the Mini-SAS HD. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-bridge-power-supply-info**

[top]

Information about the bridge power supplies.

| Name | Range | Type | Description |
|---|---|---|---|
| **power-supply-index-list** | **[0..2^32-1]** | integer optional | Bridge Power Supply Index List Attributes: non-creatable, non-modifiable |
| **power-supply-name-list** | | string optional | Name of the bridge power supply. Attributes: non-creatable, non-modifiable |
| | | | Status of the bridge power supply. Attributes: non- |

| | | | |
|---|---|---|---|
| **power-supply-status-list** | | storage-bridge-power-supply-status optional | creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "down" ,<br>• "up" |

# Element definition: **storage-bridge-sas-port-info**

[top]

Information about the individual SAS port.

| Name | Range | Type | Description |
|---|---|---|---|
| **administrative-state** | | storage-bridge-sas-port-admin-state optional | Administrative state of the SAS port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "disabled" ,<br>• "enabled" |
| **data-rate-capability** | | storage-bridge-sas-port-data-rate-capability optional | Data Rate capability of the SAS port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown data rate.,<br>• "1_5gbps" - 1.5 gigabits per second.,<br>• "3gbps" - 3 gigabits per second.,<br>• "6gbps" - 6 gigabits per second.,<br>• "12gbps" - 12 gigabits per second. |
| **index** | **[0..2^32-1]** | integer optional | Index of SAS port. Attributes: non-creatable, non-modifiable |
| **negotiated-data-rate** | | storage-bridge-negotiated-sas-port-data-rate optional | Negotiated Data Rate of the SAS port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown data rate.,<br>• "1_5gbps" - 1.5 gigabits.,<br>• "3gbps" - 3 gigabits.,<br>• "6gbps" - 6 gigabits.,<br>• "12gbps" - 12 gigabits. |
| **operational-state** | | storage-bridge-sas-port-oper-state optional | Operational status of the SAS port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "online" ,<br>• "offline" ,<br>• "degraded" |
| **phy1-operational-state** | | storage-bridge-sas-port-phy-oper-state optional | Operational state of 1st physical link in SAS port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "online" ,<br>• "offline" |
| | | | Operational state of 2nd physical link in SAS port. Attributes: non-creatable, non-modifiable Possible |

| | | | |
|---|---|---|---|
| **phy2-operational-state** | | storage-bridge-sas-port-phy-oper-state optional | values:<br>• "unknown" ,<br>• "online" ,<br>• "offline" |
| **phy3-operational-state** | | storage-bridge-sas-port-phy-oper-state optional | Operatinal state of 3rd physical link in SAS port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "online" ,<br>• "offline" |
| **phy4-operational-state** | | storage-bridge-sas-port-phy-oper-state optional | Operational state of 4th physical link in SAS port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "online" ,<br>• "offline" |
| **sas-port-wwn** | | string optional | World Wide Name of the SAS port. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-bridge-sas-port-qsfp-info**

[top]

Information about the individual sfp.

| Name | Range | Type | Description |
|---|---|---|---|
| **part-number** | | string optional | Part Number of the quad small form-factor pluggable. Attributes: non-creatable, non-modifiable |
| **qsfp-type** | | storage-bridge-qsfp-type optional | Type of quad small form-factor pluggable. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown type.,<br>• "optical" - Optical quad small form factor pluggable.,<br>• "active_copper" - Active copper quad small form factor pluggable.,<br>• "passive_copper" - Passive copper quad small form factor pluggable. |
| **sas-port-index** | **[0..2^32-1]** | integer optional | Index of SAS port. Attributes: non-creatable, non-modifiable |
| **serial-number** | | string optional | Serial Number of the quad small form-factor pluggable. Attributes: non-creatable, non-modifiable |
| **vendor** | | string optional | Vendor of the quad small form-factor pluggable. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-bridge-sas-port-statistics-info**

[top]

Statistics information about the individual SAS port.

| Name | Range | Type | Description |
|---|---|---|---|
| **phy-disparity-count** | **[0..2^32-1]** | integer optional | Disparity count for the physical link in SAS port. Attributes: non-creatable, non-modifiable |
| **phy-index** | **[0..2^32-1]** | integer optional | Index of physical link in SAS port. Attributes: non-creatable, non-modifiable |
| **phy-invalid-crc-count** | **[0..2^32-1]** | integer optional | Invalid CRC count for the physical link in SAS port. Attributes: non-creatable, non-modifiable |
| **phy-invalid-dword-count** | **[0..2^32-1]** | integer optional | Invalid DWORD coung for the physical link in SAS port. Attributes: non-creatable, non-modifiable |
| **phy-link-changed-count** | **[0..2^32-1]** | integer optional | Link changed count for the physical link in SAS port. Attributes: non-creatable, non-modifiable |
| **phy-reset-count** | **[0..2^32-1]** | integer optional | physical link reset count. Attributes: non-creatable, non-modifiable |
| **phy-sync-losses-count** | **[0..2^32-1]** | integer optional | Sync Loss count for the physical link in SAS port. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-bridge-throughput-status**

[top]

normal|warning Possible values:

- "normal" ,
- "warning"

[none]

# Element definition: **storage-bridge-vendor**

[top]

unknown|Atto Possible values:

- "unknown" ,
- "atto"

[none]

# Element definition: **storage-brige-fc-port-info**

[top]

Information about the individual fibre channel port.

| Name | Range | Type | Description |
|---|---|---|---|
| **administrative-state** | | storage-bridge-fc-port-admin-state optional | Administrative status of the FC port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "disabled" , |

| | | | |
|---|---|---|---|
| | | | "enabled" |
| **configured-connection-mode** | | storage-bridge-configured-fc-port-connection-mode | Configured connection mode for the FC port. Attributes: non-creatable, non-modifiable Possible values:<br>• "loop" - Arbitrated loop.,<br>• "ptp" - Point to point.,<br>• "loop_preferred" - Arbitrated loop preferred.,<br>• "ptp_preferred" - Point to point preferred. |
| **configured-data-rate** | | storage-bridge-configured-fc-port-data-rate<br>optional | Configured Data Rate of the FC port. Attributes: non-creatable, non-modifiable Possible values:<br>• "auto" - auto,<br>• "2gbps" - 2 gigabits/second.,<br>• "4gbps" - 4 gigabits/second.,<br>• "8gbps" - 8 gigabits/second.,<br>• "16gbps" - 16 gigabits/second. |
| **data-rate-capability** | | storage-bridge-fc-port-data-rate-capability<br>optional | Data Rate capability of the FC port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "2gbps" - 2 gigabits per second.,<br>• "4gbps" - 4 gigabits per second.,<br>• "8gbps" - 8 gigabits per second.,<br>• "16gbps" - 16 gigabits per second.,<br>• "32gbps" - 32 gigabits per second. |
| **fc-port-wwn** | | string<br>optional | World Wide Name of the FC port. Attributes: non-creatable, non-modifiable |
| **index** | **[0..2^32-1]** | integer<br>optional | Index of FC port. Attributes: non-creatable, non-modifiable |
| **negotiated-data-rate** | | storage-bridge-negotiated-fc-port-data-rate<br>optional | Negotiated Data Rate of the FC port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "2gb" ,<br>• "4gb" ,<br>• "8gb" ,<br>• "16gb" ,<br>• "32gb" |
| **operational-state** | | storage-bridge-fc-port-oper-state<br>optional | Operational status of the FC port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "online" ,<br>• "offline" |
| **peer-port-name** | | string<br>optional | FC port's peer port name. Attributes: non-creatable, non-modifiable |

## Element definition: **storage-device-status**

[top]

unknown|ok|error Possible values:

- "unknown" - Device Status Unknown,
- "ok" - Device Status Ok,
- "error" - Device Status Erroneous

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **storage-bridge-chassis-temp-status**

[top]

normal|warning|critical Possible values:

- "normal" ,
- "warning" ,
- "critical"

[none]

## Element definition: **storage-bridge-configured-fc-port-connection-mode**

[top]

loop|ptp|loop-preferred|ptp-preferred Possible values:

- "loop" - Arbitrated loop.,
- "ptp" - Point to point.,
- "loop_preferred" - Arbitrated loop preferred.,
- "ptp_preferred" - Point to point preferred.

[none]

## Element definition: **storage-bridge-configured-fc-port-data-rate**

[top]

auto|2Gb|4Gb|8Gb|16Gb Possible values:

- "auto" - auto,
- "2gbps" - 2 gigabits/second.,
- "4gbps" - 4 gigabits/second.,
- "8gbps" - 8 gigabits/second.,

"16gbps" - 16 gigabits/second.

[none]

## Element definition: **storage-bridge-error-severity** [top]

unknown|notice|warning|error Possible values:

- "unknown" - Severity Unknown,
- "notice" - Notice,
- "warning" - Warning,
- "error" - Error

[none]

## Element definition: **storage-bridge-error-type** [top]

unknown|bridge-unreachable|temp-above-critical-level|temp-below-critical-level|temp-sensor-status-critical|temp-sensor-status-unavailable|invalid-configuration|sas-port-offline|link-failure|sas-port-online|power-supply-offline Possible values:

- "unknown" - Unknown,
- "bridge_unreachable" - Bridge is Unreachable over Management Network,
- "temp_above_critical_level" - Bridge Temperature Above Critical Level,
- "temp_below_critical_level" - Bridge Temperature Below Critical Level,
- "temp_sensor_status_critical" - Temperature Sensor Status is Critical,
- "temp_sensor_status_unavailable" - Temperature Sensor Status is Unavailable,
- "invalid_configuration" - Bridge FC Ports are not correctly configured,
- "sas_port_offline" - Bridge SAS Port is Offline,
- "link_failure" - Link to Bridge has Failed,
- "fc_port_offline" - Bridge FC Port is Offline,
- "sas_port_online" - Bridge SAS Port is Online,
- "power_supply_offline" - Bridge Power Supply is Offline

[none]

## Element definition: **storage-bridge-fc-port-admin-state** [top]

unknown|disabled|enabled Possible values:

- "unknown" ,
- "disabled" ,
- "enabled"

[none]

## Element definition: **storage-bridge-fc-port-data-rate-capability** [top]

2Gbps|4Gbps|8Gbps|16Gbps|32Gbps Possible values:

- "unknown" ,
- "2gbps" - 2 gigabits per second.,
- "4gbps" - 4 gigabits per second.,
- "8gbps" - 8 gigabits per second.,
- "16gbps" - 16 gigabits per second.,
- "32gbps" - 32 gigabits per second.

[none]

## Element definition: **storage-bridge-fc-port-oper-state** [top]

unknown|online|offline Possible values:

- "unknown" ,
- "online" ,
- "offline"

[none]

## Element definition: **storage-bridge-fc-sfp-data-rate-capability** [top]

2Gb|4Gb|8Gb|16Gb|32Gb Possible values:

- "unknown" ,
- "2gbps" - 2 gigabits/second.,
- "4gbps" - 4 gigabits/second.,
- "8gbps" - 8 gigabits/second.,
- "16gbps" - 16 gigabits/second.,
- "32gbps" - 32 gigabits/second.

[none]

## Element definition: **storage-bridge-negotiated-fc-port-data-rate** [top]

unknown|2|4|8|16 Possible values:

- "unknown" ,
- "2gb" ,
- "4gb" ,
- "8gb" ,

- "16gb" ,
- "32gb"

[none]

## Element definition: **storage-bridge-negotiated-sas-port-data-rate**

[top]

unknown|1.5Gbps|3Gbps|6Gbps|12Gbps Possible values:

- "unknown" - Unknown data rate.,
- "1_5gbps" - 1.5 gigabits.,
- "3gbps" - 3 gigabits.,
- "6gbps" - 6 gigabits.,
- "12gbps" - 12 gigabits.

[none]

## Element definition: **storage-bridge-power-supply-status**

[top]

unknown|down|up Possible values:

- "unknown" ,
- "down" ,
- "up"

[none]

## Element definition: **storage-bridge-qsfp-type**

[top]

unknown|optical|active-copper|passive-copper Possible values:

- "unknown" - Unknown type.,
- "optical" - Optical quad small form factor pluggable.,
- "active_copper" - Active copper quad small form factor pluggable.,
- "passive_copper" - Passive copper quad small form factor pluggable.

[none]

## Element definition: **storage-bridge-sas-port-admin-state**

[top]

unknown|disabled|enabled Possible values:

- "unknown" ,

- "disabled" ,
- "enabled"

[none]

## Element definition: **storage-bridge-sas-port-data-rate-capability**

[top]

unknown|1.5Gbps|3Gbps|6Gbps|12Gbps Possible values:

- "unknown" - Unknown data rate.,
- "1_5gbps" - 1.5 gigabits per second.,
- "3gbps" - 3 gigabits per second.,
- "6gbps" - 6 gigabits per second.,
- "12gbps" - 12 gigabits per second.

[none]

## Element definition: **storage-bridge-sas-port-oper-state**

[top]

unknown|online|offline|degraded Possible values:

- "unknown" ,
- "online" ,
- "offline" ,
- "degraded"

[none]

## Element definition: **storage-bridge-sas-port-phy-oper-state**

[top]

unknown|online|offline Possible values:

- "unknown" ,
- "online" ,
- "offline"

[none]

## Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# APIs in Category: **storage-disk**


storage-disk-fw-status
storage-disk-get-iter
storage-disk-set-foreign-lun


## storage-disk-fw-status

[top]

Based on input, displays: The number of disks waiting for firmware update, Average firmware update duration per disk in seconds, Estimate for background firmware download completion in minutes, or Name of disk that cannot be updated.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **status-type** | | string required | Possible values: 1. time-estimate 2. waiting-disks 3. average-time 4. pending-disks |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **fw-update-status** | | fw-update-status-info[] | Firmware Update status. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## storage-disk-get-iter

[top]

Disk enumeration ZAPI. Get disk information about one or more disks, from the Storage Subsystem. Clustered ONTAP iterator APIs support filtering of output, to constrain the disks that are included in the return list, and/or what information is returned about each disk. The default is to return all information about all disks in the cluster. That list may be reduced using the 'query' input element. For example, the return list may include only (1) Disks visible to a particular cluster node "nodeA", e.g., "query.storage-disk-info.disk-paths.disk-path-info.disk-name=nodeA:*" (2) A particular disk visible to a particular node, e.g., "query.storage-disk-info.disk-paths.disk-path-info.disk-name=nodeA:6a.01". (3) A disk with a particular unique id, e.g., "query.storage-disk-info.disk-uid=20000000:87A9652B:00000000:00000000:00000000:00000000:00000000:00000000:00000000:00000000" (4) Disks with a name that matches a certain wildcard pattern, e.g., "query.storage-disk-info.disk-name=1.*" or "query.storage-disk-info.disk-name=NET-1.*" for virtual disks. (5) Disks assigned to a particular node. e.g., "query.storage-disk-info.disk-ownership-info.home-node-id=1252487" or "query.storage-disk-info.disk-ownership-info.home-node-name=nodeA". (6) Some subset of disks in the cluster or visible to a particular node in the cluster. If 'desired-attributes' is included, then only those data specified by in 'desired-attributes' are returned for each disk. If there is badly formed input or an invalid input value is specified, then EINVALIDINPUTERROR is returned. If there is some internal error which prevents processing of this request, then EINTERNALERROR is returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-disk-info optional | May be used to express which data are returned for each disk. If omitted, then all available data are returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return to the caller per iteration. The default is 2000 for clustered ONTAP. It's 200 for D-blade calls. If the total number of records exceeds either the 'max-records' supplied, or the number the system is capable of returning at one time, then storage-disk-get-iter must be called multiple times to get all the records. The 'num-records' output field informs the caller how many records are returned by a single iterative call to storage-disk-get-iter. |
| **query** | | storage-disk-info optional | May be used to express which disks to include in the return list. If omitted, then all disks are returned. If the input query is badly formed, then EINVALIDINPUTERROR is returned. If there are no disks which match the input query, then there is no error. However, no disk records are returned. |
| **tag** | | string optional | This indicates where to continue iteration. A first invocation would normally omit this, to indicate to start iteration with the first disk. If multiple invocations are required to fetch all disk records, then each successive call would set 'tag' to the 'next-tag' value from the prior invocation. If an invalid value is specified, then EINVAIDINPUTERROR is returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-disk-info[] optional | List of disk records. |
| | | | |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | An opaque string indicating that there are more records to fetch. If this field is returned, then the API must be called again with the 'tag' parameter set to this 'next-tag' value, to continue fetching additional records from this point. Omitted if there are no more records to fetch. |
| **num-records** | **[0..2000]** | integer | The number of records returned in this call. This is guaranteed to be less than or equal to the minimum of 'max-records' and 2000. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

## storage-disk-set-foreign-lun

[top]

Sets or Unsets an array LUN as foreign

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk** | | string | Disk Name |
| **is-foreign-lun** | | boolean | Is Foreign LUN |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## Element definition: **fw-update-status-info**

[top]

List of disks that are pending updates, but not able to be updated.

| Name | Range | Type | Description |
|---|---|---|---|
| **avg-duration** | | integer optional | Average firmware update duration per disk in seconds. |
| **update-completion** | | integer optional | Estimate for background firmware download completion in minutes. |
| **update-unable** | | string optional | Name of disk that cannot be updated. |
| **waiting-disks** | | integer optional | The number of disks waiting for firmware update. |

## Element definition: **storage-disk-info**

[top]

Disk record.

| Name | Range | Type | Description |
|---|---|---|---|
| **disk-inventory-info** | | disk-inventory-info optional | Device driver information. Omitted if excluded by 'desired-attributes'. |
| **disk-metrocluster-info** | | disk-metrocluster-info optional | Disk metrocluster related information. Ommitted if excluded by 'desired-attributes'. |
| **disk-name** | | string optional | Name of disk, e.g. "1.1.2" or "NET-1.1" for a virtual disk. Omitted if excluded by 'desired-attributes'. |
| **disk-ownership-info** | | disk-ownership-info optional | Disk ownership information. Omitted if excluded by 'desired-attributes'. |
| **disk-paths** | | disk-path-info[] | List of all known paths associated with this disk. Omitted if no paths to report, or if excluded by 'desired-attributes'. |

| | | | |
|---|---|---|---|
| | | optional | |
| **disk-raid-info** | | disk-raid-info optional | RAID disk information. Omitted if disk is not visible to RAID, or if this information is excluded by 'desired-attributes'. |
| **disk-stats-info** | | disk-stats-info optional | Statistics about disk. Omitted if no stats to report, or if excluded by 'desired-attributes'. |
| **disk-uid** | | string optional | Disk unique identifier. Maximum length of 90 characters. Example of output format is: 20000000:87A9652B:00000000:00000000:00000000:00000000:00000000:00000000:00000000:00000000 Omitted if excluded by 'desired-attributes'. |
| **node-name** | | string optional | Name of the node supplying this disk record. Omitted if excluded by 'desired-attributes'. |

# Element definition: **disk-inventory-info**

[top]

Disk inventory info.

| Name | Range | Type | Description |
|---|---|---|---|
| **bytes-per-sector** | **[0..2^16-1]** | integer optional | Number of bytes per disk sector. A sector count element, such as 'capacity-sectors' and 'right-size-sectors', may be multiplied by this value to convert to a byte count. Omitted if excluded by 'desired-attributes'. |
| **capacity-sectors** | **[0..2^64-1]** | integer optional | Total number of disk sectors on this disk, given in units of 'bytes-per-sector'. Omitted if excluded by 'desired-attributes'. |
| **carrier-id** | | string optional | Unique identifier of the disk carrier. Maximum length of 34 characters. It is not returned if is-multidisk-carrier is set to false. Omitted if excluded by 'desired-attributes'. |
| **carrier-serialno** | | string optional | Unique serial number of the disk carrier. Maximum length of 17 characters. It is not returned if is-multidisk-carrier is set to false. Omitted if excluded by 'desired-attributes'. |
| **checksum-compatibility** | | string optional | An indication of the checksum types that this disk is capable of supporting. Each possible return value represents one or more checksum types. Omitted if not available or if excluded by 'desired-attributes'.<br><br>Starting in Data ONTAP 8.1, "zoned/block" is no longer supported.<br><br>Possible values:<br><br>• "advanced_zoned" - Supports advanced zoned checksum.<br>• "block" - Supports block checksum.<br>• "none" - No checksum support.<br>• "zoned/advanced_zoned" - Supports zoned and advanced zoned checksum (this value is no longer supported). |
| **disk-class** | | string optional | Disk class of this disk. Disks are grouped into classes based on their performance characteristics. Disks with the same 'disk-class' value are compatible for use in the same aggregate. Omitted if excluded by 'desired attributes'.<br><br>Possible values:<br><br>• "unknown" - Unknown disk class.<br>• "capacity" - Capacity-oriented, near-line disk types. Includes disk types FSAS, BSAS and ATA.<br>• "performance" - Performance-oriented, enterprise class disk types. Includes disk types FCAL and SAS.<br>• "archive" - Archive class SATA disks in multi-disk carrier storage shelves. Includes disk type MSATA.<br>• "solid_state" - Solid-state drives. Includes disk type SSD.<br>• "array" - Logical storage devices backed by storage arrays and used by Data ONTAP as disks. Includes disk type LUN<br>• "virtual" - Virtual disks that are formatted and managed by the hypervisor. Includes disk type VMDISK. |
| **disk-cluster-name** | | string optional | A cluster unique name for a disk. Disks take the form 'stack-id'.'shelf'.'bay'. Disks on multi-disk carriers take the form 'stack-id'.'shelf'.'bay'.'lun'.<br><br>Virtual disks take the form 'prefix'.'number' where prefix is the storage array's prefix and number is a unique ascending number.<br><br>Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'. |
| | | | Disk interface type. Omitted if excluded by 'desired-attributes'.<br><br>Possible values:<br><br>• "ATA"<br>• "BSAS" |

| | | | |
|---|---|---|---|
| **disk-type** | | string optional | • "FCAL"<br>• "LUN"<br>• "MSATA"<br>• "SAS"<br>• "SSD"<br>• "SSD_NVM"<br>• "FSAS"<br>• "VMDISK"<br>• "unknown" |
| **disk-uid** | | string optional | Disk unique identifier. Maximum length of 90 characters. Omitted if excluded by desired-attributes'. |
| **drawer** | | integer optional | Used for shelves with drawers. Identifies the physical drawer where this disk is located. |
| **drawer-slot** | | integer optional | Used for shelves with drawers. Identifies which slot in the drawer this disk is located. |
| **firmware-revision** | | string optional | Firmware revision of disk. The format of the firmware revision will vary depending on the type of disk and its vendor. Omitted if excluded by 'desired-attributes'. |
| **grown-defect-list-count** | **[0..2^64-1]** | integer optional | Number of entries in the drive's grown defect list. Omitted if excluded by 'desired-attributes'. |
| **health-monitor-time-interval** | **[0..2^63-1]** | integer optional | Number of seconds we have been keeping track of errors from storage health monitor (SHM). Omitted if excluded by 'desired-attributes'. |
| **hw-minimum-os** | | string optional | Hardware minimum supported Data ONTAP version for the disk. Omitted if not available or if excluded by 'desired-attributes'. |
| **import-in-progress** | | boolean optional | For array LUNs marked with container-type of foreign, this value indicates when data is actively being imported from this disk. Omitted if excluded by 'desired-attributes'. |
| **is-dynamically-qualified** | | boolean optional | True if the drive was dynamically qualified. Omitted if excluded by 'desired-attributes'. |
| **is-foreign** | | boolean optional | Indicates an array LUN has been designated as a foreign LUN and cannot be assigned. Omitted if excluded by 'desired-attributes'. |
| **is-internal-disk** | | boolean optional | True if the disk is located within an internal shelf. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'. |
| **is-multidisk-carrier** | | boolean optional | True if the disk is in a carrier which contains more than one disk. Omitted if excluded by 'desired-attributes'. |
| **is-shareable** | | boolean optional | True if the disk supports sharing. Omitted if excluded by 'desired-attributes'. |
| **is-shared** | | boolean optional | True if the disk is a shared disk. Omitted if excluded by 'desired-attributes'. |
| **location** | | string optional | Name of the node to which this disk is attached. Only Only available on virtual machines. Omitted if excluded by 'desired-attributes'. |
| **location-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of node to which this disk is attached. Only available on virtual machines. Omitted if excluded by 'desired-attributes'. |
| **media-scrub-count** | **[0..2^64-1]** | integer optional | Number of times media has been scrubbed since controller last powered on. Omitted if not available. |
| **media-scrub-last-done-time-interval** | **[0..2^63-1]** | integer optional | Number of seconds since a media scrub last completed. Omitted if not available. |
| **model** | | string optional | Disk model string. Omitted if excluded by 'desired-attributes'. |
| **reservation-key** | | string optional | Reservation key identifies which initiator target nexus holds the persistent reservation on this disk, 0x0 if there is none(range: 0x0 .. 0xffffffffffffffff). Omitted if excluded by 'desired-attributes'. |
| **reservation-type** | | string optional | Describes the persistent disk reservation type. Omitted if excluded by 'desired-attributes'.<br><br>Possible values:<br><br>• "rs" - Read Shared Reservation.<br>• "we" - Write Exclusive Reservation.<br>• "re" - Read Exclusive Reservation.<br>• "ea" - Exclusive Access Reservation.<br>• "sa" - Shared Access Reservation.<br>• "wero" - Write Exclusive Registrants Only Reservation.<br>• "earo" - Exclusive Access Registrants Only Reservation.<br>• "wear" - Write Exclusive All Registrants Reservation.<br>• "eaar" - Exclusive Access All Registrants Reservation.<br>• "none" - No Reservation. |
| **right-size-sectors** | **[0..2^64-1]** | integer optional | Number of usable disk sectors that remain after subtracting the right-size adjustment for this disk. Given in units of 'bytes-per-sector'. Omitted if information is unavailable, or if excluded by 'desired-attributes'. |
| **rpm** | | integer optional | Rotational speed in revolutions per minute. Possible values are: 5400, 7200, 10000, and 15000. Omitted if information is unavailable, if rpm does not apply to this 'disk-type', or if excluded by 'desired-attributes'. |

| | | | |
|---|---|---|---|
| **serial-number** | | string optional | Disk serial number. Maximum length of 129 characters. Omitted if excluded by 'desired-attributes'. |
| **shelf** | | string optional | Disk shelf, if it can be determined. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'. |
| **shelf-bay** | | string optional | Disk shelf bay, if it can be determined. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'. |
| **shelf-uid** | | string optional | Unique identifier for a shelf as reported by SES. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'. |
| **stack-id** | **[0..2^32-1].** | integer optional | A cluster unique id for a collection of one or more interconnected shelves. Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'. |
| **storage-sed-info** | | storage-sed-info optional | Self-encrypting disk info Omitted if disk is not a Self-Encrypting Disk (SED), or if excluded by "desired-attributes'. |
| **storage-ssd-info** | | storage-ssd-info optional | solid state device specific lifecycle data Omitted if 'disk-type' is not "SSD", or if excluded by 'desired-attributes'. |
| **vendor** | | string optional | Vendor of this disk. Omitted if excluded by 'desired-attributes'. |
| **virtual-machine-disk-info** | | virtual-machine-disk-info optional | A typedef containing the attributes for virtual machine disks. Such attributes are the hypervisor VM file name, the backing store and the adapter to name a few. |
| **vmdisk-backing-info** | | vmdisk-backing-info optional | Backing info block for virtual machine disks. |
| **vmdisk-target-address** | | string optional | Target address of the VM Disk. |

## Element definition: **disk-metrocluster-info**

[top]

Disk Metrocluster Info.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-local-attach** | | boolean optional | Indicates if a disk is locally attached, vs remotely attached. A locally attached disk resides in the same proximity as the host cluster vs. attached to the remote cluster. |

## Element definition: **disk-ownership-info**

[top]

Disk sanown information.

| Name | Range | Type | Description |
|---|---|---|---|
| **age** | **[0..2^64-1]** | integer optional | Elapsed time in milli seconds since the last time the ownership was read from disk |
| **data-home** | | string optional | Name of the home owner of the data partition (in case of a root-data partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'. |
| **data-home-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of the home owner of the data partition (in case of root-data partitioned disk) of this disk. Omitted if excluded by 'desired-attributes'. |
| **data-owner** | | string optional | Name of node that currently owns the data partition (in case of a root-data partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'. |
| **data-owner-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of node to which the data partition (in case of root-data partitioned disk) of this disk is assigned. Omitted if excluded by 'desired-attributes'. |
| **data1-home** | | string optional | Name of the home owner of the data1 partition (in case of root-data1-data2 partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'. |
| **data1-home-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of the home owner of the data1 partition (in case of root-data1-data2 partitioned disk) of this disk. Omitted if excluded by 'desired-attributes'. |
| **data1-owner** | | string optional | Name of node that currently owns the data1 partition (in case of root-data1-data2 partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'. |
| **data1-owner-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of node to which the data1 partition (in case of root-data1-data2 partitioned disk) of this disk is assigned. Omitted if excluded by 'desired-attributes'. |
| **data2-home** | | string optional | Name of the home owner of the data2 partition (in case of root-data1-data2 partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'. |
| **data2-** | **[0..2^32-** | integer | ID (NVRAM ID) of the home owner of the data2 partition (in case of root-data1-data2 partitioned disk) of |

| | | | |
|---|---|---|---|
| **home-id** | **1]** | optional | this disk. Omitted if excluded by 'desired-attributes'. |
| **data2-owner** | | string optional | Name of node that currently owns the data2 partition (in case of root-data1-data2 partitioned disk) on this disk. Omitted if excluded by 'desired-attributes'. |
| **data2-owner-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of node to which the data2 partition (in case of root-data1-data2 partitioned disk) of this disk is assigned. Omitted if excluded by 'desired-attributes'. |
| **disk-pool-list-info** | | disk-pool-info[] optional | List of node-suggested pool pair for every disk. |
| **disk-uid** | | string optional | Disk unique identifier. Maximum length of 90 characters. Example of output format is: 20000000:87A9652B:00000000:00000000:00000000:00000000:00000000:00000000:00000000:00000000 Omitted if excluded by 'desired-attributes'. |
| **dr-home-node-id** | **[0..2^32-1].** | integer optional | ID (NVRAM ID) of home owner of a disk in switchover state when there is a disaster. Before disaster switchover, the value of this field is zero. At the time of switchover, it would be changed so as to keep track of whom to give the disks to, at the time of switchback. Omitted if disk has no dr home id. |
| **dr-home-node-name** | | string optional | This is the name of home owner of a disk in switchover state when there is a disaster. Before disaster switchover, the value of this field is a NULL string. At the time of switchover, it would be changed so as to keep track of whom to give the disks to, at the time of switchback. Omitted if disk has no dr home owner. |
| **home-node-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of home node to which this disk is assigned. Omitted if disk is unassigned, or if excluded by 'desired-attributes'. |
| **home-node-name** | | string optional | Name of the home node to which this disk is assigned. Omitted if disk is unassigned, or if excluded by 'desired-attributes'. |
| **is-failed** | | boolean optional | 'true' if the disk is failed such that its ownership cannot be determined. Omitted if excluded by 'desired-attributes'. |
| **owner-node-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of node that currently owns this disk. Normally 'owner-node-id' matches 'home-node-id'. However, SFO style HA changes 'owner-node-id' when it localizes partner storage on takeover; and restores it to 'home-node-id' on giveback. Omitted if disk is unassigned, or if excluded by 'desired-attributes'. |
| **owner-node-name** | | string optional | Name of node that currently owns this disk. Normally 'owner-node-name' matches 'home-node-name'. However, SFO style HA changes 'owner-node-name' when it localizes partner storage on takeover; and restores it to 'home-node-name' on giveback. Omitted if disk is unassigned, or if excluded by 'desired-attributes'. |
| **owner-update-count** | **[0..2^32-1]** | integer optional | Number of times ownership changed since disk was unowned. |
| **pool** | **[0..2^32-1]** | integer optional | Pool to which disk is assigned. Omitted if disk is unassigned, or if excluded by 'desired-attributes'. |
| **reserved-by-node-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of node which currently holds the persistent reservation on this disk, 0 if there is none. Omitted if excluded by 'desired-attributes'. |
| **root-home** | | string optional | Name of the home owner of the root partition on this disk. Omitted if excluded by 'desired-attributes'. |
| **root-home-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of the home owner of the root partition of this disk. Omitted if excluded by 'desired-attributes'. |
| **root-owner** | | string optional | Name of node that currently owns the root partition on this disk. Omitted if excluded by 'desired-attributes'. |
| **root-owner-id** | **[0..2^32-1]** | integer optional | ID (NVRAM ID) of node to which the root partition of this disk is assigned. Omitted if excluded by 'desired-attributes'. |

# Element definition: **disk-path-info**

[top]

Contains per path statistics, errors and other related data.

| Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string | The name of the array providing the lun. |
| **disk-name** | | string | The name of the disk this path information is for |
| **disk-port** | | string optional | Disk port associated with this path. Possible values are "A" or "B". Omitted for non-disk target. |
| **disk-port-name** | | string optional | Disk port name associated with this path. This has the form <attachment-style>:<disk-port>, where <attachment-style> is either "FC" for FibreChannel, "SA" for SAS, or "NV" for NVMe, and <disk-port> is either "A" or "B". Omitted for non-disk target.<br><br>Possible values:<br>• "FC:A"<br>• "FC:B"<br>• "SA:A"<br>• "SA:B" |

| | | | |
|---|---|---|---|
| | | | • "NV:A"<br>• "NV:B" |
| **disk-uid** | | string | Disk's UID, as supplied by the hardware, used to uniquely identify this disk. |
| **initiator-io-kbps** | | integer | Rolling average of kilobytes per second read and written over this initiator port. Range: [0..2^64-1] |
| **initiator-iops** | | integer | Rolling average of I/O operations per second read and written over this initiator port. Range: [0..2^64-1] |
| **initiator-lun-in-use-count** | | integer | Number of LUNs in the IN-USE state on this initiator. Range: [0..2^64-1] |
| **initiator-port** | | string | Initiator port name, e.g. 0a. |
| **initiator-port-speed** | | string | The speed that the initiator port has negotiated with its connected switch, or target port if direct attached. |
| **initiator-side-switch-port** | | string | The name of the switch connected to the controller's initiator port, or N/A when using direct attach |
| **lun-io-kbps** | | integer | Rolling average of kilobytes per second read and written to this LUN. Range: [0..2^64-1] |
| **lun-iops** | | integer | Rolling average of I/O operations per second read and written to this LUN. Range: [0..2^64-1] |
| **lun-number** | | integer | LU number. Range: [0..65535] |
| **lun-path-use-state** | | string | ONTAP's use of this path INU - (In Use) This path is currently used for I/O. RDY - (Ready) This path is not being used for I/O currently, but might transition to INU if storge errors or load balancing cause it to transition to INU. QED - (Quiesced) : The disk is quiesced on this path. MCF - (Misconfigured) : The disk is misconfigured on this path. The path is not available for I/O. Refer to storage_initiator_errors_list_info for details. FAL - (Failed) The connectivity to this path is lost. INI - (Initializing) The disk/LUN on this path is currently being readied for I/O operations (MPIO disks/LUNs only). PRE - (Persistent Reserve Register Error) An error occurred during the persistent reserve register operation of the disk/LUN on this path. This may be a transient condition and registration may successfully complete at a later time. |
| **node** | | string | Controller with the initiator port for this path. |
| **path-io-kbps** | | integer | Rolling average of kilobytes per second read and written to this path. Range: [0..2^64-1] |
| **path-iops** | | integer | Rolling average of I/O operations per second read and written to this path. Range: [0..2^64-1] |
| **path-link-errors** | | integer | Number of link errors reported on the path. Range: [0..2^32-1] |
| **path-lun-in-use-count** | | integer | Number of LUNs in the IN-USE state on this path. Range: [0..2^64-1] |
| **path-quality** | | integer | The percentage of the error threshold. 0% NO ERROR 1-20% LOW ERROR, available to load balancing and error retry code. 21-99% MEDIUM ERROR, load balancing and error retry code will not switch to this path. 100-? HIGH_ERROR, Excessive errors EMS event will be logged Range: [0..2^32-1] |
| **preferred-target-port** | | boolean optional | For a logical unit which reports asymmetric access, preferred-target-port indicates that a path, regardless of the current access state, routes to a preferred target port group. Possible values are:<br>• true: This path routes to a preferred target port group for this array LUN.<br>• false: This path does not route to a preferred target port group or the array LUN reports that there is no preferred target port group. |
| **target-io-kbps** | | integer | Rolling average of kilobytes per second read and written to this target port. Range: [0..2^64-1] |
| **target-iops** | | integer | Rolling average of I/O operations per second read and written to this target port. Range: [0..2^64-1] |
| **target-iqn** | | string optional | Target IQN of target port providing the disk. |
| **target-lun-in-use-count** | | integer | Number of LUNs in the IN-USE state on this target port. Range: [0..2^64-1] |
| **target-port-access-state** | | string | failover optimization type |
| **target-side-switch-port** | | string | Name of the switch port connected to the target array, or UNKNOWN if direct attached. |
| **target-wwnn** | | string | World Wide Node Name of the target device. |
| **target-wwpn** | | string | World Wide Port Name of target port providing the disk. |
| **tpgn** | | integer | The Target Port Group Number of the array's target port. Range: [0..2^64-1] |
| **vmdisk-device-id** | | integer optional | The device id used for the virtual device (also used by the hypervisor) Range: [0..2^32-1] |
| | | | |

| | | | |
|---|---|---|---|
| **vmdisk-hypervisor-area-name** | | string optional | The name of the storage area where the vmdisk is physically located. For ESX this is the name of a datastore. |
| **vmdisk-hypervisor-file-name** | | string optional | The file name of the virtual disk used by the hypervisor. For ESX this is the name of the disk's vmdk file. Example is "myvm/myvm_1.vmdk" |

## Element definition: **disk-raid-info**

[top]

RAID specific information about a disk, including RAID specific disk properties, and the disk's overlying container.

| Name | Range | Type | Description |
|---|---|---|---|
| **active-node-name** | | string optional | Name of the node that is the active RAID controller for this disk, if any. Omitted if unavailable, or excluded by 'desired-attrributes'. |
| **container-type** | | string optional | Type of overlying disk container. Omitted if information is unavailable, or excluded by 'desired-attributes'.<br><br>Possible values:<br><br>• "aggregate" - Container is an aggregate.<br>• "broken" - Container is broken pool.<br>• "foreign" - Array LUN has been marked foreign.<br>• "labelmaint" - Container is online label maintenance list.<br>• "maintenance" - Container is disk maintenance center.<br>• "mediator" - Container is a mediator disk.<br>• "remote" - Disk belongs to the remote cluster.<br>• "shared" - Container is storage pool.<br>• "spare" - Container is spare pool.<br>• "unassigned" - Disk ownership has not been assigned.<br>• "unknown" - Container is currently unknown. This is the default setting.<br>• "volume" - Container is a traditional volume.<br>• "unsupported" - Container is not supported. |
| **disk-aggregate-info** | | disk-aggregate-info optional | Information giving disk's basic disposition within its overlying aggregate or traditional volume. Omitted if container-type is not "aggregate" or "volume", or if excluded by 'desired-attributes'. |
| **disk-outage-info** | | disk-outage-info optional | Information about a disk that is not in service. Omitted if container-type is not "broken", "maintenance", "labelmaint", or "unassigned", or if excluded by 'desired-attributes'. |
| **disk-shared-info** | | disk-shared-info optional | Information giving disk's basic disposition within its overlying storage pool. Omitted if container-type is not "shared", or if excluded by 'desired-attributes'. |
| **disk-spare-info** | | disk-spare-info optional | Information giving disk's basic disposition within its overlying spare pool. Omitted if container-type is not "spare", or if excluded by 'desired-attributes'. |
| **disk-state** | | disk-state-info[] optional | Information giving RAID specific state of the disk. Omitted if information is unavailable. |
| **disk-uid** | | string optional | Disk unique identifier. Maximum length of 90 characters. Omitted if excluded by 'desired-attributes'. |
| **effective-disk-type** | | string optional | Effective disk interface type. Disks can report different physical 'disk-type', but the same 'effective-disk-type'. Disks with the same 'effective-disk-type' are compatible for use within the same aggregate or traditional volume. Omitted if information is unavailable, or excluded by 'desired-attributes'.<br><br>Possible values:<br><br>• "ATA"<br>• "FCAL"<br>• "LUN"<br>• "MSATA"<br>• "SAS"<br>• "BSAS"<br>• "SSD"<br>• "SSD_NVM"<br>• "FSAS"<br>• "VMDISK"<br>• "unknown" |
| **effective-rpm** | | integer optional | Effective rotational speed in revolutions per minute. Disks can report different actual 'rpm', but have the same 'effective-rpm'. Disks with the same 'effective- rpm' are compatible for use within the same aggregate or traditional volume. Omitted if information is unavailable, or excluded by 'desired-attributes'. |

| | | | |
|---|---|---|---|
| **physical-blocks** | **[0..2^64-1]** | integer<br>optional | RAID recorded disk capacity expressed in units of 4096-byte blocks. Typically this is the disk capacity reported by disk driver, but rounded down to the nearest 4096-byte block. Omitted if information is unavailable, or if excluded by 'desired-attributes'. |
| **position** | | string<br>optional | Position of disk relative to its container-type. Omitted if excluded by 'desired-attributes'.<br><br>Possible values:<br><br>• "copy" - RAID group copy destination disk.<br>• "data" - RAID group data disk.<br>• "tparity" - RAID group third (anti-diagonal) parity disk.<br>• "dparity" - RAID group diagonal parity disk.<br>• "orphan" - Disk is orphan of an aggregate or traditional volume.<br>• "parity" - RAID group parity disk.<br>• "pending" - Disk is pending addition to an aggregate or traditional volume.<br>• "present" - Disk is present in system. This is the default setting. |
| **spare-pool** | | string<br>optional | Name of RAID managed spare pool with which this disk is associated. Omitted if unavailable. Generally determined both by whether ownership has been assigned for this disk, and whether SyncMirror feature is supported on the reporting node. This disk may not currently be contained within this spare-pool, such as if it's been allocated to an aggregate or removed from service. This is the spare pool with which disk would be contained if/when it is initialized or released as a spare. Omitted if excluded by 'desired-attributes'.<br><br>Possible values:<br><br>• "Pool0" - Disk is associated with spare Pool0.<br>• "Pool1" - Disk is associated with spare Pool1.<br>• "spare" - Disk is associated with the general spare pool.<br>• "unknown" - Cannot determine spare pool associativity for this disk. |
| **standard-disk-type** | | standarddisktype<br>optional | Industry standard disk type. Note suggested display strings for each value. Possible values:<br><br>• "sata" - SATA, Serial Advanced Technology Attachment,<br>• "fc" - FC, Fibre Channel,<br>• "nl_sas" - NL-SAS, Near Line SAS<br>• "lun" - LUN, SCSI Logical Unit Number (e.g. Array),<br>• "sas" - SAS, Serial Attached SCSI,<br>• "scsi" - SCSI, Small Computer System Interface,<br>• "ssd" - SSD, Solid-State Disk,<br>• "vm_disk" - VM Disk, Hypervisor Virtual Disk,<br>• "unknown" - Unknown Disk Type,<br>• "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk<br><br>Attributes: non-creatable, non-modifiable |
| **used-blocks** | **[0..2^64-1]** | integer<br>optional | RAID recorded size of file system region on this disk, given in units of 4096-byte blocks. Typically based upon the disk's right-size capacity, but it may be smaller if RAID has downsized this disk, such as due to reconstruct replacing a smaller with a larger disk. This is distinct from WAFL usage of file system space. Omitted if information is unavailable, or if excluded by 'desired-attributes'. |

# Element definition: **disk-stats-info**

[top]

Contains disk statistics.

| Name | Range | Type | Description |
|---|---|---|---|
| **average-latency** | **[0..2^32-1]** | integer<br>optional | Access time to disk in milliseconds. Omitted if excluded by 'desired-attributes'. |
| **bytes-per-sector** | **[0..2^16-1]** | integer<br>optional | Number of bytes per disk sector. A sector count element, such as 'sectors-read' and 'sectors-written', may be multipled by this value to convert to a byte count. Omitted if excluded by 'desired-attributes'. |
| **disk-io-kbps** | **[0..2^64-1]** | integer<br>optional | Rolling average of kilobytes per second read and written to this disk. Omitted if excluded by 'desired-attributes'. |
| **disk-iops** | **[0..2^64-1]** | integer<br>optional | Rolling average of I/O operations per second read and written to this disk. Omitted if excluded by 'desired-attributes'. |
| **disk-uid** | | string<br>optional | Unique identifier of disk for this disk. Maximum length of 90 characters. Omitted if excluded by 'desired-attributes'. |
| **import-in-progress** | | boolean<br>optional | For disks marked with container-type = foreign, this value is true when data is actively being imported from this disk. |
| **path-error-count** | **[0..2^32-1]** | integer<br>optional | The number of errors on this disk. Omitted if excluded by 'desired-attributes'. |
| **power-on-time-interval** | **[0..2^63-1]** | integer<br>optional | Number of seconds the drive has been powered on. Omitted if excluded by 'desired-attributes'. |

| | | | |
|---|---|---|---|
| **sectors-read** | **[0..2^64-1]** | integer optional | Number of disk sectors read since system last booted, given in units of 'bytes-per-sector'. Omitted if excluded by 'desired-attributes'. |
| **sectors-written** | **[0..2^64-1]** | integer optional | Number of disk sectors written since system last booted, given in units of 'bytes-per-sector'. Omitted if excluded by 'desired-attributes'. |

## Element definition: **disk-aggregate-info**

[top]

Details giving disk's basic disposition within its overlying aggregate or traditional volume. Information that is specific to a disk contained within an aggregate or traditional volume is returned here. Returned only if 'container-type' is "aggregate" or "volume".

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-name** | | string optional | Name of aggregate or traditional volume with which this disk is associated. Omitted if excluded by 'desired-attributes'. |
| **checksum-type** | | string optional | The checksum type that has been assigned to this disk. Omitted if information is unavailable, or if excluded by 'desired-attributes'.<br><br>Possible values:<br><br>• "advanced_zoned" - Advanced zoned checksum.<br>• "block" - Block checksum.<br>• "none" - No checksum type assigned.<br>• "wafl" - WAFL checksum.<br>• "zoned" - Zoned checksum (this value is no longer supported). |
| **copy-destination-cluster-name** | | string optional | cluster unique name of the copy destination disk. 'stack-id'.'shelf'.'bay'. Disks on multi-disk carriers take the form 'stack-id'.'shelf'.'bay'.'lun'.<br><br>Virtual disks take the form 'prefix'.'number' where prefix is the storage array's prefix and number is a unique ascending number.<br><br>Omitted if Shelf Enclosure Service is not enabled for this device, information is unavailable, or excluded by 'desired-attributes'.<br><br>Omitted if both 'is-prefailed' and 'is-replacing' are false, or if excluded by 'desired-attributes'. |
| **copy-destination-name** | | string optional | name of copy destination. Omitted if both 'is-prefailed' and 'is-replacing' are false, or if excluded by 'desired-attributes'. |
| **copy-percent-complete** | **[0..100]** | integer optional | Percent completion of disk copy. Omitted if no copy operation involving this disk is in progress. So omitted if neither 'is-prefailed' nor 'is-replacing' is true, and if position is not "copy". |
| **copy-reason** | | string optional | The reason this disk has been marked for a disk copy operation. Possible values include:<br><br>• "evacuation" - Disk is marked for evacuation.<br>• "layout_optimization" - Disk is marked for layout optimization.<br>• "shared_disk_replacement"- Disk is marked for replacement.<br><br>Omitted if disk copy is not in progress or excluded by 'desired-attributes'. |
| **is-evacuating** | | boolean optional | True if Data ONTAP is copying the disk that is housed in the same carrier with a failed disk. This flag is expected to remain true until the system has copied the contents of this disk to the replacement disk. At that time this disk is expected to be failed with the reason "evacuated". Omitted if excluded by 'desired-attributes'. |
| **is-in-root-aggr** | | boolean optional | True only if this disk is in a root aggregate. |
| **is-media-scrubbing** | | boolean optional | True if media scrub is currently active for this disk. Omitted if excluded by 'desired-attributes'. |
| **is-offline** | | boolean optional | True if disk is offline. Omitted if excluded by 'desired-attributes'. |
| **is-prefailed** | | boolean optional | True if the admin issued a 'disk fail' or if the the system marked this disk for Rapid RAID Recovery. This flag is expected to remain set until the system has copied the contents of this disk to a system-selected replacement disk. At that point, this disk is expected to be removed from service and placed in in the broken pool. Omitted if excluded by 'desired-attributes'. |
| **is-reconstructing** | | boolean optional | True if disk is in process of being reconstructed. Omitted if excluded by 'desired-attributes'. |
| **is-replacing** | | boolean optional | True if the admin issued 'disk replace' to replace this disk with a specified replacement disk. This flag is expected to remain true until the system has copied the contents of this disk to the admin-specified replacement disk. At that point this disk is expected to be released to the spare pool. Omitted if excluded by 'desired-attributes'. |
| **is-zeroed** | | boolean optional | True if disk is in pre-zeroed state. Omitted if excluded by 'desired-attributes'. |
| **is-zeroing** | | boolean optional | True only if disk position is 'pending' and disk is in process of being zeroed. Omitted if excluded by 'desired-attributes'. |
| | | string | Name of plex with which this disk is associated. Omitted if disk is not associated with a plex, or if |

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|---|---|---|---|
| **plex-name** | | optional | excluded by 'desired-attributes'. |
| **raid-group-name** | | string optional | Name of RAID group to which this disk belongs. Omitted if disk does not belong to a RAID group, or if excluded by 'desired-attributes'. |
| **reconstruct-percent-complete** | **[0..100]** | integer optional | Percent completion of disk reconstruction. Omitted if 'is-reconstructing' is not true, if reconstruct is stalled, or if excluded by 'desired-attributes'. |
| **zeroing-percent-complete** | **[0..100]** | integer optional | Percent completion of disk zeroing. Omitted if is-zeroing' is not true, or if excluded by 'desired-attributes'. |

# Element definition: **disk-outage-info**

[top]

Information about a disk that is not in service.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-in-fdr** | | boolean optional | True if disk has entry in the persistent Failed Disk Registry. Omitted if excluded by 'desired-attributes'. |
| **reason** | | string | Reason disk is not in service. Omitted if excluded by 'desired-attributes'.<br><br>Possible values:<br><br>• "admin failed" - Admin has persistently failed disk.<br>• "admin removed" - Admin requested spare disk to be removed from system.<br>• "admin testing" - Admin isolated disk for maintenance testing.<br>• "bad label" - Disk has bad RAID label.<br>• "bypassed" - Disk has been bypassed.<br>• "failed" - Disk is persistently failed.<br>• "init failed" - Disk failed initialization.<br>• "label version" - Disk has invalid RAID label version.<br>• "labeled broken" - Disk was persistently failed in a prior Data ONTAP release.<br>• "labelmaint" - Disk is isolated for online label maintenance.<br>• "LUN resized" - Array LUN was inappropriately resized.<br>• "missing" - Disk has gone missing.<br>• "not responding" - Disk is non-responsive.<br>• "predict failure" - Disk failure is predicted. capacity than previously.<br>• "rawsize shrank" - Disk reporting smaller<br>• "recovering" - Disk is underoing recovery.<br>• "sanitizing" - Disk is in process of being sanitized.<br>• "sanitized" - Disk sanitization complete, but admin has not yet released disk back to the spare pool. in this release.<br>• "trad_vol_disk" - Traditional Volume Disk, not supported on clustered data ONTAP systems.<br>• "SnapLock Disk" - SnapLock disk, not supported.<br>• "testing" - System isolated disk for maintenance testing.<br>• "unassigned" - Disk ownership has not been assigned.<br>• "unknown" - Don't know reason disk is not in service. |

# Element definition: **disk-pool-info**

[top]

node-suggested pool pair for every disk.

| Name | Range | Type | Description |
|---|---|---|---|
| **node-for-pool** | | string optional | Name of node for which the pool suggestion corresponds to. |
| **pool-suggestion** | **[0..2^32-1]** | integer optional | Pool to which partitions in the disk may be assigned. If the disk is part of a loop that does not have any disks assigned to the specific node or has disks of mutiple pools assigned to the specific node, the pool will be 255. |

# Element definition: **disk-shared-info**

[top]

Details giving disk's basic disposition within its overlying storage pool. Information that is specific to a disk that is contained within a storage pool belongs here.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **aggregate-list** | | shared-aggregate-info[] optional | List of aggregates sharing this disk. Omitted if not available or excluded by 'desired attributes'. |
| **checksum-type** | | string optional | The checksum type that has been assigned to this disk. Omitted if information is unavailable, or if excluded by 'desired-attributes'.<br><br>Possible values:<br><br>• "advanced_zoned" - Advanced zoned checksum.<br>• "block" - Block checksum.<br>• "zoned" - Zoned checksum (this value is no longer supported). |
| **copy-destination-cluster-name** | | string optional | disk cluster name of copy destination. Omitted if both 'is-prefailed' and 'is-replacing' are false, or if excluded by 'desired-attributes'. |
| **copy-destination-name** | | string optional | name of copy destination. Omitted if both 'is-prefailed' and 'is-replacing' are false, or if excluded by 'desired-attributes'. |
| **copy-percent-complete** | **[0..100]** | integer optional | Percent completion of disk copy. Omitted if no copy operation involving this disk is in progress. So omitted if neither 'is-prefailed' nor 'is-replacing' is true. |
| **copy-progress** | **[0..2^64-1]** | integer optional | Progress of disk copy in blocks. Omitted if no copy operation involving this disk is in progress. So omitted if neither 'is-prefailed' nor 'is-replacing' is true. |
| **copy-reason** | | string optional | The reason this disk has been marked for a disk copy operation. Possible values include:<br><br>• "evacuation" - Disk is marked for evacuation.<br>• "layout_optimization" - Disk is marked for layout optimization.<br><br>Omitted if disk copy is not in progress or excluded by 'desired-attributes'. |
| **copy-size** | **[0..2^64-1]** | integer optional | total size of disk copy in blocks. If N partitions of disk are under disk copy, copy-size will refer to cumulative size of those N partitions. Omitted if no copy operation involving this disk is in progress. So omitted if neither 'is-prefailed' nor 'is-replacing' is true. |
| **is-evacuating** | | boolean optional | True if Data ONTAP is copying the disk that is housed in the same carrier with a failed disk. This flag is expected to remain true until the system has copied the contents of this disk to the replacement disk. At that time this disk is expected to be failed with the reason "evacuated". Omitted if excluded by 'desired-attributes'. |
| **is-in-root-aggr** | | boolean optional | True only if this disk has in a partition in a root aggregate. |
| **is-media-scrubbing** | | boolean optional | True if media scrub is currently active for this disk. Omitted if excluded by 'desired-attributes'. |
| **is-offline** | | boolean optional | True if disk is offline. Omitted if excluded by 'desired-attributes'. |
| **is-prefailed** | | boolean optional | True if the admin issued a 'disk fail' or if the the system marked this disk for Rapid RAID Recovery. This flag is expected to remain set until the system has copied the contents of this disk to a system-selected replacement disk. At that point, this disk is expected to be removed from service and placed in in the broken pool. Omitted if excluded by 'desired-attributes'. |
| **is-reconstructing** | | boolean optional | True if disk is in process of being reconstructed. Omitted if excluded by 'desired-attributes'. |
| **is-replacing** | | boolean optional | True if the admin issued 'disk replace' to replace this disk with a specified replacement disk. This flag is expected to remain true until the system has copied the contents of this disk to the admin-specified replacement disk. At that point this disk is expected to be released to the spare pool. Omitted if excluded by 'desired-attributes'. |
| **is-sparecore** | | boolean optional | True if disk is sparecore disk. Omitted if excluded by 'desired-attributes'. |
| **is-zeroed** | | boolean optional | True if disk is in pre-zeroed state. Omitted if excluded by 'desired-attributes'. |
| **is-zeroing** | | boolean optional | True only if disk position is 'pending' and disk is in process of being zeroed. Omitted if excluded by 'desired-attributes'. |
| **num-data-partitions** | **[0..100]** | integer optional | This field indicates the number of data partitions on this disk if it's a shared disk. |
| **num-root-partitions** | **[0..100]** | integer optional | This field indicates the number of root partitions on this disk if it's a shared disk. |
| **num-total-partitions** | **[0..100]** | integer optional | This field indicates the total number of partitions on this disk if it's a shared disk. |
| **partial-record** | | boolean optional | True if record for this disk is sent by only one node. From D-blade it will always be set as true. At cluster level we set it to false if we received record from both nodes. |
| **partitioning-type** | | string optional | This field indicates whether disk is partitioned or storage pool disk. This field is available only if 'container-type' is "shared". Possible values include:<br><br>• "root_data" - Disk is root-data partitioned disk.<br>• "root_data1_data2" - Disk is root-data1-data2 partitioned disk.<br>• "storage_pool" - Disk is storage pool disk.<br><br>Omitted if excluded by 'desired attributes'. |

| | | | |
|---|---|---|---|
| **reconstruct-percent-complete** | **[0..100]** | integer optional | Percent completion of disk reconstruction. Omitted if 'is-reconstructing' is not true, if reconstruct is stalled, or if excluded by 'desired-attributes'. |
| **reconstruct-progress** | **[0..2^64-1]** | integer optional | Completion of disk reconstruction in blocks. Omitted if 'is-reconstructing' is not true. |
| **reconstruct-size** | **[0..2^64-1]** | integer optional | Total size of disk reconstruction in blocks. Omitted if 'is-reconstructing' is not true. |
| **sparecore-eligible-nodes** | | node-name[] optional | List of nodes to which disk is eligible to be sparecore disk. Omitted if excluded by 'desired-attributes'. |
| **static-part-method** | | boolean optional | This field indicates if the partitioning method corresponding to this disk is a static (init-time) partitioning method. |
| **storage-pool** | | string optional | Cluster wide unique name of RAID managed storage pool with which this disk is associated. |
| **storage-pool-uuid** | | string optional | Unique identifier of RAID managed storage pool with which this disk is associated. |
| **zeroing-percent-complete** | **[0..100]** | integer optional | Percent completion of disk zeroing. Omitted if is-zeroing' is not true, or if excluded by 'desired-attributes'. |
| **zeroing-progress** | **[0..2^64-1]** | integer optional | Completion of disk zeroing in blocks. Omitted if is-zeroing' is not true. |
| **zeroing-size** | **[0..2^64-1]** | integer optional | Total size of disk zeroing in blocks. Omitted if is-zeroing' is not true. |

## Element definition: **disk-spare-info**

[top]

Details giving disk's basic disposition within its overlying spare pool. Information that is specific to a disk that is contained within a spare pool belongs here.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-media-scrubbing** | | boolean optional | True if media scrub is currently active for this disk. Omitted if excluded by 'desired-attributes'. |
| **is-offline** | | boolean optional | True if disk is offline. Omitted if excluded by 'desired-attributes'. |
| **is-sparecore** | | boolean optional | True if disk is sparecore disk. Omitted if excluded by 'desired-attributes'. |
| **is-zeroed** | | boolean optional | True if disk has been pre-zeroed. Omitted if excluded by 'desired-attributes'. |
| **is-zeroing** | | boolean optional | True if disk is in process of being zeroed. Omitted if excluded by 'desired-attributes'. |
| **sparecore-eligible-nodes** | | node-name[] optional | List of nodes to which disk is eligible to be sparecore disk. Omitted if excluded by 'desired-attributes'. |
| **zeroing-percent-complete** | **[0..100]** | integer optional | Percent completion of disk zeroing. Omitted if is-zeroing' is not true, or if excluded by 'desired-attributes'. |

## Element definition: **disk-state-info**

[top]

Details giving disk's RAID specific state information. For disks that are shared between both nodes this will give states as seen by both nodes.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | RAID specific state of the disk.<br><br>Possible values:<br><br>• "invalid"<br>• "notzeroed"<br>• "zeroing"<br>• "zeroed"<br>• "inuse"<br>• "notpresent"<br>• "failing"<br>• "failed"<br>• "unfailing"<br>• "uninited" |

| | | | |
|---|---|---|---|
| **disk-fsm-state** | | string optional | • "orphaned"<br>• "unknown"<br>• "sparing"<br>• "fakezeroed"<br>• "sdc"<br>• "offline"<br>• "online"<br>• "partitioning"<br>• "partitioned"<br>• "unpartitioning"<br>• "unpartitioned"<br>• "present"<br>• "replacing"<br>• "offlining"<br>• "prefailing" |
| **node-name** | | string optional | Name of the node reporting disk state. |

## Element definition: **standarddisktype**

[top]

SATA | FC | NL-SAS | LUN | SAS | SCSI | SSD | VM-DISK | NVMe-SSD | SSD-CAP | SSD-ZNS | VM-LUN | VM-LUN-SSDS Possible values:

- "sata" - SATA, Serial Advanced Technology Attachment,
- "fc" - FC, Fibre Channel,
- "nl_sas" - NL-SAS, Near Line SAS,
- "lun" - LUN, SCSI Logical Unit Number (e.g. Array),
- "sas" - SAS, Serial Attached SCSI,
- "scsi" - SCSI, Small Computer System Interface,
- "ssd" - SSD, Solid-State Disk,
- "vm_disk" - VM Disk, Hypervisor Virtual Disk,
- "unknown" - Unknown Disk Type,
- "nvme_ssd" - NVMe SSD, Non-Volatile Memory Express Solid-State Disk,
- "ssd_dc" - DC SSD, Data Center Non-Volatile Memory Express Solid-State Disk,
- "ssd_cap" - CAP SSD, High Capacity Solid-State Disk,
- "vm_lun" - VM LUN, Hypervisor Virtual LUN,
- "vm_lun_ssd" - VM SSD LUN, Hypervisor Virtual SSD LUN,
- "ssd_zns" - SDF SSD, Non-Volatile Memory Express Solid-State Disk

[none]

## Element definition: **storage-sed-info**

[top]

Self-encrypting disk (SED) info. Available from the disk-encrypt cluster ZAPI.

| Name | Range | Type | Description |
|---|---|---|---|
| **data-key-id** | | string optional | Key ID of the authentication key that the SED currently requires for authorization to modify the data protection controls. Omitted if disk is not a SED, or if excluded by 'desired-attributes'. |
| **fips-key-id** | | string optional | Key ID of the authentication key that the SED currently requires for authorization to modify the FIPS-compliance controls. Omitted if disk is not a SED, or if excluded by 'desired-attributes'. |
| **is-fips-sed** | | boolean | True if the disk is a FIPS-certified SED. Omitted if disk is not a SED, or if excluded by 'desired-attributes'. |
| **is-non-fips-sed** | | boolean | True if the disk is a SED that is not FIPS-certified. Omitted if disk is not a SED, or if excluded by 'desired-attributes'. |
| **is-power-on-lock-enabled** | | boolean optional | State of SED power-lock-enable control that determines whether authentication is required after subsequent SED power-cycles before I/O is allowed. True will require authentication; false indicates no authentication is needed to allow I/O. Omitted if disk is not a SED, or if excluded by 'desired-attributes'. |
| **is-sed** | | boolean | True if the disk is a SED with or without FIPS certification. Omitted if disk is not a SED, or if excluded by 'desired-attributes'. |
| **protection-mode** | | string optional | The summary of the data protection and FIPS compliance states. Omitted if disk is not a SED, or if excluded by 'desired-attributes'. |

## Element definition: **storage-ssd-info**

[top]

Storage info block for solid-state storage devices.

| Name | Range | Type | Description |
|---|---|---|---|
| **percent-rated-life-used** | **[0..255]** | integer optional | An estimate of the percentage of device life that has been used, based on the actual device usage and the manufacturer's prediction of device life. A value greater than 99 indicates that the estimated endurance has been consumed, but may not indicate a device failure. Omitted if value is unknown. |
| **percent-spares-consumed** | **[0..100]** | integer optional | Percentage of device spare blocks that have been used. Each device has a number of spare blocks that will be used when a data block can no longer be used to store data. This value reports what percentage of the spares have already been consumed. Omitted if value is unknown. |
| **percent-spares-consumed-limit** | **[0..100]** | integer optional | Spares consumed percentage limit reported by the device. Omitted if value is unknown. |

## Element definition: **virtual-machine-disk-info**

[top]

A typedef containing the attributes for virtual machine disks. Such attributes are the hypervisor VM file name, the backing store and the adapter to name a few.

| Name | Range | Type | Description |
|---|---|---|---|
| **vmdisk-adapter-device** | | string optional | Backing adapter device name. Example is "vmhba32". |
| **vmdisk-adapter-driver** | | string optional | Backing adapter driver name. For example, "mptsas". For iSCSI connections, this element represents name of the iSCSI initiator. Example is "iqn.1998-01.com.vmware:esxhostname-5d1555b6". |
| **vmdisk-adapter-model** | | string optional | Backing adapter model type. Example is "LSI1064E", "iSCSI Software Adapter". |
| **vmdisk-adapter-pci** | | string optional | Backing adapter PCI device ID for the virtual disk. For iSCSI connections, this element is empty. Example is "50:00.0". |
| **vmdisk-container-name** | | string optional | Container associated with the VM Disk. Example is "container1" |
| **vmdisk-lun-canonical-name** | | string optional | Hypervisor-assigned unique ID of the backing device (disk or LUN). Example is "naa.75hsfe523hnsfhf46323". |
| **vmdisk-lun-capacity** | **[0..2^64-1]** | integer optional | Size of the backing device (disk or LUN) in bytes. Example is "4294967296". |
| **vmdisk-lun-model** | | string optional | Backing device (disk or lun) model. Example is "LUN", "MBE2073RC". |
| **vmdisk-lun-partition** | | integer optional | Backing disk partition number where the corresponding VM disk file resides. Example is "3". |
| **vmdisk-lun-vendor-name** | | string optional | Name of the backing device manufacturer. Example is "FUJITSU". |
| **vmdisk-object-name** | | string optional | Page blob associated with the VM Disk. Example is "blob1" |
| **vmdisk-storage-account** | | string optional | Storage account associated with the VM Disk. Example is "storageaccount1" |
| **vmdisk-store-capacity** | **[0..2^64-1]** | integer optional | The size of the disk backing store in bytes. Example is "4294967296". |
| **vmdisk-store-nas-path** | | string optional | Full path to the backing store. This field is valid only for NAS connections. Example is "myvm.domain.com:/backingStoreName". |
| **vmdisk-store-type** | | string optional | Type of the disk backing store. It can be a VMFS volume, a directory on network-attached storage, or a local file system path. Possible values are "NFS", "VMFS". |
| **vmdisk-target-iscsi-address** | | string optional | The iSCSI IP address (IPv4 or IPv6) of the disk backing target. This field is valid only for iSCSI connections. Examples are "192.168.0.1", "2001:0db8:85a3:0000:0000:8a2e:0370:7334". |
| **vmdisk-target-iscsi-name** | | string optional | The iSCSI name of the disk backing target. This field is valid only for iSCSI connections. Example is "iSCSI-targ.com.optional-string". |
| **vmdisk-target-lun-id** | | string optional | SCSI device name for the backing disk. It takes the form target-id:lun-id. Example is "3:1". |
| **vmhost-error** | | string optional | Error (if any) while retrieving the virtual disk details. Example is "vSphere server is missing". |

## Element definition: **vmdisk-backing-info**

[top]

Backing info block for virtual machine disks.

| Name | Range | Type | Description |
|---|---|---|---|
| **vmdisk-backing-device-id** | | string | Device id of the underlying disk. |
| **vmdisk-backing-disk-model** | | string | Product id of the underlying disk. |
| **vmdisk-backing-serial-number** | | string | Serial number of the underlying disk. |
| **vmdisk-backing-vendor-id** | | string | Vendor of the underlying disk. |

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **shared-aggregate-info**

[top]

Name of desired aggregate.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-name** | | string optional | String representing name of the aggregate. |

# APIs in Category: **storage-disk-firmware**

| | |
|---|---|
| storage-disk-firmware-file-get-iter | This is an auto generated category. |

## storage-disk-firmware-file-get-iter

[top]

return the firmware file list

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-disk-firmware-file optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-disk-firmware-file optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-acp-firmware object. All storage-acp-firmware objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-disk-firmware-file[] optional | The list of attributes of storage-acp-firmware objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-acp-firmware objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **storage-disk-firmware-file**

[top]

Show firmware files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **filename** | | string optional | Storage Firmware File Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# APIs in Category: **storage-initiator**


storage-initiator-balance
storage-initiator-disk-path-list-info
storage-initiator-errors-list-info
storage-initiator-get-load
storage-initiator-path-list-info
storage-initiator-path-quiesce
storage-initiator-path-resume


These APIs are used to get information on initiator ports as related to their role as a gateway to back end storage.

## storage-initiator-balance

[top]

Balances primary/secondary array LUN paths across available initiator ports based on I/O load. This API is deprecated in Clustered Data ONTAP 8.3.0 and later.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | node to balance initiator ports on |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## storage-initiator-disk-path-list-info

[top]

Returns path information and statistics for a given disk or all disks. We use the word disk to refer to an array lun, real disk, or Solid State Device This API is deprecated in Clustered Data ONTAP 8.3.0 and later.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk-name** | | string optional | The name of the disk to list path information for. If not supplied all paths to all attached targets are returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **disk-path-info** | | disk-path-info[] | A table of per path statistics, errors and other related data for this disk |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EDISKNOTFOUND** | |

# storage-initiator-errors-list-info

[top]

Lists all known disk/configuration errors associated with an array or shelves acting like array.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string optional | The name of the array to list error information for. (28 chars) |
| **disk-name** | | string optional | The name of the disk or array lun to list error information for. If not specified, all errors for all disks/array LUNs will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **errors** | | storage-error-info[] optional | A list of all errors for the requested array/shelf or disks/luns. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EARRAYNOTFOUND** | |
| **EDISKNOTFOUND** | |

# storage-initiator-get-load

[top]

Gets disk I/O rates for a given fibre channel initiator port or for all initiator ports if no port is specified. The term disk refers to an array LUN, actual disk, or solid state device. This API is deprecated in Clustered Data ONTAP 8.3.0 and later.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | Obtain disk I/O rates for initiator ports on the specified node. |
| **port** | | string optional | Port to show load on, e.g. 0a. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **load-info** | | storage-initiator-load-info[] optional | A table of per disk load related information for the named port. Omitted if no array LUNs are visible, or some other internal error occurs. |

# storage-initiator-path-list-info

[top]

Returns information and statistics on all known paths to back end storage.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string<br>optional | Obtain back end storage path statistics for this node. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **path-info** | | storage-initiator-path-info[]<br>optional | A table of back end path statistics, errors and other related data. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# storage-initiator-path-quiesce

[top]

Quiesces an array LUN on a path. A quiesced array LUN will not be sent I/O on the specified path.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string | The initiator port of the path that I/O will be quiesced on. |
| **lun-number** | | integer<br>optional | LU number. If this value is not specified then the command applies for the specified path. Range: [0..65535] |
| **node** | | string | The node name on which the quiesce is issued |
| **path-failure-threshold** | | integer<br>optional | The path failure count, exceeding the specified value within wait duration will quiesce the path. This value is mutually exclusive with lun-number. If this value is not specified to quiesce path, path will be quiesed immediately. wait-duration must be specified along with path-failure-threshold. Range: [1..100] |
| **target-wwpn** | | string | The array target port of the path that I/O will be quiesced on. World wide port number has to be specified without colons. |
| **wait-duration** | | integer<br>optional | The time duration in which path is monitored for path failures. This value is mutually exclusive with lun-number. If this value is not specified to quiesce path, path will be quiesed immediately. path-failure-threshold must be specified along with wait-duration. Range: [1..1440] |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDPATH** | |
| **ECANTQUIESCELASTPATH** | |
| **EDISKNOTFOUND** | |
| **EINVALIDTARGET** | |
| **EQUIESCEFAILED** | |
| **ELUNQUIESCING** | |
| **EQUIESCENOTSUPPORTED** | |
| **ETHRESHOLDWAIT** | |
| **ENOLUNQUIESCEONPATHQ** | |

# storage-initiator-path-resume

[top]

Resumes I/O to array LUN on a path that was previously quiesced. Resuming I/O to a non-quiesced array LUN is a no-op and not an error.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **initiator** | | string | The initiator port of the path that I/O will be resumed to. |
| **lun-number** | | integer optional | LU number. If this value is not specified then the specified path will be resumed. Range: [0..65535] |
| **node** | | string | The node name on which the resume is issued |
| **target-wwpn** | | string | The array target port of the path that I/O will be resumed to. World wide port number has to be specified without colons. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDPATH** | |
| **EDISKNOTFOUND** | |
| **EINVALIDTARGET** | |
| **ERESUMEFAILED** | |
| **ENOLUNRESUMEONPATHQ** | |

# Element definition: **disk-path-info**

[top]

Contains per path statistics, errors and other related data.

| Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string | The name of the array providing the lun. |
| **disk-name** | | string | The name of the disk this path information is for |
| **disk-port** | | string optional | Disk port associated with this path. Possible values are "A" or "B". Omitted for non-disk target. |
| **disk-port-name** | | string optional | Disk port name associated with this path. This has the form <attachment-style>:<disk-port>, where <attachment-style> is either "FC" for FibreChannel, "SA" for SAS, or "NV" for NVMe, and <disk-port> is either "A" or "B". Omitted for non-disk target.<br><br>Possible values:<br>• "FC:A"<br>• "FC:B"<br>• "SA:A"<br>• "SA:B"<br>• "NV:A"<br>• "NV:B" |
| **disk-uid** | | string | Disk's UID, as supplied by the hardware, used to uniquely identify this disk. |
| **initiator-io-kbps** | | integer | Rolling average of kilobytes per second read and written over this initiator port. Range: [0..2^64-1] |
| **initiator-iops** | | integer | Rolling average of I/O operations per second read and written over this initiator port. Range: [0..2^64-1] |
| **initiator-lun-in-use-** | | integer | Number of LUNs in the IN-USE state on this initiator. Range: [0..2^64-1] |

| | | | |
|---|---|---|---|
| **count** | | | |
| **initiator-port** | | string | Initiator port name, e.g. 0a. |
| **initiator-port-speed** | | string | The speed that the initiator port has negotiated with its connected switch, or target port if direct attached. |
| **initiator-side-switch-port** | | string | The name of the switch connected to the controller's initiator port, or N/A when using direct attach |
| **lun-io-kbps** | | integer | Rolling average of kilobytes per second read and written to this LUN. Range: [0..2^64-1] |
| **lun-iops** | | integer | Rolling average of I/O operations per second read and written to this LUN. Range: [0..2^64-1] |
| **lun-number** | | integer | LU number. Range: [0..65535] |
| **lun-path-use-state** | | string | ONTAP's use of this path INU - (In Use) This path is currently used for I/O. RDY - (Ready) This path is not being used for I/O currently, but might transition to INU if storge errors or load balancing cause it to transition to INU. QED - (Quiesced) : The disk is quiesced on this path. MCF - (Misconfigured) : The disk is misconfigured on this path. The path is not available for I/O. Refer to storage_initiator_errors_list_info for details. FAL - (Failed) The connectivity to this path is lost. INI - (Initializing) The disk/LUN on this path is currently being readied for I/O operations (MPIO disks/LUNs only). PRE - (Persistent Reserve Register Error) An error occurred during the persistent reserve register operation of the disk/LUN on this path. This may be a transient condition and registration may successfully complete at a later time. |
| **node** | | string | Controller with the initiator port for this path. |
| **path-io-kbps** | | integer | Rolling average of kilobytes per second read and written to this path. Range: [0..2^64-1] |
| **path-iops** | | integer | Rolling average of I/O operations per second read and written to this path. Range: [0..2^64-1] |
| **path-link-errors** | | integer | Number of link errors reported on the path. Range: [0..2^32-1] |
| **path-lun-in-use-count** | | integer | Number of LUNs in the IN-USE state on this path. Range: [0..2^64-1] |
| **path-quality** | | integer | The percentage of the error threshold. 0% NO ERROR 1-20% LOW ERROR, available to load balancing and error retry code. 21-99% MEDIUM ERROR, load balancing and error retry code will not switch to this path. 100-? HIGH_ERROR, Excessive errors EMS event will be logged Range: [0..2^32-1] |
| **preferred-target-port** | | boolean optional | For a logical unit which reports asymmetric access, preferred-target-port indicates that a path, regardless of the current access state, routes to a preferred target port group. Possible values are:<br>• true: This path routes to a preferred target port group for this array LUN.<br>• false: This path does not route to a preferred target port group or the array LUN reports that there is no preferred target port group. |
| **target-io-kbps** | | integer | Rolling average of kilobytes per second read and written to this target port. Range: [0..2^64-1] |
| **target-iops** | | integer | Rolling average of I/O operations per second read and written to this target port. Range: [0..2^64-1] |
| **target-iqn** | | string optional | Target IQN of target port providing the disk. |
| | | | |

| | | | |
|---|---|---|---|
| **target-lun-in-use-count** | | integer | Number of LUNs in the IN-USE state on this target port. Range: [0..2^64-1] |
| **target-port-access-state** | | string | failover optimization type |
| **target-side-switch-port** | | string | Name of the switch port connected to the target array, or UNKNOWN if direct attached. |
| **target-wwnn** | | string | World Wide Node Name of the target device. |
| **target-wwpn** | | string | World Wide Port Name of target port providing the disk. |
| **tpgn** | | integer | The Target Port Group Number of the array's target port. Range: [0..2^64-1] |
| **vmdisk-device-id** | | integer optional | The device id used for the virtual device (also used by the hypervisor) Range: [0..2^32-1] |
| **vmdisk-hypervisor-area-name** | | string optional | The name of the storage area where the vmdisk is physically located. For ESX this is the name of a datastore. |
| **vmdisk-hypervisor-file-name** | | string optional | The file name of the virtual disk used by the hypervisor. For ESX this is the name of the disk's vmdk file. Example is "myvm/myvm_1.vmdk" |

# Element definition: **storage-error-info**

[top]

Contains error messages associated with back end array/shelf/LUNs.

| Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string | Name of the array/shelf with the configuration error. |
| **disk-name** | | string | The name of the disk or array lun this error information is for. |
| **disk-uid** | | string | Disk's UID, as supplied by the hardware, used to uniquely identify this disk. |
| **error-id** | | integer | A unique ID for each error returned. ID is unique on a per API call basis only. Range: [0..2^32-1] |
| **error-text** | | string | A description of the error being reported. |
| **error-type** | **[1..16]** | integer | Enum describing type of error.<br>Possible values:<br>• 1 -Redundancy error, less than two paths to a disk.<br>• 2 -Redundancy error, device is only accessible via a single fault domain, all paths go into the same target port group.<br>• 3 -Device is a control LUN.<br>• 4 -This foreign LUN has a reservation.<br>• 5 -LUN too large; a LUN has been detected that is larger than the maximum size supported.<br>• 6 -LUN too small; a LUN has been detected that is smaller than the minimum size supported.<br>• 7 -Invalid Block Size; a LUN has been detected that has an unsupported block size.<br>• 8 -A target port is accessible via multiple HBAs but the device to |

| | | | |
|---|---|---|---|
| | | | LUN id mappings aren't the same.<br>• 9 -A device is presented at different LUN ids on different ports.<br>• 10 -Multiple failover mode policies detected.<br>• 11 -Unknown array LUN.<br>• 12 -Data ONTAP(R) LUN.<br>• 13 -Disk firmware is downrev.<br>• 14 -Disk is not supported.<br>• 15 -This disk is in a failed state.<br>• 16 -This disk does not match the All-Flash Optimized personality of the system. |
| **lun-serial-number** | | string | The serial number of the lun the error occurs on, blank if the error is not lun related. |
| **node** | | string | The nodename reporting the disk or array lun with the error. |

# Element definition: **storage-initiator-load-info**

[top]

Contains per port per disk load information.

| Name | Range | Type | Description |
|---|---|---|---|
| **initiator-port** | | string | Initiator port name, e.g. 0a. If port is not specified, data for all ports is returned. |
| **io-count** | | integer | Megabytes of data sent to this disk over this port. Range: [0..2^32-1] |
| **lun-number** | | integer | Logical Unit Number. Range: [0..65535] |
| **nodename** | | string | IP address of the node serving the port in dotted-decimal format (for example, "192.168.11.12"). |
| **percent-io** | | string | Percentage of all I/O on this port sent to this disk. Range: [0..100] |
| **serial-number** | | string | Disk/LUN serial number. Maximum length of 129 characters. |
| **switch-name** | | string | The name of the switch connected to the controller's initiator port, or N/A when using direct attach. |
| **target-side-switch-port** | | string | Name of the switch port connected to the target array, or UNKNOWN if direct attached. |
| **target-wwpn** | | string | World Wide Port Name of array's target port. |

# Element definition: **storage-initiator-path-info**

[top]

Contains per path statistics, errors and other related data.

| Name | Range | Type | Description |
|---|---|---|---|
| **array-name** | | string | The name of the array providing this path is connected to. |
| **device-type** | | string optional | Type of LUN device. Describes the type of lun device or tape library. Possible Values are:<br>• "array_lun" - Array LUN type<br>• "tape_mc" - Tape Drive or Media Changer/library type<br>• "unknown" - Unknown device type |

| | | | |
|---|---|---|---|
| **initiator-io-kbps** | | integer | Rolling average of kilobytes per second read and written over this initiator port Range: [0..2^64-1] |
| **initiator-iops** | | integer | Rolling average of I/O operations per second over this initiator port Range: [0..2^64-1] |
| **initiator-lun-in-use-count** | | integer | Number of LUNs in the IN-USE state on this initiator. Range: [0..2^64-1] |
| **initiator-port** | | string | Initiator port name, e.g. 0a. |
| **initiator-port-speed** | | string | The speed that the initiator port has negotiated with its connected switch port, or target port if direct attached. |
| **initiator-side-switch-port** | | string | The name of the switch connected to the controller's initiator port, or N/A when using direct attach. |
| **node** | | string | The name of the node providing this path information. |
| **path-failure-threshold** | | integer | The path failure count, exceeding this value within wait duration will quiesce the path. Range: [0..2^32-1] |
| **path-io-kbps** | | integer | Rolling average of kilobytes per second read and written to this path. Range: [0..2^64-1] |
| **path-iops** | | integer | Rolling average of I/O operations per second read and written to this path. Range: [0..2^64-1] |
| **path-link-errors** | | integer | Number link errors reported on the path. Range: [0..2^32-1] |
| **path-lun-in-use-count** | | integer | Number of disks in the IN-USE state on this path. Range: [0..2^64-1] |
| **path-quality** | | integer | The percentage of the error threshold. 0% NO ERROR 1-20% LOW ERROR, available to load balancing and error retry code. 21-99% MEDIUM ERROR, load balancing and error retry code will not switch to this path. 100-? HIGH_ERROR, Excessive errors EMS event will be logged Range: [0..2^32-1] |
| **target-io-kbps** | | integer | Rolling average of kilobytes per second read and written to this target port. Range: [0..2^64-1] |
| **target-iops** | | integer | Rolling average of I/O operations per second read and written to this target port. Range: [0..2^64-1] |
| **target-iqn** | | string optional | World wide unique identification of iSCSI target. |
| **target-lun-in-use-count** | | integer | Number of disks in the IN-USE state on this target port. Range: [0..2^64-1] |
| **target-side-switch-port** | | string | Name of the switch port connected to the target array, or UNKNOWN if direct attached. |
| **target-wwpn** | | string | World Wide Port Name of target port providing the disk. |
| **tpgn** | | integer | The Target Port Group Number of the array's target port. Range: [0..2^64-1] |
| **vmdisk-** | | integer | The device id used for the virtual device (also used by the hypervisor) |

| | | | |
|---|---|---|---|
| **device-id** | | optional | Range: [0..2^32-1] |
| **wait-duration** | | integer | The time duration in which path is monitored for path failure. Range: [0..2^32-1] |

# APIs in Category: **storage-iscsi-initiator**


storage-iscsi-initiator-add-target
storage-iscsi-initiator-connect
storage-iscsi-initiator-disconnect
storage-iscsi-initiator-get-iter
storage-iscsi-initiator-remove-target


## storage-iscsi-initiator-add-target

[top]

Add an iSCSI target.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **administrative-status** | | service-state optional | Specifies the initial administrative status of the connection. The default setting is up. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the connection from functioning, the operational status remains as down. Possible values:<br>• "down" ,<br>• "up" |
| **label** | | string | The user defined identifier for the iSCSI target. |
| **node** | | node-name | The name of the node. |
| **target-name** | | string | The target name. Example: iqn.2012-06.com.bsdctl:target0 |
| **target-portal** | | string | The target's IP address. Example: 10.7.125.10 |
| **target-type** | | iscsi-initiator-target-type | The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Possible values:<br>• "external" - External iSCSI session target has external disks,<br>• "mailbox" - Mailbox iSCSI session target has mailbox disks,<br>• "partner" - Partner iSCSI session target has partner disks,<br>• "partner2" - Partner2 iSCSI session target has partner disks,<br>• "partner3" - Partner3 iSCSI session target has partner disks,<br>• "partner4" - Partner4 iSCSI session target has partner disks,<br>• "partner5" - Partner5 iSCSI session target has partner disks,<br>• "partner6" - Partner6 iSCSI session target has partner disks,<br>• "partner7" - Partner7 iSCSI session target has partner disks,<br>• "partner8" - Partner8 iSCSI session target has partner disks,<br>• "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP,<br>• "dr_partner" - Target has DR partner disks for MetroCluster over IP |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# storage-iscsi-initiator-connect

[top]

Connect to an iSCSI target.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **label** | | string | The user defined identifier for the iSCSI target. |
| **node** | | node-name | The name of the node. |
| **target-type** | | iscsi-initiator-target-type optional | The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Possible values:<br>• "external" - External iSCSI session target has external disks,<br>• "mailbox" - Mailbox iSCSI session target has mailbox disks,<br>• "partner" - Partner iSCSI session target has partner disks,<br>• "partner2" - Partner2 iSCSI session target has partner disks,<br>• "partner3" - Partner3 iSCSI session target has partner disks,<br>• "partner4" - Partner4 iSCSI session target has partner disks,<br>• "partner5" - Partner5 iSCSI session target has partner disks,<br>• "partner6" - Partner6 iSCSI session target has partner disks,<br>• "partner7" - Partner7 iSCSI session target has partner disks,<br>• "partner8" - Partner8 iSCSI session target has partner disks,<br>• "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP,<br>• "dr_partner" - Target has DR partner disks for MetroCluster over IP |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# storage-iscsi-initiator-disconnect

[top]

Disconnect from an iSCSI target.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **label** | | string | The user defined identifier for the iSCSI target. |
| **node** | | node-name | The name of the node. |
| **target-type** | | iscsi-initiator-target- | The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Possible values:<br>• "external" - External iSCSI session target has external disks,<br>• "mailbox" - Mailbox iSCSI session target has mailbox disks,<br>• "partner" - Partner iSCSI session target has partner disks,<br>• "partner2" - Partner2 iSCSI session target has partner disks,<br>• "partner3" - Partner3 iSCSI session target has partner disks,<br>• "partner4" - Partner4 iSCSI session target has partner disks, |

| | | | |
|---|---|---|---|
| | | type optional | • "partner5" - Partner5 iSCSI session target has partner disks,<br>• "partner6" - Partner6 iSCSI session target has partner disks,<br>• "partner7" - Partner7 iSCSI session target has partner disks,<br>• "partner8" - Partner8 iSCSI session target has partner disks,<br>• "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP,<br>• "dr_partner" - Target has DR partner disks for MetroCluster over IP |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# storage-iscsi-initiator-get-iter

[top]

Iterate over a list of iSCSI targets.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-iscsi-initiator-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | storage-iscsi-initiator-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-iscsi-initiator object. All storage-iscsi-initiator objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | storage-iscsi-initiator-info[] optional | The list of attributes of storage-iscsi-initiator objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more storage-iscsi-initiator objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

[top]

# storage-iscsi-initiator-remove-target

Remove an iSCSI target.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **label** | | string | The user defined identifier for the iSCSI target. |
| **node** | | node-name | The name of the node. |
| **target-type** | | iscsi-initiator-target-type optional | The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Possible values:<br>• "external" - External iSCSI session target has external disks,<br>• "mailbox" - Mailbox iSCSI session target has mailbox disks,<br>• "partner" - Partner iSCSI session target has partner disks,<br>• "partner2" - Partner2 iSCSI session target has partner disks,<br>• "partner3" - Partner3 iSCSI session target has partner disks,<br>• "partner4" - Partner4 iSCSI session target has partner disks,<br>• "partner5" - Partner5 iSCSI session target has partner disks,<br>• "partner6" - Partner6 iSCSI session target has partner disks,<br>• "partner7" - Partner7 iSCSI session target has partner disks,<br>• "partner8" - Partner8 iSCSI session target has partner disks,<br>• "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP,<br>• "dr_partner" - Target has DR partner disks for MetroCluster over IP |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **iscsi-initiator-target-type**

[top]

external|mailbox|partner|partner2|dr_auxiliary|dr_partner Possible values:

- "external" - External iSCSI session target has external disks,
- "mailbox" - Mailbox iSCSI session target has mailbox disks,
- "partner" - Partner iSCSI session target has partner disks,
- "partner2" - Partner2 iSCSI session target has partner disks,
- "partner3" - Partner3 iSCSI session target has partner disks,
- "partner4" - Partner4 iSCSI session target has partner disks,
- "partner5" - Partner5 iSCSI session target has partner disks,
- "partner6" - Partner6 iSCSI session target has partner disks,
- "partner7" - Partner7 iSCSI session target has partner disks,
- "partner8" - Partner8 iSCSI session target has partner disks,
- "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP,
- "dr_partner" - Target has DR partner disks for MetroCluster over IP

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **service-state**

[top]

down|up Possible values:

- "down" ,
- "up"

[none]

# Element definition: **storage-iscsi-initiator-info**

[top]

iSCSI Initiator Information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **administrative-status** | | service-state optional | Specifies the administrative status of the connection. The administrative status can differ from the operational status; for instance, if you specify the status as up but a network problem prevents the connection from functioning, the operational status remains as down. Attributes: non-creatable, non-modifiable Possible values:<br>• "down" ,<br>• "up" |
| **failure-reason** | | string optional | The reason for a failure. The possible reasons include internal errors, networking errors, and user errors. Attributes: non-creatable, non-modifiable |
| **label** | | string optional | The user defined identifier for the iSCSI target. Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | The name of the node. Attributes: key, non-creatable, non-modifiable |
| **operational-** | | service-state | Specifies the operational status of the connection. Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **status** | | optional | • "down" ,<br>• "up" |
| **target-name** | | string optional | The target name. Example: iqn.2012-06.com.bsdctl:target0 Attributes: non-creatable, non-modifiable |
| **target-portal** | | string optional | The target's IP address. Example: 10.7.125.10 Attributes: non-creatable, non-modifiable |
| **target-type** | | iscsi-initiator-target-type optional | The type of the target: external, mailbox, partner, partner2, partner3, partner4, partner5, partner6, partner7, partner8, dr_auxiliary or dr_partner Attributes: key, non-creatable, non-modifiable Possible values:<br>• "external" - External iSCSI session target has external disks,<br>• "mailbox" - Mailbox iSCSI session target has mailbox disks,<br>• "partner" - Partner iSCSI session target has partner disks,<br>• "partner2" - Partner2 iSCSI session target has partner disks,<br>• "partner3" - Partner3 iSCSI session target has partner disks,<br>• "partner4" - Partner4 iSCSI session target has partner disks,<br>• "partner5" - Partner5 iSCSI session target has partner disks,<br>• "partner6" - Partner6 iSCSI session target has partner disks,<br>• "partner7" - Partner7 iSCSI session target has partner disks,<br>• "partner8" - Partner8 iSCSI session target has partner disks,<br>• "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP,<br>• "dr_partner" - Target has DR partner disks for MetroCluster over IP |

# Element definition: **iscsi-initiator-target-type**

[top]

external|mailbox|partner|partner2|dr_auxiliary|dr_partner Possible values:

- "external" - External iSCSI session target has external disks,
- "mailbox" - Mailbox iSCSI session target has mailbox disks,
- "partner" - Partner iSCSI session target has partner disks,
- "partner2" - Partner2 iSCSI session target has partner disks,
- "partner3" - Partner3 iSCSI session target has partner disks,
- "partner4" - Partner4 iSCSI session target has partner disks,
- "partner5" - Partner5 iSCSI session target has partner disks,
- "partner6" - Partner6 iSCSI session target has partner disks,
- "partner7" - Partner7 iSCSI session target has partner disks,
- "partner8" - Partner8 iSCSI session target has partner disks,
- "dr_auxiliary" - Target has DR auxiliary disks for MetroCluster over IP,
- "dr_partner" - Target has DR partner disks for MetroCluster over IP

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **service-state**

[top]

down|up Possible values:

- "down" ,
- "up"

[none]

# APIs in Category: **storage-pool**


storage-pool-add
storage-pool-aggregate-get-iter
storage-pool-available-capacity-get-iter
storage-pool-create
storage-pool-delete
storage-pool-disk-get-iter
storage-pool-get-iter
storage-pool-reassign
storage-pool-rename


This set of ZAPIs allows managing the storage pools in the cluster. Storage Pools are managed using storage pool names which are unique across the cluster.

## storage-pool-add

[top]

Add disks to a storage pool A job will be spawned to operate on the storage-pool and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **auto-grow-aggregates** | | boolean optional | Automatically grow the existing aggregates that are eligible for growing. |
| **disk-count** | | integer optional | The number of disks that should be added to the storage pool. This option cannot be used with disk-list. |
| **disk-list** | | disk-name[] optional | List of spare disks that need to be added to the storage pool. They should be of the same size as the existing disks in the storage pool. |
| **nodes** | | node-name[] optional | List of nodes from which the spare disks that need to be added to storage pool can be selected. |
| **simulate** | | boolean optional | Simulates the addition of disks to the given storage pool. If set to \"true\", addition of disks won't happen but returns a list of aggregates that would auto-grow and the size of the aggregate prior to grow and also after the auto-grow. |
| **storage-pool** | | string | Name of the Storage Pool to which the spare disks will be added. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **aggregates-autogrow-list** | | aggregate-autogrow-info optional | Information of aggregates that will auto-grow |
| **available-capacity** | | size | The current available capacity in the pool in bytes. |
| **new-available-capacity** | | size | The new available capacity in the pool in bytes after adding the disks to storage pool. |
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |

| | | | |
|---|---|---|---|
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |
| **selected-disks** | | disk-name[] optional | List of spare disks that would have been added to the storage pool. |

| Errno | Description |
|---|---|
| **E_CFT_PRECOMMIT_PHASE** | |
| **E_CFT_QUERY_FAIL** | |

# storage-pool-aggregate-get-iter

[top]

This is a ZAPI used to iterate over a list of aggregates provisioned from storage pool.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-pool-aggregate-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-pool-aggregate-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-pool object. All storage-pool objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-pool-aggregate-info[] optional | The list of attributes of storage-pool objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-pool objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# storage-pool-available-capacity-get-iter

[top]

This is a ZAPI used to iterate over all available capacities available on each node in the cluster. These available capacities are listed per storage pool on each node.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-pool-available-capacity-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-pool-available-capacity-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-pool object. All storage-pool objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-pool-available-capacity-info[] optional | The list of attributes of storage-pool objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-pool objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# storage-pool-create

[top]

Create a storage pool. Capacity can be allocated to aggregates from these storage pools using 'aggr-add'.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **disk-count** | | integer optional | The number of disks that are part of the storage pool. |
| **disk-list** | | disk-name[] optional | List of spare disks that should be used to create the storage pool. |
| | | | Usable size of the disk in bytes. Disks that are within 5% of the |

| | | | |
|---|---|---|---|
| **disk-size** | | size optional | specified size will be selected for use in the storage pool. If it is not specified smallest disks are selected first. This option cannot be used with \"disk-list\". |
| **nodes** | | node-name[] optional | The list of nodes in which the storage pool resides. |
| **simulate** | | boolean optional | Simulate the creation of storage pool. If set to \"true\", new storage pool won't be created but returns the minimum allocation unit size of the storage pool that would have been created. Selected disk list would also be returned for the disk-count option. By default, simulate option is set to false. |
| **storage-pool** | | string | Name of the storage pool to be created. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | The ID of the job that was spawned to create this storage-pool. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed. |
| **selected-allocation-unit-size** | | size optional | Minimum allocation unit size of the storage pool that would have been created. |
| **selected-disks** | | disk-name[] optional | List of spare disks selected for the storage pool that would have been created. |

| Errno | Description |
|---|---|
| **E_CFT_PRECOMMIT_PHASE** | |
| **E_CFT_QUERY_FAIL** | |

# storage-pool-delete

[top]

Delete the specified storage pool. A job will be spawned to operate on the storage-pool and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **storage-pool** | | string | Name of the storage pool to be deleted. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# storage-pool-disk-get-iter

[top]

This is a ZAPI used to iterate over all disks in storage pool. These disks are listed per Storage Pool

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-pool-disk-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | storage-pool-disk-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-pool object. All storage-pool objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | storage-pool-disk-info[] optional | The list of attributes of storage-pool objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more storage-pool objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# storage-pool-get-iter

[top]

This is a ZAPI used to iterate over all the storage pools in the cluster and retrieve attributes of individual storage pool.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired- | | storage-pool- | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | info optional | present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-pool-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-pool object. All storage-pool objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-pool-info[] optional | The list of attributes of storage-pool objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-pool objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# storage-pool-reassign

[top]

Reassign capacity from one node to another node in storage pool A job will be spawned to operate on the storage-pool and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allocation-units** | **[1..4]** | integer | The available capacity to be assigned in the form of count that is multiple of 'allocation-unit-size'. Available capacity can be found through API 'storage-pool-available-capacity-get-iter' where allocation unit size and total number of allocation units will be specified. |
| **from-node** | | node-name | The node that owns the available capacity which needs to be re-assigned. The amount of available capacity owned by a Node can be determined using the fields 'allocation-units' and 'allocation-unit-size' from the 'storage-pool-available-capacity-get-iter' API. Capacity can be re-assigned only in multiples of 'allocation-unit-size' |
| **storage-pool** | | string | The cluster-wide unique name of the storage pool. |
| **to-node** | | node-name | The node to which the capacity will be assigned. To view the existing free space in the node, use 'storage-pool-available-capacity-get-iter' |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |

| | | | |
|---|---|---|---|
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## storage-pool-rename

[top]

Rename storage pool

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-name** | | storage-pool-name | New name of the storage pool. |
| **storage-pool** | | string | The cluster-wide unique name of the storage pool. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## Element definition: **aggregate-autogrow-info**

[top]

Information of aggregates that will auto-grow

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-names** | | aggr-name[] optional | The name of the aggregates that would auto-grow. Attributes: non-creatable, modifiable |
| **aggregate-new-sizes** | | size[] optional | The new size of the aggregates in bytes after adding the disks to storage pool. Attributes: non-creatable, modifiable |
| **aggregate-sizes** | | size[] optional | The current size of the aggregates in bytes. Attributes: non-creatable, modifiable |

## Element definition: **disk-name**

[top]

Disk path name

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **storage-pool-aggregate-info** [top]

Storage Pool Aggregate Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | Name of aggregate which has provisioned capacity from the storage pool. Attributes: key, non-creatable, non-modifiable |
| **allocated-unit-count** | **[0..2^32-1]** | integer optional | Number of Allocation Units assigned to the Aggregate. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node which is hosting the provisioned aggregate. Attributes: non-creatable, non-modifiable |
| **original-owner** | | string optional | Node which is original owner of the provisioned Aggregate. Attributes: non-creatable, non-modifiable |
| **storage-pool** | | string optional | The cluster-wide unique name of the storage pool. Attributes: key, non-creatable, non-modifiable |
| **used-capacity** | | size optional | Capacity provisioned by aggregate from storage pool. Attributes: non-creatable, non-modifiable |

## Element definition: **storage-pool-available-capacity-info** [top]

Storage Pool Available Capacity Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **allocation-unit-count** | **[0..2^32-1]** | integer optional | The total number of units which can be allocated as spare capacity for aggregates. Size of these units are defined by field 'allocation-unit-size' Attributes: non-creatable, non-modifiable |
| **allocation-unit-size** | | size optional | Minimum size that can be allocated from the storage pool. Attributes: non-creatable, non-modifiable |
| **available-size** | | size optional | The total available capacity in bytes available on a given node in the storage pool. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | The name of the node which has available capacity. Attributes: key, non-creatable, non-modifiable |
| **storage-pool** | | string optional | The cluster-wide unique name of the storage pool. Attributes: key, non-creatable, non-modifiable |
| **storage-type** | | string optional | The type of the disks that constitute the storage pool. Attributes: non-creatable, non-modifiable Possible values:<br>• "ssd" - Solid-State Disk |
| **syncmirror-pool** | | string optional | The name of the SyncMirror pool. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-pool-disk-info**

[top]

Information of disk in Storage Pool When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **disk** | | disk-name optional | Name of the disk Attributes: key, non-creatable, non-modifiable |
| **disk-total-size** | | size optional | Total raw capacity of this disk in bytes Attributes: non-creatable, non-modifiable |
| **disk-type** | | string | Disk interface type Attributes: non-creatable, non-modifiable Possible values:<br>• "ata" - Advanced Technology Attachment,<br>• "bsas" - Bridged Serial Attached SCSI (bridged from SATA),<br>• "fcal" - Fibre Channel Arbitrated Loop,<br>• "fsas" - High-Capacity (Fat) Serial Attached SCSI,<br>• "lun" - SCSI Logical Unit Number (e.g. Array),<br>• "sas" - Serial Attached SCSI,<br>• "msata" - Multiple bridged SATA disks in a single carrier,<br>• "ssd" - Solid-State Disk, |

| | | | |
|---|---|---|---|
| | | optional | • "vmdisk" - Hypervisor Virtual Disk,<br>• "unknown" - unknown,<br>• "ssd_nvm" - Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_dc" - Data Center Non-Volatile Memory Express Solid-State Disk,<br>• "ssd_cap" - High Capacity Solid-State Disk,<br>• "vmlun" - Hypervisor Virtual LUN,<br>• "vmlun_ssd" - Hypervisor Virtual SSD LUN,<br>• "ssd_zns" - Zoned Namespaces Solid-State Disk |
| **disk-usable-size** | | size optional | Total usable capacity of this disk in bytes Attributes: non-creatable, non-modifiable |
| **storage-pool** | | string optional | The cluster-wide unique name of the storage pool. Attributes: key, non-creatable, non-modifiable |

# Element definition: **storage-pool-info**

[top]

Storage Pool Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **allocation-unit-data-size-raid-dp** | | size optional | Data size that will be available after allocation unit is used for RAID-DP group. Attributes: non-creatable, non-modifiable |
| **allocation-unit-data-size-raid-tec** | | size optional | Data size that will be available after allocation unit is used for RAID-TEC group. Attributes: non-creatable, non-modifiable |
| **allocation-unit-data-size-raid4** | | size optional | Data size that will be available after allocation unit is used for RAID4 or RAID-EP group. Attributes: non-creatable, non-modifiable |
| **allocation-unit-size** | | size optional | Minimum size that can be allocated from the storage pool. Attributes: non-creatable, non-modifiable |
| **current-operation-job-id** | **[0..2^64-1]** | integer optional | Job ID of the currently running operation on the storage pool. Attributes: non-creatable, non-modifiable |
| **disk-count** | **[0..2^32-1]** | integer optional | The number of disks that are part of the storage pool. Attributes: optional-for-create, non-modifiable |
| **is-healthy** | | boolean optional | If \"true\", provisioning is allowed from the storage pool. Attributes: non-creatable, non-modifiable |
| **nodes** | | node-name[] optional | The list of nodes in which the storage pool resides. Attributes: optional-for-create, non-modifiable |
| **pool-state** | | storagepoolstate | State of the storage pool. Attributes: non-creatable, non-modifiable Possible values:<br>• "normal" ,<br>• "degraded" , |

| | | | |
|---|---|---|---|
| | | optional | "creating" ,<br>• "deleting" ,<br>• "reassigning" ,<br>• "growing" |
| **pool-total-size** | | size<br>optional | The total size in bytes of the storage pool. Attributes: non-creatable, non-modifiable |
| **pool-usable-size** | | size<br>optional | The amount of usable size in bytes in the storage pool. Attributes: non-creatable, non-modifiable |
| **storage-pool** | | string<br>optional | The cluster-wide unique name of the storage pool. Attributes: key, required-for-create, non-modifiable |
| **storage-type** | | string<br>optional | The type of the disks that constitute the storage pool. Attributes: non-creatable, non-modifiable Possible values:<br>• "ssd" - Solid-State Disk |
| **unhealthy-reason** | | string<br>optional | Specifies the reason why the storage pool is unhealthy. Attributes: non-creatable, non-modifiable |

## Element definition: **storage-pool-name** [top]

Name of the storage pool

[none]

## Element definition: **aggr-name** [top]

Name of the aggregate

[none]

## Element definition: **disk-name** [top]

Disk path name

[none]

## Element definition: **node-name** [top]

The node's name

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **storagepoolstate**

[top]

State of the Storage Pool Possible values:

- "normal" ,
- "degraded" ,
- "creating" ,
- "deleting" ,
- "reassigning" ,
- "growing"

[none]

# APIs in Category: **storage-port**


storage-port-disable
storage-port-enable
storage-port-info-get
storage-port-info-get-iter
storage-port-rescan
storage-port-reset
storage-port-reset-device


This set of ZAPIs allows management of storage ports.

## storage-port-disable

[top]

Disable a storage port

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean | Force |
| **node** | | node-name | Node |
| **port** | | string | Port |

| Errno | Description |
|---|---|
| **ESTORAGEPORTOPFAILED** | |
| **ESTORAGEPORTINVALID** | |
| **ESTORAGEPORTOPNOTALLOWED** | |
| **ESTORAGEPORTSTATUSNOTAVAILABLE** | |
| **ESTORAGEPORTALREADYOFFLINE** | |
| **ESTORAGEPORTDISKCURRENTLYSANITIZING** | |
| **ESTORAGEPORTLASTPATHTODISK** | |
| **ESTORAGEPORTINUSE** | |
| **ESTORAGEPORTNETWORKMODE** | |

## storage-port-enable

[top]

Enable a storage port

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node |
| **port** | | string | Port |

| Errno | Description |
|---|---|
| **ESTORAGEPORTOPFAILED** | |
| **ESTORAGEPORTINVALID** | |
| **ESTORAGEPORTOPNOTALLOWED** | |

| Errno | Description |
|---|---|
| ESTORAGEPORTSTATUSNOTAVAILABLE | |
| ESTORAGEPORTNOTOFFLINE | |
| ESTORAGEPORTNETWORKMODE | |

# storage-port-info-get

[top]

Get information about a specified storage port.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-port-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| node | | node-name | The cluster node where the storage port is located. |
| port | | string | The name of the port. Example: '0a', '1b', etc. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | storage-port-info | The attributes of the storage-port. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# storage-port-info-get-iter

[top]

Get information about one or more storage ports.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-port-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | storage-port-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-port object. All storage-port objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | storage- | |

| | | | |
|---|---|---|---|
| **attributes-list** | | port-info[] optional | The list of attributes of storage-port objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-port objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# storage-port-rescan

[top]

Rescan a storage port

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node |
| **port** | | string | Port |

| Errno | Description |
|---|---|
| **ESTORAGEPORTOPFAILED** | |
| **ESTORAGEPORTINVALID** | |
| **ESTORAGEPORTOPNOTALLOWED** | |

# storage-port-reset

[top]

Reset a storage port

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node |
| **port** | | string | Port |

| Errno | Description |
|---|---|
| **ESTORAGEPORTOPFAILED** | |
| **ESTORAGEPORTINVALID** | |
| **ESTORAGEPORTOPNOTALLOWED** | |

# storage-port-reset-device

[top]

Reset a device behind a storage port

| Input Name | Range | Type | Description |
|---|---|---|---|
| **bay-id** | | integer | Bay ID |

| | | | |
|---|---|---|---|
| | | optional | |
| **loop-id** | | integer optional | Loop ID |
| **node** | | node-name | Node |
| **port** | | string | Port |
| **shelf-name** | | string optional | Shelf Name |

| Errno | Description |
|---|---|
| **ESTORAGEPORTDEVOPFAILED** | |
| **ESTORAGEPORTDEVINVALID** | |
| **ESTORAGEPORTINVALID** | |
| **ESTORAGEPORTOPNOTALLOWED** | |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **storage-port-info**

[top]

Storage port information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **board-name** | | string optional | The board name of the adapter. Attributes: non-creatable, non-modifiable |
| **cable-end-id** | | shelf-cable-end optional | The cable end identifier (end_0/end_1). Attributes: non-creatable, non-modifiable Possible values:<br>• "end_0" - end 0,<br>• "end_1" - end 1 |
| **cable-identifier** | | string optional | The cable identifier. Attributes: non-creatable, non-modifiable |
| **cable-length** | | string optional | The cable length in meters. Attributes: non-creatable, non-modifiable |
| **connection-** | | storage-port-connection- | The connection mode of the port (loop/point-to-point). Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **mode** | | mode optional | "unknown" - The port connection mode is unknown,<br>• "loop" - Loop,<br>• "point_to_point" - Point-to-point |
| **connector-capabilities-array** | | connector-capabilities-info[] optional | Connector Capabilities information. |
| **connector-part-number** | | string optional | The connector part number. Attributes: non-creatable, non-modifiable |
| **connector-serial-number** | | string optional | The connector serial number. Attributes: non-creatable, non-modifiable |
| **connector-technology** | | sas-connector-technology optional | The connector technology (passive-copper/active-copper/optical). Attributes: non-creatable, non-modifiable Possible values:<br>• "active_copper" - Active Copper,<br>• "passive_copper" - Passive Copper,<br>• "optical" - Optical |
| **connector-type** | | connector-type optional | The connector type (qsfp/qsfp-plus/mini-sas-hd/sfp). Attributes: non-creatable, non-modifiable Possible values:<br>• "qsfp" - QSFP,<br>• "qsfp_plus" - QSFP+,<br>• "mini_sas_hd" - Mini-SAS HD,<br>• "sfp" - SFP,<br>• "qsfp28" - QSFP28 |
| **connector-vendor** | | string optional | The connector vendor. Attributes: non-creatable, non-modifiable |
| **corrective-action** | | string optional | The corrective action to perform, in case of a port error. Attributes: non-creatable, non-modifiable |
| **date-code** | | string optional | The date code of the adapter. Attributes: non-creatable, non-modifiable |
| **description** | | string optional | A detailed description of the port. Attributes: non-creatable, non-modifiable |
| **device-type** | | string optional | The device type. Attributes: non-creatable, non-modifiable |
| **error-severity** | | storage-shelf-error-severity optional | The severity of the port error, in case of a port error. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The error severity is unknown,<br>• "notice" - A normal-priority message, does not indicate a fault,<br>• "warning" - A high-priority warning message, does not indicate a fault,<br>• "error" - A fault condition which is not immediately fatal but requires immediate attention,<br>• "critical" - A critical fault condition, typically disruptive |
| **error-text** | | string optional | The error text of the port error, in case of a port error. Attributes: non-creatable, non-modifiable |
| | | storage-port- | The error type of the port error, in case of a port error. Example: 'online-degraded'. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The port status is unknown, |

| | | | |
|---|---|---|---|
| **error-type** | | status optional | • "online" - The port is online,<br>• "online_degraded" - The port is online, but in a degraded state,<br>• "offline" - The port is offline,<br>• "link_down" - The link connected to the port is down |
| **firmware-rev** | | string optional | The firmware revision running on the adapter. Attributes: non-creatable, non-modifiable |
| **is-dedicated** | | boolean optional | Is Dedicated Storage Port? Attributes: non-creatable, non-modifiable |
| **mac-address** | | string optional | The MAC address of the RDMA port. Attributes: non-creatable, non-modifiable |
| **mfg-part-number** | | string optional | The manufacturer part number of the adapter. Attributes: non-creatable, non-modifiable |
| **mode** | | storage-port-mode optional | The mode of the port (storage/network). Attributes: non-creatable, modifiable Possible values:<br>• "storage" ,<br>• "network" |
| **node** | | node-name optional | The cluster node where the storage port is located. Attributes: key, non-creatable, non-modifiable |
| **nvdata-rev** | | string optional | The NVDATA revision running on the adapter. Attributes: non-creatable, non-modifiable |
| **part-number** | | string optional | The part number of the adapter. Attributes: non-creatable, non-modifiable |
| **phys** | | phy-info[] optional | Returns SAS port phy information. |
| **port** | | string optional | The name of the port. Example: '0a', '1b', etc. Attributes: key, non-creatable, non-modifiable |
| **port-speed** | | storage-port-speed optional | The link speed of the port in Gb/s. Attributes: non-creatable, non-modifiable Possible values:<br>• "0" - 0 Gb/s,<br>• "1" - 1 Gb/s,<br>• "1_5" - 1.5 Gb/s,<br>• "2" - 2 Gb/s,<br>• "3" - 3 Gb/s,<br>• "4" - 4 Gb/s,<br>• "6" - 6 Gb/s,<br>• "8" - 8 Gb/s,<br>• "10" - 10 Gb/s,<br>• "12" - 12 Gb/s,<br>• "16" - 16 Gb/s,<br>• "32" - 32 Gb/s,<br>• "2_5" - 2.5 Gb/s,<br>• "5" - 5 Gb/s,<br>• "14" - 14 Gb/s,<br>• "25" - 25 Gb/s,<br>• "40" - 40 Gb/s,<br>• "100" - 100 Gb/s |
| **port-type** | | storage-port-type optional | The type of the port (SAS/FC) Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The port type is unknown,<br>• "sas" - SAS,<br>• "fc" - FC,<br>• "enet" - ENET |

| | | | |
|---|---|---|---|
| **serial-number** | | string optional | The serial number of the adapter. Attributes: non-creatable, non-modifiable |
| **state** | | storage-port-state optional | The configured state of the port (enabled/disabled). Attributes: non-creatable, non-modifiable Possible values:<br>• "enabled" ,<br>• "disabled" ,<br>• "enable_pending" ,<br>• "disable_pending" |
| **status** | | storage-port-status optional | The operational status of the port (online/online-degraded/offline/link-down). Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The port status is unknown,<br>• "online" - The port is online,<br>• "online_degraded" - The port is online, but in a degraded state,<br>• "offline" - The port is offline,<br>• "link_down" - The link connected to the port is down |
| **vlan-id** | **[30..31]** | integer optional | VLAN ID Attributes: non-creatable, non-modifiable |
| **wwn** | | string optional | The World Wide Name of the port. Example: '50:0a:09:80:00:81:04:ee' Attributes: non-creatable, non-modifiable |
| **wwnn** | | string optional | The World Wide Node Name of the port. Example: '50:0a:09:80:00:81:04:ee' Attributes: non-creatable, non-modifiable |
| **wwpn** | | string optional | The World Wide Port Name of the port. Example: '50:0a:09:80:00:81:04:ee' Attributes: non-creatable, non-modifiable |

# Element definition: **connector-capabilities-info**

[top]

Connector Capabilities information.

| Name | Range | Type | Description |
|---|---|---|---|
| **connector-capabilities** | **[0..2^32-1]** | integer optional | The connector capabilities in Gb/s. Attributes: non-creatable, non-modifiable |

# Element definition: **connector-type**

[top]

QSFP|QSFP+|QSFP28|Mini-SAS HD|SFP Possible values:

- "qsfp" - QSFP,
- "qsfp_plus" - QSFP+,
- "mini_sas_hd" - Mini-SAS HD,
- "sfp" - SFP,
- "qsfp28" - QSFP28

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **phy-info**

[top]

Returns SAS port phy information.

| Name | Range | Type | Description |
|---|---|---|---|
| **phy-id** | **[0..2^32-1]** | integer optional | The ID of the phy (0-3). Attributes: non-creatable, non-modifiable |
| **phy-speed** | | storage-port-speed optional | The link speed of the phy in Gb/s. Attributes: non-creatable, non-modifiable Possible values:<br>• "0" - 0 Gb/s,<br>• "1" - 1 Gb/s,<br>• "1_5" - 1.5 Gb/s,<br>• "2" - 2 Gb/s,<br>• "3" - 3 Gb/s,<br>• "4" - 4 Gb/s,<br>• "6" - 6 Gb/s,<br>• "8" - 8 Gb/s,<br>• "10" - 10 Gb/s,<br>• "12" - 12 Gb/s,<br>• "16" - 16 Gb/s,<br>• "32" - 32 Gb/s,<br>• "2_5" - 2.5 Gb/s,<br>• "5" - 5 Gb/s,<br>• "14" - 14 Gb/s,<br>• "25" - 25 Gb/s,<br>• "40" - 40 Gb/s,<br>• "100" - 100 Gb/s |
| **phy-state** | | enable optional | The state of the phy (enabled/disabled). Attributes: non-creatable, non-modifiable |
| **phy-status** | | storage-port-phy-status optional | The operational status of the phy (unknown/online/offline/speed-negotiation-failed/sata-oob-failed). Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The phy status is unknown,<br>• "online" - The phy is online,<br>• "offline" - The phy is offline,<br>• "speed_negotiation_failed" - The speed negotiation on this phy failed,<br>• "sata_oob_failed" - The SATA OOB on this port failed |

## Element definition: **sas-connector-technology** [top]

active-copper|passive-copper|optical Possible values:

- "active_copper" - Active Copper,
- "passive_copper" - Passive Copper,
- "optical" - Optical

[none]

## Element definition: **shelf-cable-end** [top]

end_0|end_1 Possible values:

- "end_0" - end 0,
- "end_1" - end 1

[none]

## Element definition: **storage-port-connection-mode** [top]

Unknown|Loop|Point-to-point Possible values:

- "unknown" - The port connection mode is unknown,
- "loop" - Loop,
- "point_to_point" - Point-to-point

[none]

## Element definition: **storage-port-mode** [top]

storage|network Possible values:

- "storage" ,
- "network"

[none]

## Element definition: **storage-port-speed** [top]

0|1|1.5|2|2.5|3|4|5|6|8|10|12|14|16|25|32|40|100 Possible values:

- "0" - 0 Gb/s,
- "1" - 1 Gb/s,
- "1_5" - 1.5 Gb/s,
- "2" - 2 Gb/s,
- "3" - 3 Gb/s,
- "4" - 4 Gb/s,
- "6" - 6 Gb/s,
- "8" - 8 Gb/s,
- "10" - 10 Gb/s,
- "12" - 12 Gb/s,
- "16" - 16 Gb/s,
- "32" - 32 Gb/s,
- "2_5" - 2.5 Gb/s,
- "5" - 5 Gb/s,
- "14" - 14 Gb/s,
- "25" - 25 Gb/s,
- "40" - 40 Gb/s,
- "100" - 100 Gb/s

[none]

# Element definition: **storage-port-state**

[top]

enabled|disabled|enable-pending|disable-pending Possible values:

- "enabled" ,
- "disabled" ,
- "enable_pending" ,
- "disable_pending"

[none]

# Element definition: **storage-port-status**

[top]

unknown|online|online-degraded|offline|link-down Possible values:

- "unknown" - The port status is unknown,
- "online" - The port is online,
- "online_degraded" - The port is online, but in a degraded state,
- "offline" - The port is offline,
- "link_down" - The link connected to the port is down

[none]

# Element definition: **storage-port-type**

[top]

Unknown|SAS|FC|ENET Possible values:

- "unknown" - The port type is unknown,
- "sas" - SAS,
- "fc" - FC,
- "enet" - ENET

[none]

## Element definition: **storage-shelf-error-severity**

[top]

unknown|notice|warning|error|critical Possible values:

- "unknown" - The error severity is unknown,
- "notice" - A normal-priority message, does not indicate a fault,
- "warning" - A high-priority warning message, does not indicate a fault,
- "error" - A fault condition which is not immediately fatal but requires immediate attention,
- "critical" - A critical fault condition, typically disruptive

[none]

## Element definition: **enable**

[top]

'enabled' or 'disabled'

[none]

## Element definition: **storage-port-phy-status**

[top]

unknown|online|offline|speed-negotiation-failed|sata-oob-failed Possible values:

- "unknown" - The phy status is unknown,
- "online" - The phy is online,
- "offline" - The phy is offline,
- "speed_negotiation_failed" - The speed negotiation on this phy failed,
- "sata_oob_failed" - The SATA OOB on this port failed

[none]

APIs in Category: **storage-shelf**


storage-shelf-acp-configure
storage-shelf-acp-firmware-update
storage-shelf-acp-get
storage-shelf-acp-get-iter
storage-shelf-acp-module-get
storage-shelf-acp-module-get-iter
storage-shelf-drawer-get
storage-shelf-drawer-get-iter
storage-shelf-drawer-phy-get
storage-shelf-drawer-phy-get-iter
storage-shelf-drawer-slot-get
storage-shelf-drawer-slot-get-iter
storage-shelf-firmware-update
storage-shelf-firmware-update-end
storage-shelf-firmware-update-init-abort
storage-shelf-info-get
storage-shelf-port-get
storage-shelf-port-get-iter
storage-shelf-resilver-init
storage-shelf-resilver-list-results
storage-shelf-resilver-list-results-iter
storage-shelf-set-time


This set of ZAPIs allows management of cluster-wide storage shelves.

### storage-shelf-acp-configure

[Back]

Configure connection.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **channel** | | storage-shelf-acp-channel | The channel to which the connection needs to be configured (in-band/out-of-band). Possible values:<br>• "out_of_band" - The connection type is out-of-band,<br>• "in_band" - The connection type is in-band. |
| **is-enabled** | | bool | The state to which the connection needs to be configured (true/false). |
| **netmask** | | ip-address | The netmask that the configuration will use to setup connection (type: IPv4). |
| **subnet** | | ip-address | The subnet that the configuration will use to setup connection (type: IPv4). |

| Errno | Description |
|---|---|
| **ESTORAGEACPBUILDCREATEREPORT** | |
| **ESTORAGEINVALIDENUMBER** | |
| **ESTORAGEINVALIDIDENTIFIER** | |
| **ESTORAGEACPNOSUCHINSTANCE** | |
| **ESTORAGEACPPROPGATEINPROGRESS** | |
| **STORAGEACPACPPBBOOTING** | |
| **STORAGEACPBUILDPOWERDOFF** | |
| **STORAGEACPCHANNELUNSPECIFIED** | |

### storage-shelf-acp-firmware-update

[Back]

Start shelf firmware download process to update firmware on disk shelves. This operation is asynchronous, and therefore returns no errors that might occur during the download process. This operation will only update firmware on shelves that do not have the latest firmware revision.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **module-name** | | string | The module name. Example: 1.10.A |
| **node-name** | | node-name | The node that has alternate control path configured |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

### storage-shelf-acp-get

[Back]

Return the connectivity of the node. A return status of Full-Connectivity means, that the connection is properly configured and fully working. Any other status means that an error is seen.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-shelf-acp-connection | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node that has alternate control path configured. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | storage-shelf-acp-connection | The attributes of the storage-shelf. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

### storage-shelf-acp-module-get

[Back]

return the first module

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-shelf-acp-module | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | The node that has alternate control path configured |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | storage-shelf-acp-module | The attributes of the storage-shelf. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

### storage-shelf-acp-module-get-iter

[Back]

return the module list

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-shelf-acp-module | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-shelf-acp-module | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned. |
| **tag** | | string | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-shelf-acp-module | The list of attributes of storage-shelf objects. |
| **next-tag** | | string | Tag for the next call. Not present when there are no more storage-shelf objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

### storage-shelf-drawer-get

[Back]

Get drawer information about a specified storage shelf drawer.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-shelf-drawer-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **drawer** | [0..2^32-1] | integer | Drawer Number |
| **shelf** | | string | Shelf Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | storage-shelf-drawer-info | The attributes of the storage-shelf. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

### storage-shelf-drawer-get-iter

[Back]

Get drawer information about one or more storage shelf drawers.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-shelf-drawer-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-shelf-drawer-info | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned. |
| **tag** | | string | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-shelf-drawer-info | The list of attributes of storage-shelf objects. |
| **next-tag** | | string | Tag for the next call. Not present when there are no more storage-shelf objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

### storage-shelf-drawer-phy-get

[Back]

Get phy information about a specified storage shelf drawer phy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-shelf-drawer-phy-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **drawer** | [0..2^32-1] | integer | Drawer Number |
| **phy** | [0..2^32-1] | integer | PHY Number |
| **shelf** | | string | Shelf Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | storage-shelf-drawer-phy-info | The attributes of the storage-shelf. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

### storage-shelf-drawer-phy-get-iter

[Back]

Get phy information about one or more storage shelf drawer phys.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-shelf-drawer-phy-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-shelf-drawer-phy-info | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned. |
| **tag** | | string | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-shelf-drawer-phy-info | The list of attributes of storage-shelf objects. |
| **next-tag** | | string | Tag for the next call. Not present when there are no more storage-shelf objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

### storage-shelf-drawer-slot-get

[Back]

Get a map between bay number and drawer/slot number.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **bay** | [0..2^32-1] | integer | Bay Number |
| **desired-attributes** | | storage-shelf-drawer-slot-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **shelf** | | string | Shelf Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | storage-shelf-drawer-slot-info | The attributes of the storage-shelf. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

### storage-shelf-drawer-slot-get-iter

[Back]

Get a map between bay number and drawer/slot number.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-shelf-drawer-slot-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-shelf-drawer-slot-info | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned. |
| **tag** | | string | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-shelf-drawer-slot-info | The list of attributes of storage-shelf objects. |
| **next-tag** | | string | Tag for the next call. Not present when there are no more storage-shelf objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

### storage-shelf-firmware-update

Start shelf firmware download process to update firmware on disk shelves. This operation is asynchronous, and therefore returns no errors that might occur during the download process. This operation will only update firmware on shelves that do not have the latest firmware revision.

| Input Name | Range | Type | Description |
|---|---|---|---|
| module-type | | shelf-module-type enumeration | All the shelves in the cluster with this module type will be updated. Possible values:<br>• "ot_5x" - AT-FC6 Module Type,<br>• "ioh1" - IOM3 Module Type,<br>• "ioh2" - IOM12 Module Type,<br>• "ioh3" - IOM6E Module Type,<br>• "ioxm" - IOM9E Module Type,<br>• "ioxl12" - IOM12 Module Type,<br>• "ioxl24" - IOM12E Module Type,<br>• "ioxl12f" - IOM12F Module Type,<br>• "ioxm200" - NSM100 Module Type,<br>• "ioxm400" - NSM400 Module Type,<br>• "ioxm24" - NSM24 Module Type<br>• "ioxl2g" - IOM12G Module Type |
| shelf | | string enumeration | Shelf Name of the shelf that needs to be updated. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

### storage-shelf-firmware-update-info-get

Storage shelf firmware update status record.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-shelf-firmware-update-info enumeration | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| node | | filer-id | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | storage-shelf-firmware-update-info | The attributes of the storage-shelf-firmware-update. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

### storage-shelf-firmware-update-info-get-iter

Storage shelf firmware update status records.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-shelf-firmware-update-info enumeration | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer | The maximum number of records to return in this call. Default: 20 |
| query | | storage-shelf-firmware-update-info enumeration | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf-firmware-update object. All storage-shelf-firmware-update objects matching this query up to 'max-records' will be returned. |
| tag | | string enumeration | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | storage-shelf-firmware-update-info[] enumeration | The list of attributes of storage-shelf-firmware-update objects. |
| next-tag | | string enumeration | Tag for the next call. Not present when there are no more storage-shelf-firmware-update objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

### storage-shelf-info-get

Get shelf information about a specified storage shelf.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-shelf-info enumeration | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| shelf | | string | Shelf Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | storage-shelf-info | The attributes of the storage-shelf. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

### storage-shelf-info-get-iter

Get shelf information about one or more storage shelves.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-shelf-info enumeration | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer enumeration | The maximum number of records to return in this call. Default: 20 |
| query | | storage-shelf-info enumeration | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned. |
| tag | | string enumeration | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | storage-shelf-info[] enumeration | The list of attributes of storage-shelf objects. |
| next-tag | | string enumeration | Tag for the next call. Not present when there are no more storage-shelf objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

### storage-shelf-location-led-get

Get the Location LED status of a shelf

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-shelf-location-led-info enumeration | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| shelf-name | | string enumeration | Shelf Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes | | storage-shelf-location-led-info | The attributes of the storage-shelf. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

### storage-shelf-location-led-get-iter

Get the Location LED status of one or more shelves.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-shelf-location-led-info enumeration | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer enumeration | The maximum number of records to return in this call. Default: 20 |
| query | | storage-shelf-location-led-info enumeration | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned. |
| tag | | string enumeration | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | storage-shelf-location-led-info[] enumeration | The list of attributes of storage-shelf objects. |
| next-tag | | string enumeration | Tag for the next call. Not present when there are no more storage-shelf objects to return. |
| num-records | [0..2^32-1] | integer enumeration | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EINVALLIDINPUTERROR | |
| EINTERNALERROR | |

### storage-shelf-location-led-modify

Modify the state of the Location LED

| Input Name | Range | Type | Description |
|---|---|---|---|
| led-status | | storage-shelf-led-status enumeration | Location LED Possible values:<br>• "off",<br>• "on",<br>• "unsupported" |
| shelf-name | | string enumeration | Shelf Name |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINVALLIDINPUTERROR | |
| EINTERNALERROR | |

### storage-shelf-location-led-modify-iter

Modify the state of the Location LED of one or more shelves

| Input Name | Range | Type | Description |
|---|---|---|---|
| attributes | | storage-shelf-location-led-info | Specify at least one modifiable element. Do not specify any other element. |
| continue-on-failure | | boolean | This input element is useful when multiple storage-shelf objects match a given query. If set to true, the API will continue modifying the next matching storage-shelf even when modification of a previous storage-shelf fails. If set to false, the API will return on the first failure. Default: false |
| max-failure-count | [1..2^32-1] | integer enumeration | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching storage-shelf even when the modification of a previous matching storage-shelf fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| max-records | [1..2^32-1] | integer enumeration | The maximum number of objects to be modified in this call. Default: 20 |
| query | | storage-shelf-location-led-info enumeration | If modifying a specific storage-shelf, this input element must specify all keys. If modifying storage-shelf objects based on query, this input element must specify a query. |
| return-failure-list | | boolean enumeration | If set to true, the API will return the list of storage-shelf objects (just keys) that were not modified due to some error. If set to false, the list of storage-shelf objects not modified will not be returned. Default: true |
| return-success-list | | boolean enumeration | If set to true, the API will return the list of storage-shelf objects (just keys) that were successfully updated. If set to false, the list of storage-shelf objects modified will not be returned. Default: true |
| tag | | string enumeration | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| failure-list | | storage-shelf-location-led-modify-iter-info[] enumeration | Information about storage-shelf objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| next-tag | | string enumeration | Tag for the next call. Not present when there are no more matching storage-shelf objects to be modified. |
| num-failed | [0..2^32-1] | integer enumeration | Number of storage-shelf objects that matched the query, but were not modified due to some error. |
| num-succeeded | [0..2^32-1] | integer enumeration | The number of storage-shelf objects that matched the query and were successfully updated. |
| success-list | | storage-shelf-location-led-modify-iter-info[] enumeration | The storage-shelf objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EINVALLIDINPUTERROR | |

### storage-shelf-port-get-iter

Get information about one or more storage shelf ports.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | storage-shelf-port-info enumeration | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer enumeration | The maximum number of records to return in this call. Default: 20 |
| query | | storage-shelf-port-info enumeration | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf object. All storage-shelf objects matching this query up to 'max-records' will be returned. |
| tag | | string enumeration | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | storage-shelf-port-info[] enumeration | The list of attributes of storage-shelf objects. |
| next-tag | | string enumeration | Tag for the next call. Not present when there are no more storage-shelf objects to return. |
| num-records | [0..2^32-1] | integer enumeration | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

Element definition: **channel-config-enum**

out-of-band/in-band Possible values:
- "out_of_band" - The connection type is out-of-band,
- "in_band" - The connection type is in-band

[name]

Element definition: **filer-id**

Filer UUID

[name]

Element definition: **ip-address**

IPv4 and IPv6 address

[name]

Element definition: **node-name**

The node's name

[read]

Element definition: **shelf-module-type**

enfield|ns9-f|ns12|ns48|ns48e|ns4-f12|ns4-f24|ns4-f28|ns4-f30|ns4-f100|ns48e|ns41-2|- Possible values:

- "ns_fc" - ST-FC3 Module Type,
- "ns9sf" - ES6S Module Type,
- "ns9sm" - ES6M Module Type,
- "ns48" - ES9S Module Type,
- "ns48e" - ES9SE Module Type,
- "ns4-f12" - ES9F12 Module Type,
- "ns4-f24" - ES9F24 Module Type,
- "ns4-f28" - ES9F28 Module Type,
- "ns4-f30" - ES9F30 Module Type,
- "ns48e" - NS9SE Module Type,
- "ns4-f2" - ES9F220 Module Type

[read]

Element definition: **storage-shelf-acp-connection**

Show connectivity information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address** | | ip-address optional | The IP on which the configuration is done. Attributes: non-creatable, non-modifiable |
| **channel** | | channel-enum optional | The channel to which the connection is configured (in-band/out-of-band). Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The connection type is unknown,<br>• "out_of_band" - The connection type is out of band,<br>• "in_band" - The connection type is in band |
| **connection-status** | | connection-status-enum optional | The current connection status of configuration. Attributes: non-creatable, non-modifiable Possible values:<br>• "no_connectivity" - Error in connectivity. System is unable to see any connectivity,<br>• "partial_connectivity" - Error in connectivity. System is seeing partial connectivity,<br>• "full_connectivity" - No Error in connectivity. System is seeing full connectivity,<br>• "additional_connectivity" - Error in connectivity. System is seeing additional connectivity,<br>• "misconfigured" - Error in connectivity. System is seeing misconfiguration nature of error,<br>• "not_available" - Error in connectivity. System is unable to see connectivity,<br>• "active" - Connection is active. Applicable to in-band only.,<br>• "disabled" - Connection disabled. ACP needs to be configured |
| **corrective-action** | | string optional | The corrective action of the module. Attributes: non-creatable, non-modifiable |
| **error-id** | [0..2^32-1] | integer optional | The error ID, in case of a connection error. Attributes: non-creatable, non-modifiable |
| **error-severity** | | storage-shelf-error-severity optional | The error severity, in case of a connection error. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The error severity is unknown,<br>• "notice" - A normal-priority message, does not indicate a fault,<br>• "warning" - A high-priority warning message, does not indicate a fault,<br>• "error" - A fault condition which is not immediately fatal but requires immediate attention,<br>• "critical" - A critical fault condition, typically disruptive |
| **error-text** | | string optional | The error text. A high-level description of the error seen. Attributes: non-creatable, non-modifiable |
| **error-type** | | acp-error-type-enum optional | The error type, in case of a connection error (No-Error/Connection-Issue/Connection-Activity/Module-Error/Shelf-Error). Attributes: non-creatable, non-modifiable Possible values:<br>• "no_error" - No error found,<br>• "connection_issue" - System is reporting an error with the connection,<br>• "connection_activity" - Connection is active, but not active,<br>• "module_error" - The ACP processor is reporting an error,<br>• "shelf_error" - The shelf is reporting an error |
| **is-enabled** | | true-false optional | Configuration status. This is based on whether the user has configured ACP on clustered ONTAP (enabled/disabled). Attributes: non-creatable, non-modifiable |
| **netmask** | | ip-address optional | The netmask on which the configuration is done. Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | The node that has alternate control path configured. Attributes: key, non-creatable, non-modifiable |
| **port** | | string optional | The port on which the configuration is setup, usually eth. Attributes: non-creatable, non-modifiable |
| **subnet** | | ip-address optional | The subnet on which the configuration is done. Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-acp-module**

Show module information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **acp-id** | [0..2^32-1] | integer optional | The alternate-control-path-adress ID of the module. Attributes: non-creatable, non-modifiable |
| **adapter-name** | | string optional | Adapter Name Attributes: non-creatable, non-modifiable |
| **corrective-action** | | string optional | The corrective action of the module. Attributes: non-creatable, non-modifiable |
| **error-id** | [0..2^32-1] | integer optional | The error ID of the module, in case of a module error. A device can have multiple errors. Attributes: non-creatable, non-modifiable |
| **error-severity** | | storage-shelf-error-severity optional | The error severity of the module, in case of a module error. A device can have multiple errors, and each error is stored inside an array. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The error severity is unknown,<br>• "notice" - A normal-priority message, does not indicate a fault,<br>• "warning" - A high-priority warning message, does not indicate a fault,<br>• "error" - A fault condition which is not immediately fatal but requires immediate attention,<br>• "critical" - A critical fault condition, typically disruptive |
| **error-text** | | string optional | The error text of the module. Attributes: non-creatable, non-modifiable |
| **error-type** | | acp-error-type-enum optional | The error type of the module, in case of a module error. A device can have multiple errors, and each error is stored inside an array. Attributes: non-creatable, non-modifiable Possible values:<br>• "no_error" - No error found,<br>• "connection_issue" - System is reporting an error with the connection,<br>• "connection_activity" - Connection is active, but not active,<br>• "module_error" - The ACP processor is reporting an error,<br>• "shelf_error" - The shelf is reporting an error |
| **expander-power-cycle-count** | [0..2^32-1] | integer optional | The number of times an expander power cycle has been performed on a module Attributes: non-creatable, non-modifiable |
| **expander-reset-count** | [0..2^32-1] | integer optional | The number of times an expander reset has been performed on a module Attributes: non-creatable, non-modifiable |
| **firmware-version** | | string optional | The firmware version of the module. Attributes: non-creatable, non-modifiable |
| **ioxo-type** | | ioxo-type-enum optional | The IOM type of the module. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The processor is reporting an error, and is unaware of its type,<br>• "ioxo1" - The processor is of type IOXO,<br>• "ioxo2" - The processor is of type IOXO2,<br>• "ioxo6e" - The processor is of type IOXO6E,<br>• "ioxo12f" - The processor is of type IOXO12,<br>• "ioxo12fe" - The processor is of type IOXO12E,<br>• "ioxo12f" - The processor is of type IOXO12f,<br>• "ioxo12fe" - The processor is of type IOXO12e |
| **last-contact** | [0..2^60-1] | integer optional | The number of seconds before contact was made to the module. Attributes: non-creatable, non-modifiable |
| **mac-address** | | string optional | The MAC address of the module. Example: 00:a0:98:19:53:ee Attributes: non-creatable, non-modifiable |
| **module-address** | | ip_addr-list optional | The IP address through which the module is connected. Attributes: non-creatable, non-modifiable |
| **module-name** | | string optional | The adapter name. Example: 0a Attributes: non-creatable, non-modifiable |
| **node-name** | | node_name optional | The node that has alternate control path configured Attributes: key, non-creatable, non-modifiable |
| **power-cycle-count** | [0..2^32-1] | integer optional | The number of times a shelf power cycle has been performed on a shelf Attributes: non-creatable, non-modifiable |
| **power-off-count** | [0..2^32-1] | integer optional | The number of times a shelf power off has been performed on a shelf Attributes: non-creatable, non-modifiable |
| **power-on-count** | [0..2^32-1] | integer optional | The number of times a shelf power on has been performed on a shelf Attributes: non-creatable, non-modifiable |
| **protocol-version** | | string optional | Protocol Version Attributes: non-creatable, non-modifiable |
| **shelf-id** | | string optional | The shelf ID of the shelf. Attributes: non-creatable, non-modifiable |
| **shelf-serial-number** | | string optional | The shelf serial number of the module. Attributes: non-creatable, non-modifiable |
| **stack-id** | | positive64_or_zero optional | The stack ID of the shelf. Attributes: non-creatable, non-modifiable |
| **state** | | state-state-enum optional | The state of the module. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The status of the processor is unknown,<br>• "initializing" - The processor is initializing,<br>• "communicating" - The processor has completed discovery,<br>• "booting" - The processor is booting,<br>• "awaiting_reboot" - The system is awaiting the processor ID to reach itself from the module,<br>• "no_reboot" - The system has no processor ID for the module,<br>• "awaiting_halt" - The processor is waiting for the system to halt,<br>• "awaiting_boot" - The processor is waiting for the system to discover it,<br>• "updating_firmware" - The processor is updating firmware,<br>• "firmware_update_failed" - The processor has a firmware update error,<br>• "firmware_update_required" - The processor requires a firmware update,<br>• "rebooting" - The processor is rebooting,<br>• "failed" - The processor has failed and needs to be replaced,<br>• "unsupported" - The processor is unsupported and needs to be upgraded,<br>• "degraded" - The processor is degraded and a replacement is recommended,<br>• "shelf_off" - The processor is in power off state |

Element definition: **storage-shelf-drawer-info**

Storage shelf drawer record When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **disk-count** | [0..2^32-1] | integer optional | Drawer Disk Count Attributes: non-creatable, non-modifiable |
| **drawer** | [0..2^32-1] | integer optional | Drawer Number Attributes: key, non-creatable, non-modifiable |
| **error** | | string optional | Error Attributes: non-creatable, non-modifiable |
| **firmware-a** | | string optional | Firmware A Attributes: non-creatable, non-modifiable |
| **firmware-b** | | string optional | Firmware B Attributes: non-creatable, non-modifiable |
| **fru-type** | | string optional | FRU Type Attributes: non-creatable, non-modifiable |
| **is-closed** | | open-closed optional | Drawer is Closed? Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "open" - Open,<br>• "closed" - Closed |
| **is-supported** | | boolean optional | Drawer is Supported? Attributes: non-creatable, non-modifiable |
| **mfg-date** | | string optional | Mfg. Date Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node Name Attributes: non-creatable, non-modifiable |
| **part-number** | | string optional | Part Number Attributes: non-creatable, non-modifiable |
| **path-a** | | drawer-path-status optional | Path A Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "up" - Up,<br>• "degraded" - Degraded,<br>• "none" - None |
| **path-b** | | drawer-path-status optional | Path B Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "up" - Up,<br>• "degraded" - Degraded,<br>• "none" - None |
| **serial-number** | | string optional | Serial Number Attributes: non-creatable, non-modifiable |
| **shelf** | | string optional | Shelf Name Attributes: key, non-creatable, non-modifiable |
| **status-a** | | drawer-status optional | Status A Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "normal" - Normal,<br>• "warning" - Warning,<br>• "error" - Error,<br>• "critical" - Critical |
| **status-b** | | drawer-status optional | Status B Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "normal" - Normal,<br>• "warning" - Warning,<br>• "error" - Error,<br>• "critical" - Critical |
| **vendor-name** | | string optional | Vendor Name Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-drawer-phy-info**

Storage shelf drawer phy record When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **drawer** | [0..2^32-1] | integer optional | Drawer Number Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Node Name Attributes: non-creatable, non-modifiable |
| **phy** | [0..2^32-1] | integer optional | PHY Number Attributes: key, non-creatable, non-modifiable |
| **physical-id** | [0..2^32-1] | integer optional | Physical ID Attributes: non-creatable, non-modifiable |
| **sas-address** | | string optional | Attached SAS Address Attributes: non-creatable, non-modifiable |
| **shelf** | | string optional | Shelf Name Attributes: key, non-creatable, non-modifiable |
| **state-a** | | drawer-phy-state optional | State Module A Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "enabled" - Enabled,<br>• "disabled" - Disabled |
| **state-b** | | drawer-phy-state optional | State Module B Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "enabled" - Enabled,<br>• "disabled" - Disabled |
| | | | Status Module A Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "unknown_link_rate" - Unknown rate,<br>• "disabled" - Disabled,<br>• "enabled_speed_negotiation_failed" - Speed negotiation failed,<br>• "enabled_sata_spinup_hold" - SATA spinup hold state is set,<br>• "enabled_port_selector_attached" - Port selector attached,<br>• "reset_in_progress" - Reset in progress,<br>• "enabled_phy_attached" - Unsupported PHY, |

| | | | |
|---|---|---|---|
| **status-a** | disable_after_default optional | | • "enabled_12gbit" - 12 Gb/s,<br>• "enabled_6gbit" - 6 Gb/s,<br>• "enabled_3gbit" - 3 Gb/s,<br>• "enabled_6Gbit" - 60 Gb/s,<br>• "disabled_invalid_dword_count" - Invalid dword count,<br>• "disabled_disparity_error_count" - Disparity error count,<br>• "disabled_loss_of_sync_count" - Loss of sync count,<br>• "disabled_reset_count" - Reset count,<br>• "disabled_phy_change_count" - PHY change count,<br>• "disabled_broadcast_change_count" - Broadcast change count<br><br>Status Module B Attributes: non-creatable, non-modifiable Possible values:<br><br>• "unknown" - Unknown,<br>• "enabled_rate_unknown" - Unknown rate,<br>• "enabled_1_5gbit" - 1.5 Gb/s,<br>• "enabled_speed_negotiation_failed" - Speed negotiation failed,<br>• "enabled_sata_target_sym_up_state" - SATA target in sym up state,<br>• "disabled_sata_port_selector_present" - Port selector attached,<br>• "reset_in_progress" - Reset in progress,<br>• "unsupported_phy_attached" - Unsupported PHY,<br>• "enabled_3Gbit" - 30 Gb/s,<br>• "enabled_12gbit" - 12 Gb/s,<br>• "enabled_6gbit" - 60 Gb/s,<br>• "enabled_3gbit" - 30 Gb/s,<br>• "disabled_invalid_dword_count" - Invalid dword count,<br>• "disabled_disparity_error_count" - Disparity error count,<br>• "disabled_loss_of_sync_count" - Loss of sync count,<br>• "disabled_reset_count" - Reset count,<br>• "disabled_phy_change_count" - PHY change count,<br>• "disabled_broadcast_change_count" - Broadcast change count<br><br>Type Attributes: non-creatable, non-modifiable Possible values: |
| **status-b** | disable_after_default optional | | |
| **type** | drawer_slot_type optional | | • "unknown" - Unknown,<br>• "disk" - Disk,<br>• "blank" - Blank,<br>• "mixed" - Mixed |

Element definition: **storage-shelf-drawer-slot-info**

Storage shelf drawer slot When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **bay** | [0..2^32-1] | integer optional | Bay Number Attributes: key, non-creatable, non-modifiable |
| **drawer** | [0..2^32-1] | integer optional | Drawer Number Attributes: non-creatable, non-modifiable |
| **is-installed** | | boolean optional | Is Disk Installed Attributes: non-creatable, non-modifiable |
| **shelf** | | string optional | Shelf Name Attributes: key, non-creatable, non-modifiable |
| **slot** | [0..2^32-1] | integer optional | Slot Number Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-firmware-update-info**

Storage shelf firmware update status record When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **in-progress-count** | [0..2^32-1] | integer optional | Number of Shelves with Earlier Revisions Being Updated Attributes: non-creatable, non-modifiable |
| **node** | | node-id optional | Node Attributes: key, non-creatable, non-modifiable |
| **update-status** | | disk_shelf_fw_update_status optional | Disk Shelf Firmware Update Status Attributes: non-creatable, non-modifiable Possible values:<br><br>• "running" - Disk shelf firmware update is in progress,<br>• "idle" - Disk shelf firmware update is not in progress. |

Element definition: **storage-shelf-info**

Storage shelf record When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **boot-devices** | | storage-shelf-boot-device-info[] optional | Returns the boot device information. |
| **ups-battery** | | storage-shelf-ups-battery-info[] optional | Returns the ups battery information. |
| **connection-type** | | storage-shelf-connection-type optional | Shelf Connection Type Attributes: non-creatable, non-modifiable Possible values:<br><br>• "unknown" - The connection type is unknown,<br>• "fc_switched" - The storage shelf connects via Fibre Channel,<br>• "sas" - The storage shelf connects to other devices via Serial Attached SCSI,<br>• "nvme" - The storage shelf connects to other devices via NVMe |
| **cooling-fans** | | storage-shelf-cooling-fan-info[] optional | Returns cooling fan information. |
| **current-sensors** | | storage-shelf-current-sensor-info[] optional | Returns current sensor information. |
| **dimms** | | storage-shelf-dimm-info[] optional | Returns the DIMM information. |
| **disk-count** | | uint64 optional | Disk Count Attributes: non-creatable, non-modifiable |
| **fc-ports** | | storage-shelf-fc-port-info[] optional | Returns Fiber Channel port information. |
| **is-local-attach** | | boolean optional | Is the Shelf Local to This Cluster? Attributes: non-creatable, non-modifiable |
| **module-type** | | storage-shelf-module-type optional | Shelf Module Type Attributes: non-creatable, non-modifiable Possible values:<br><br>• "unknown" - Unknown module type,<br>• "iom3" - IOM3,<br>• "iom6" - IOM6,<br>• "iom3" - IOM3,<br>• "iom6e" - IOM6E,<br>• "esmB" - ESMB,<br>• "iom12" - IOM12,<br>• "esmB2" - ESMB2,<br>• "iom12f" - IOM12F,<br>• "psm3b" - PSM3B,<br>• "iom12g" - IOM12G,<br>• "esmb12" - ESMB12B,<br>• "esmBe" - ESMBE,<br>• "esmi3g" - ESMI3G |
| **nvm-ports** | | storage-shelf-nvm-port-info[] optional | Returns NVM port information. |
| **op-status** | | storage-shelf-op-status optional | Shelf Operational Status Attributes: non-creatable, non-modifiable Possible values:<br><br>• "unknown" - The operational status of the shelf is unknown,<br>• "normal" - The shelf is operational,<br>• "warning" - Warning conditions exist in the storage shelf,<br>• "critical" - One or more critical or non-fatal faults that require immediate action,<br>• "initial" - The shelf has not yet been configured,<br>• "standby_power" - The shelf is in standby power mode |
| **paths** | | storage-shelf-path-info[] optional | Returns available shelf path information. |
| **power-supply-units** | | storage-shelf-psu-info[] optional | Returns power supply unit information. |
| **sas-ports** | | storage-shelf-sas-port-info[] optional | Returns SAS port information. |
| **serial-number** | | string optional | Shelf Serial Number Attributes: non-creatable, non-modifiable |
| **shelf** | | string optional | Shelf Name Attributes: key, non-creatable, non-modifiable |
| **shelf-bays** | | storage-shelf-bay-info[] optional | Returns shelf bay information. |
| **shelf-errors** | | storage-shelf-error-info[] optional | Returns storage shelf errors. |
| **shelf-id** | | string optional | Shelf ID Attributes: non-creatable, non-modifiable |
| **shelf-model** | | string optional | Shelf Product Identification Attributes: non-creatable, non-modifiable |
| **shelf-modules** | | storage-shelf-module-info[] optional | Returns LCD controller module information. |
| **shelf-uid** | | string optional | Shelf LED Attributes: non-creatable, non-modifiable |
| **stack-id** | | integer optional | Stack ID Attributes: non-creatable, non-modifiable |
| **state** | | storage-shelf-state optional | Shelf State Attributes: non-creatable, non-modifiable Possible values:<br><br>• "unknown" - The shelf state is unknown,<br>• "no_status" - The shelf state is not available,<br>• "uninitialized" - The shelf state requires initialization,<br>• "online" - The shelf is online,<br>• "offline" - The shelf is offline,<br>• "missing" - The shelf is missing |
| **temperature-sensors** | | storage-shelf-temperature-sensor-info[] optional | Returns temperature sensor information. |
| **vendor-name** | | string optional | Shelf Vendor Attributes: non-creatable, non-modifiable |
| **voltage-sensors** | | storage-shelf-voltage-sensor-info[] optional | Returns voltage sensor information. |

Element definition: **storage-shelf-led-status**

on/off Possible values:

- "off",
- "on",
- "unsupported"

[name]

Element definition: **storage-shelf-location-led-info**

Shelf Location LED Status Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **led-status** | | storage-shelf-led-status optional | Location LED Attributes: non-creatable, modifiable Possible values:<br><br>• "off",<br>• "on",<br>• "unsupported" |
| **shelf-id** | [0..2^32-1] | integer optional | Shelf ID Attributes: non-creatable, non-modifiable |
| **shelf-name** | | string optional | Shelf Name Attributes: key, non-creatable, non-modifiable |
| **stack-id** | [0..2^32-1] | integer optional | Stack ID Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-location-led-modify-iter-info**

Information about the modify operation that was attempted/performed against storage-shelf object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | [0..2^32-1] | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **storage-shelf-key** | | storage-shelf-location-led-info | The keys for the storage-shelf object to which the modify operation applies. |

Element definition: **storage-shelf-port-info**

Storage shelf port record When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cable-end** | | shelf_cable_end optional | Cable End Attributes: non-creatable, non-modifiable Possible values:<br><br>• "end_0" - end 0,<br>• "end_1" - end 1 |
| **cable-id** | | string optional | Cable ID Attributes: non-creatable, non-modifiable |
| **cable-length** | | string optional | Cable Length Attributes: non-creatable, non-modifiable |
| **cable-part-number** | | string optional | Cable Part Number Attributes: non-creatable, non-modifiable |
| **cable-technology** | | storage-shelf-cable-technology optional | Cable Technology Attributes: non-creatable, non-modifiable Possible values:<br><br>• "active_copper" - Active Copper,<br>• "passive_copper" - Passive Copper,<br>• "optical" - Optical |
| **cable-vendor** | | string optional | Cable Vendor Attributes: non-creatable, non-modifiable |
| **connector-serial-number** | | string optional | Connector Serial Number Attributes: non-creatable, non-modifiable |
| **connector-state** | | storage-shelf-connector-state optional | Connector State Attributes: non-creatable, non-modifiable Possible values:<br><br>• "connected" - Cable is connected,<br>• "disconnected" - Cable is disconnected,<br>• "error" - Cable is connected and is reporting errors |
| **connector-type** | | storage-shelf-connection-type optional | Connector Type Attributes: non-creatable, non-modifiable Possible values:<br><br>• "sff8" - QSFP,<br>• "sff8" - QSFP+,<br>• "mini_sas_hd" - Mini-SAS HD,<br>• "sff8dd" - QSFP28 |
| **designator** | | string optional | Designator Attributes: non-creatable, non-modifiable |
| **id** | [0..2^32-1] | integer optional | Port ID Attributes: key, non-creatable, non-modifiable |
| **is-cable-connected** | | boolean optional | Is Cable Connected? Attributes: non-creatable, non-modifiable |
| **is-error** | | boolean optional | Any Errors? Attributes: non-creatable, non-modifiable |
| **is-internal** | | boolean optional | Is Port Internal? Attributes: non-creatable, non-modifiable |
| **location** | | string optional | Location Attributes: non-creatable, non-modifiable |
| **mac** | | mac-address optional | Local MAC Address Attributes: non-creatable, non-modifiable |
| **module-id** | | shelf_module_id optional | Module ID Attributes: non-creatable, non-modifiable Possible values:<br><br>• "a" - IOM A,<br>• "b" - IOM B,<br>• "unknown" - unknown |
| **remote-chassis** | | string optional | Remote Chassis Attributes: non-creatable, non-modifiable |
| **remote-device** | | string optional | Remote Device Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **remote-mac** | | [mac-address](#) optional | Remote MAC Address Attributes: non-creatable, non-modifiable |
| **remote-phy** | | [uint32](#) optional | Remote Phy Attributes: non-creatable, non-modifiable |
| **remote-port** | | [uint32](#) optional | Remote Port Attributes: non-creatable, non-modifiable |
| **remote-wwn** | | [string](#) optional | Remote Device WWN Attributes: non-creatable, non-modifiable |
| **shelf** | | [string](#) optional | Shelf Name Attributes: key, non-creatable, non-modifiable |
| **swap-count** | [0..2^32-1] | [integer](#) optional | Swap Count Attributes: non-creatable, non-modifiable |
| **wwn** | | [string](#) optional | Local Device WWN Attributes: non-creatable, non-modifiable |

Element definition: **true-false** [type]

True/False

[/type]

Element definition: **acp-error-type-enum** [type]

No Error|Connection Issue|Connection Outside|Module Error|Shelf Error Possible values:

- "no_error" - No error found,
- "connection_issue" - System is reporting an error with the connection,
- "connection_outside" - Connection is outside the drive tray,
- "module_error" - The ACP processor is reporting an error,
- "shelf_error" - The shelf is reporting an error

[/type]

Element definition: **acpp-state-enum** [type]

unknown|initializing|discovery-complete|awaiting-reboot|no-reboot|active|awaiting-boot|updating-firmware|connection-error|firmware-update-required|rebooting|failed|unsupported|degraded|shelf-off Possible values:

- "unknown" - The status of the processor is unknown,
- "initializing" - The processor is initializing,
- "discovery_complete" - The processor has completed discovery,
- "awaiting_reboot" - The system is awaiting the processor ID to reach itself from the module,
- "no_reboot" - The system has no processor ID for the module,
- "active" - The processor is active and can be seen by the system,
- "awaiting_boot" - The processor is waiting for the system to discover it,
- "updating_firmware" - The processor is updating firmware,
- "connection_error" - The processor is reporting a connection error,
- "firmware_update_required" - The processor requires a firmware update,
- "rebooting" - The processor is rebooting,
- "fail" - The processor is failed and need to be replaced,
- "unsupported" - The processor is unsupported and needs to be upgraded,
- "degraded" - The processor is degraded and a replacement is recommended,
- "shelf_off" - The processor is in power-off state

[/type]

Element definition: **channel-enum** [type]

unknown|out-of-band|in-band Possible values:

- "unknown" - The connection type is unknown,
- "out_of_band" - The connection type is out-of-band,
- "in_band" - The connection type is in-band

[/type]

Element definition: **connection-status-enum** [type]

no-connectivity|partial-connectivity|full-connectivity|additional-connectivity|unknown-connectivity|not-available|connection-disabled Possible values:

- "no_connectivity" - Error in connectivity. System is unable to see any connectivity,
- "partial_connectivity" - Error in connectivity. System is seeing partial connectivity,
- "full_connectivity" - No Error in connectivity. System is seeing full connectivity,
- "additional_connectivity" - Error in connectivity. Systems is seeing additional connectivity,
- "unknown_connectivity" - Error in connectivity. System is unable to determine nature of error,
- "not_available" - Connection is not available. Applicable to no connectivity,
- "online" - Connection is active. Applicable to in-band only,
- "disabled" - Connection disabled. ACP needs to be configured

[/type]

Element definition: **drawer-path-status** [type]

unknown|ok|degraded|none Possible values:

- "unknown" - Unknown,
- "ok" - Ok,
- "degraded" - Degraded,
- "none" - None

[/type]

Element definition: **drawer-phy-state** [type]

unknown|enabled|disabled Possible values:

- "unknown" - Unknown,
- "enabled" - Enabled
- "disabled" - Disabled

[/type]

Element definition: **drawer-phy-status** [type]

Drawer PHY Status Possible values:

- "unknown" - Unknown,
- "unconfigured_speed" - Unknown rate,
- "disabled" - Disabled,
- "enabled_speed_negotiation_failed" - Speed negotiation failed,
- "enabled_sata_port_selector" - SATA port selector, not link up data,
- "enabled_port_selector_attached" - Port selector attached,
- "reset_in_progress" - Reset in progress,
- "enabled_unsupported_phy" - Unsupported PHY,
- "enabled_12gbps" - 12 Gb/s,
- "enabled_6gbps" - 6 Gb/s,
- "enabled_3gbps" - 3 Gb/s,
- "enabled_1p5gbps" - 1.5 Gb/s,
- "disabled_invalid_dword_count" - Invalid dword count,
- "disabled_running_disparity_error_count" - Disparity count,
- "disabled_loss_of_sync_count" - Loss of sync count,
- "disabled_reset_count" - Reset count,
- "disabled_phy_change_count" - PHY change count,
- "disabled_broadcast_change_count" - Broadcast change count

[/type]

Element definition: **drawer-phy-type** [type]

unknown|disk|contact|input Possible values:

- "unknown" - Unknown,
- "disk" - Disk,
- "contact" - Virtual,
- "input" - Input

[/type]

Element definition: **drawer-status** [type]

unknown|normal|warning|error|critical Possible values:

- "unknown" - Unknown,
- "normal" - Normal,
- "warning" - Warning,
- "error" - Error,
- "critical" - Critical

[/type]

Element definition: **filer-id** [type]

Filer UUID

[/type]

Element definition: **iom-type-enum** [type]

Unknown|iom3|iom6|combo|iom12|iom12e|iom12f|iom12s Possible values:

- "unknown" - The processor is reporting an error, and is unaware of its type,
- "iom3" - The processor is of type IOM3,
- "iom6" - The processor is of type IOM6,
- "combo" - The processor is of type COMBO,
- "iom12" - The processor is of type IOM12,
- "iom12e" - The processor is of type IOM12e,
- "iom12f" - The processor is of type IOM12f,
- "iom12s" - The processor is of type IOM12s

[/type]

Element definition: **ip-address** [type]

IPv4 and IPv6 address.

[/type]

Element definition: **mac-address** [type]

MAC Address

[/type]

Element definition: **node-name** [type]

The node's name

[/type]

Element definition: **open-closed** [type]

open|closed Possible values:

- "unknown" - Unknown,
- "open" - Open
- "closed" - Closed

[/type]

Element definition: **sfu-status** [type]

running|idle Possible values:

- "running" - Disk shelf firmware update is in progress,
- "idle" - Disk shelf firmware update is not in progress.

[/type]

Element definition: **shelf-cable-end** [type]

end_0|end_1 Possible values:

- "end_0" - end 0,
- "end_1" - end 1

[/type]

Element definition: **shelf-module-id** [type]

A|B Possible values:

- "a" - IOM A,
- "b" - IOM B,
- "unknown" - unknown

[/type]

Element definition: **storage-shelf-bay-info** [type]

Returns shelf bay information.

| Name | Range | Type | Description |
|---|---|---|---|
| **bay-has-disk** | | [boolean](#) optional | Bay Has Disk Attributes: non-creatable, non-modifiable |
| **bay-id** | | [uint32](#) optional | Bay ID Attributes: non-creatable, non-modifiable |
| **bay-op-status** | | [storage-shelf-bay-op-status](#) optional | Bay Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The operational status of the disk bay is unknown,<br>• "normal" - The operational status of the disk bay is normal,<br>• "error" - The operational status of the disk bay is error |
| | | | Bay Type Attributes: non-creatable, non-modifiable Possible values: |

| | | |
|---|---|---|
| **key-type** | storage-shelf-key-type<br>optional | • "unknown" - The disk key type is unknown,<br>• "single_disk" - The disk key carries a single DEK,<br>• "multi_lun" - The disk key carries multiple LUKs |

Element definition: **storage-shelf-boot-device-info**

Returns the boot device information.

| Name | Range | Type | Description |
|---|---|---|---|
| **boot-device-id** | [0..3^32-1] | integer<br>optional | Boot Device ID Attributes: non-creatable, non-modifiable |
| **boot-device-module-id** | | shelf-module-id<br>optional | Boot Device Module ID Attributes: non-creatable, non-modifiable Possible values:<br>• "A" - IOM A,<br>• "B" - IOM B,<br>• "unknown" - unknown |
| **boot-device-op-status** | | storage-shelf-boot-device-op-status<br>optional | Boot Device Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "normal" - Normal,<br>• "error" - Error,<br>• "not_supported" - Not Supported,<br>• "not_installed" - Not Installed |
| **boot-device-size** | | string<br>optional | Boot Device Size Attributes: non-creatable, non-modifiable |
| **boot-device-type** | | string<br>optional | Boot Device Type Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-cable-technology**

active-copper|passive-copper|optical Possible values:
- "active_copper" - Active Copper,
- "passive_copper" - Passive Copper,
- "optical" - Optical

[none]

Element definition: **storage-shelf-coin-battery-info**

Returns the coin battery information.

| Name | Range | Type | Description |
|---|---|---|---|
| **coin-battery-id** | [0..3^32-1] | integer<br>optional | Coin Battery ID Attributes: non-creatable, non-modifiable |
| **coin-battery-module-id** | | shelf-module-id<br>optional | Coin Battery Module ID Attributes: non-creatable, non-modifiable Possible values:<br>• "A" - IOM A,<br>• "B" - IOM B,<br>• "unknown" - unknown |
| **coin-battery-op-status** | | storage-shelf-coin-battery-op-status<br>optional | Coin Battery Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "normal" - Normal,<br>• "low" - Low,<br>• "bad" - Low Voltage,<br>• "high" - High Voltage,<br>• "not_supported" - Not Supported,<br>• "not_installed" - Not Installed |
| **coin-battery-voltage** | [0..3^32-1] | integer<br>optional | Coin Battery Voltage (mV) Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-connection-type**

unknown|fc|sas|none Possible values:
- "unknown" - The connection type is unknown,
- "fc" - The storage shelf connects to other devices via Fibre Channel,
- "sas" - The storage shelf connects to other devices via Serial Attached SCSI,
- "none" - The storage shelf connects to other devices via NVMe

[none]

Element definition: **storage-shelf-connector-state**

connected|disconnected|error Possible values:
- "connected" - Cable is connected,
- "disconnected" - Cable is disconnected,
- "error" - Cable is connected and is reporting errors

[none]

Element definition: **storage-shelf-connector-type**

QSFP|QSFP+|QSFP28|Mini-SAS-HD Possible values:
- "QSFP" - QSFP,
- "QSFP+" - QSFP+,
- "mini_sas_hd" - Mini-SAS HD,
- "QSFP28" - QSFP28

[none]

Element definition: **storage-shelf-cooling-fan-info**

Returns cooling fan information.

| Name | Range | Type | Description |
|---|---|---|---|
| **fan-id** | | unsigned32-or-zero<br>optional | Fan ID Attributes: non-creatable, non-modifiable |
| **fan-location** | | string<br>optional | Fan Location Attributes: non-creatable, non-modifiable |
| **fan-op-status** | | storage-shelf-fan-op-status<br>optional | Fan Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown Status,<br>• "normal" - Normal,<br>• "off" - Off,<br>• "error" - Error,<br>• "not_supported" - Not Supported,<br>• "not_installed" - Not Installed |
| **fan-rpm** | | unsigned32-or-zero<br>optional | Fan Rotation Per Minute Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-current-sensor-info**

Returns current sensor information.

| Name | Range | Type | Description |
|---|---|---|---|
| **current-op-status** | | storage-shelf-current-op-status<br>optional | Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown Status,<br>• "normal" - Normal,<br>• "over_current_critical" - Critical Over Current,<br>• "under_current_critical" - Critical Under Current,<br>• "not_supported" - Not Supported,<br>• "not_installed" - Not Installed |
| **current-sensor-id** | | unsigned32-or-zero<br>optional | Current Sensor ID Attributes: non-creatable, non-modifiable |
| **current-sensor-location** | | string<br>optional | Current Sensor Location Attributes: non-creatable, non-modifiable |
| **current-sensor-reading** | | unsigned32-or-zero<br>optional | Current Sensor Reading Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-dimm-info**

Returns the DIMM information.

| Name | Range | Type | Description |
|---|---|---|---|
| **dimm-id** | [0..3^32-1] | integer<br>optional | DIMM ID Attributes: non-creatable, non-modifiable |
| **dimm-location** | | string<br>optional | DIMM Location Attributes: non-creatable, non-modifiable |
| **dimm-module-id** | | shelf-module-id<br>optional | DIMM Module ID Attributes: non-creatable, non-modifiable Possible values:<br>• "A" - IOM A,<br>• "B" - IOM B,<br>• "unknown" - unknown |
| **dimm-op-status** | | storage-shelf-dimm-op-status<br>optional | DIMM Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "normal" - Normal,<br>• "error" - Error,<br>• "not_supported" - Not Supported,<br>• "not_installed" - Not Installed |
| **dimm-size** | | string<br>optional | DIMM Size Attributes: non-creatable, non-modifiable |
| **dimm-type** | | string<br>optional | DIMM Type Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-error-info**

Returns storage shelf errors.

| Name | Range | Type | Description |
|---|---|---|---|
| **component-location** | | string<br>optional | Location of component with error Attributes: non-creatable, non-modifiable |
| **corrective-action** | | string<br>optional | Corrective Action Attributes: non-creatable, non-modifiable |
| **error-id** | | unsigned32-or-zero<br>optional | Error Identifier Attributes: non-creatable, non-modifiable |
| **error-severity** | | storage-shelf-error-severity<br>optional | Error Severity Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The error severity is unknown,<br>• "notice" - A normal-priority message, does not indicate a fault,<br>• "warning" - A high-priority warning message, does not indicate a fault,<br>• "error" - A fault condition which is not immediately fatal but requires immediate attention,<br>• "critical" - A critical fault condition, typically disruptive |
| **error-text** | | string<br>optional | Error Text Attributes: non-creatable, non-modifiable |
| **error-type** | | storage-shelf-error-type<br>optional | Error Type Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "ecpp" - Alternate control path processor error,<br>• "communication" - Communication error,<br>• "current" - Current error,<br>• "fan" - Cooling fan error,<br>• "iom" - IOM (I/O module) module error,<br>• "power" - Power supply error,<br>• "temperature" - Temperature error,<br>• "voltage" - Voltage error,<br>• "bootdevice" - Boot device error,<br>• "coinbattery" - Coin battery error,<br>• "dimm" - DIMM error,<br>• "expander" - Expander error,<br>• "pcie" - PCIe error |
| **shelf-component** | | string<br>optional | Shelf component with error Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-error-severity**

unknown|notice|warning|error|critical Possible values:
- "unknown" - The error severity is unknown,
- "notice" - A normal-priority message, does not indicate a fault,
- "warning" - A high-priority warning message, does not indicate a fault,
- "error" - A fault condition which is not immediately fatal but requires immediate attention,
- "critical" - A critical fault condition, typically disruptive

[none]

Element definition: **storage-shelf-fc-port-info**

Returns Fiber Channel port information.

| Name | Range | Type | Description |
|---|---|---|---|
| **fc-port-id** | | string<br>optional | Fibre Channel Port ID Attributes: non-creatable, non-modifiable |
| **fc-port-mode** | | storage-shelf-port-type<br>optional | Fibre Channel Port Mode Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Port type is unknown,<br>• "target" - Target,<br>• "initiator" - Initiator,<br>• "square" - Square,<br>• "all" - All,<br>• "auto" - Auto,<br>• "fc" - Fc,<br>• "cna" - Cna,<br>• "unified" - Unified,<br>• "loss" - Loss,<br>• "down" - Down,<br>• "auto_1" - Auto 1,<br>• "auto_2" - Auto 2,<br>• "fc_hv" - Hi-Vis,<br>• "fc_cb_1" - Fc-CB,<br>• "fc_cb_2" - Fc-CB 2<br><br>Fibre Channel Port Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "error" - Error,<br>• "offline" - Offline,<br>• "offline" - Offline,<br>• "unknown_status" - StatusUnknown,<br>• "online" - Online,<br>• "loop_bad_term" - loop-bad-term,<br>• "add_core_recovery" - bad-core-recovery,<br>• "loop_init" - loop_init,<br>• "loop_master_fail" - loop_master_fail,<br>• "loop_cc_bnd_thr" - loop_cc_bnd_thr,<br>• "loop_cc_rate_thr" - loop_cc_rate_thr,<br>• "loop_cc_bnd" - loop_cc_bnd,<br>• "loop_dev_fault" - loop_dev_fault,<br>• "loop_drv_psycle" - loop_drv_psycle,<br>• "loop_drv_glge" - loop_drv_glge,<br>• "loop_drv_gen" - loop_drv_gen,<br>• "loop_gen" - loop_gen,<br>• "loop_init" - loop_init,<br>• "loop_cc_bnd" - loop_cc_bnd_thr_bnd_thr,<br>• "loop_lip_fail" - loop_lip_fail,<br>• "loop_lip_rate_thr" - loop_lip_rate_thr,<br>• "loop_lip" - loop_lip,<br>• "loop_thr" - loop_thr,<br>• "loop_mem" - loop_mem,<br>• "loop_mmr" - loop_mmr, |

| | | |
|---|---|---|
| **fc-port-up-status** | storage-shelf-port-up-status<br>optional | • "bypass_no_drive" - bypass_no_drive,<br>• "bypass_ok" - bypass_ok,<br>• "bypass_other_fail" - bypass_other_fail,<br>• "bypass_rec_fail" - bypass_rec_fail,<br>• "bypass_user_fail" - bypass_user_fail,<br>• "bypass_xpath_fail" - bypass_xpath_fail,<br>• "bypass_word_boot_fail" - bypass_word_boot_fail,<br>• "bypass_word_fail" - bypass_word_fail_for_other_than_fail,<br>• "bypass_xmitt_fault" - bypass_xmitt_fault,<br>• "diag_transceiver" - diag_transceiver,<br>• "fault_unknown" - fault,<br>• "loopback" - loopback,<br>• "status_unknown" - status_unknown,<br>• "warn_high_cur_delta" - warn_high_cur_delta,<br>• "warn_high_cur_value" - warn_high_cur_value,<br>• "warn_high_fw" - warn_high_fw,<br>• "warn_high_word_rate" - warn_high_word_rate,<br>• "warn_word_limit" - warn_word_limit,<br>• "xmit" - xmit,<br>• "phy_dis_cfg_fault" - phy_dis_cfg_fault,<br>• "phy_dis_crc_err" - phy_dis_crc_err,<br>• "phy_dis_crc_err_burst" - phy_dis_crc_err_burst,<br>• "phy_dis_dword_sync" - phy_dis_dword_sync,<br>• "phy_dis_elasticity_buffer_overflow" - phy_dis_elasticity_buffer_overflow,<br>• "phy_dis_emulate_reserve" - phy_dis_emulate_reserve,<br>• "phy_dis_invalid_dword" - phy_dis_invalid_dword,<br>• "phy_dis_invalid_dword_burst" - phy_dis_invalid_dword_burst,<br>• "phy_dis_loss_dword" - phy_dis_loss_dword,<br>• "phy_dis_loss_dword_burst" - phy_dis_loss_dword_burst,<br>• "phy_dis_man_wrap" - phy_dis_man_wrap,<br>• "phy_dis_running_disp" - phy_dis_running_disp,<br>• "disabled_removed" - Disabled/Removed,<br>• "empty" - Empty,<br>• "phy_dis_phy_change" - phy_dis_phy_change,<br>• "phy_dis_phy_change_burst" - phy_dis_phy_change_burst,<br>• "phy_dis_phy_reset" - phy_dis_phy_reset,<br>• "phy_dis_phy_reset_burst" - phy_dis_phy_reset_burst,<br>• "disabled" - Phy is disabled or unused,<br>• "enabled" - Phy is enabled,<br>• "phy_exp_attached" - phy_exp_attached,<br>• "phy_exp_unknown" - phy_exp_unknown,<br>• "unknown" - Unknown Phy,<br>• "phy_dis_illegal" - Disabled/Illegal |

Element definition: **storage-shelf-led-status**

[Query]

enum Possible values:

- "off",
- "on",
- "unsupported"

[/query]

Element definition: **storage-shelf-location-led-info**

[Query]

Shelf Location LED Status Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the element's description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **led-status** | storage-shelf-led-status<br>optional | | Location LED Attributes: non-creatable, modifiable Possible values:<br>• "off",<br>• "on",<br>• "unsupported" |
| **shelf-id** | [0..2^32-1] | integer<br>optional | Shelf ID Attributes: non-creatable, non-modifiable |
| **shelf-name** | | string<br>optional | Shelf Name Attributes: key, non-creatable, non-modifiable |
| **stack-id** | [0..2^32-1] | integer<br>optional | Stack ID Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-module-info**

[Query]

Returns I/O controller module information.

| Name | Range | Type | Description |
|---|---|---|---|
| **ec-serial-number** | | string<br>optional | ES Electronics Element Serial Number Attributes: non-creatable, non-modifiable |
| **is-monitor-active** | | boolean<br>optional | Is Monitor Active? Attributes: non-creatable, non-modifiable |
| **is-sas-master-module** | | boolean<br>optional | Is SAS Expander Master Module? Attributes: non-creatable, non-modifiable |
| **module-fru-id** | | string<br>optional | Field Replaceable Unit ID Attributes: non-creatable, non-modifiable |
| **module-fw-progress** | storage-shelf-module-fw-progress<br>optional | | Module Firmware Progress Attributes: non-creatable, non-modifiable Possible values:<br>• "not_available" - Not available,<br>• "ready" - Ready,<br>• "in_progress" - In Progress,<br>• "failed" - Failed |
| **module-fw-revision** | | string<br>optional | Firmware Revision Attributes: non-creatable, non-modifiable |
| **module-id** | | integer<br>optional | Module ID Attributes: non-creatable, non-modifiable |
| **module-is-reporting-element** | | boolean<br>optional | Is Reporting Element? Attributes: non-creatable, non-modifiable |
| **module-latest-fw-revision** | | string<br>optional | Latest Firmware Revision Attributes: non-creatable, non-modifiable |
| **module-location** | | string<br>optional | Module Location Attributes: non-creatable, non-modifiable |
| **module-op-status** | storage-shelf-module-op-status<br>optional | | Module Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - The operational status of the module is unknown,<br>• "normal" - The shelf module is operational,<br>• "warning" - There are warning conditions, the module is operational,<br>• "critical" - There are critical conditions, the module may not require immediate action,<br>• "not_installed" - The shelf module is not installed |
| **module-part-number** | | string<br>optional | Module Part Number Attributes: non-creatable, non-modifiable |
| **module-swap-count** | | integer<br>unsigned 32 bits<br>optional | Module Swap Count Attributes: non-creatable, non-modifiable |
| **module-type** | storage-shelf-module-type<br>optional | | Module Type Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown module type,<br>• "ai_ibx" - AI ICX,<br>• "ioms12" - IOM12,<br>• "ioc12" - IOC12,<br>• "iom6" - IOM6,<br>• "iom6e" - IOM6E,<br>• "ioms12e" - IOM12,<br>• "iom12e" - IOM12E,<br>• "iom12g" - IOM12G,<br>• "ioc24" - IOC24,<br>• "iom24" - IOM24,<br>• "iom12f" - IOM12F,<br>• "iom24e" - IOM24E,<br>• "iom24f" - IOM24F,<br>• "iom12g" - IOM12G |

Element definition: **storage-shelf-module-type**

[Query]

unknown|ai_ibx|ioc12|ioc24|iom12|iom24|iom6|iom6e|ioms12|ioms12e|iom12e|iom12f|iom24e|iom24f|iom12g Possible values:

- "unknown" - Unknown module type,
- "ai_ibx" - AI ICX,
- "ioms12" - IOM12,
- "ioc12" - IOC12,
- "iom6" - IOM6,
- "iom6e" - IOM6E,
- "ioms12e" - IOM12,
- "iom12e" - IOM12E,
- "iom12f" - IOM12F,
- "iom24e" - IOM24E,
- "iom24f" - IOM24F,
- "iom12g" - IOM12G

[/query]

Element definition: **storage-shelf-nsm-port-info**

[Query]

Returns NSM port information.

| Name | Range | Type | Description |
|---|---|---|---|
| **nsm-port-bay** | [0..2^32-1] | integer<br>optional | Port Bay Attributes: non-creatable, non-modifiable |
| **nsm-port-id** | [0..2^32-1] | integer<br>optional | Port ID Attributes: non-creatable, non-modifiable |
| **nsm-port-module-id** | | shelf-module-id<br>optional | Port Module ID Attributes: non-creatable, non-modifiable Possible values:<br>• "A" - IOM A,<br>• "B" - IOM B,<br>• "0" - unknown |
| **nsm-port-speed** | storage-shelf-nsm-port-speed<br>optional | | Port Speed Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Port speed is unknown,<br>• "3_0" - 3.0 Gb/s,<br>• "6_0" - 6.0 Gb/s<br>• "8_0" - 8.0 Gb/s |
| **nsm-port-speed-max** | storage-shelf-nsm-port-speed<br>optional | | Max Port Speed Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Port speed is unknown,<br>• "3_0" - 3.0 Gb/s,<br>• "6_0" - 6.0 Gb/s,<br>• "8_0" - 8.0 Gb/s |
| **nsm-port-state** | storage-shelf-nsm-port-state<br>optional | | Port State Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Port state is unknown,<br>• "ok" - OK,<br>• "off_link_disabled" - Off, Link Disabled,<br>• "off_dl_fail" - Off, Data Link Layer Link,<br>• "off_other" - Off, Other,<br>• "no_drive" - No Drive |
| **nsm-port-type** | storage-shelf-nsm-port-type<br>optional | | Port Type Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Port type is unknown,<br>• "sas" - SAS,<br>• "fibre" - Fibre,<br>• "nsm" - NetX,<br>• "ethernet" - Ethernet |

Element definition: **storage-shelf-op-status**

[Query]

unknown|normal|warning|error|critical|standby Possible values:

- "unknown" - The operational status of the shelf is unknown,
- "normal" - The shelf is operational,
- "warning" - There are warning conditions in the storage shelf,
- "error" - The shelf has one or more faults that require immediate action,
- "critical" - The shelf has one or more critical faults,
- "standby_power" - The shelf is in standby power mode

[/query]

Element definition: **storage-shelf-path-info**

[Query]

Returns available shelf path information.

| Name | Range | Type | Description |
|---|---|---|---|
| **controller** | | node-name<br>optional | Controller Name Attributes: non-creatable, non-modifiable |
| **controller-uuid** | | string<br>optional | Controller UUID Attributes: non-creatable, non-modifiable |
| **initiator** | | fcp-wwpn<br>optional | Initiator Attributes: non-creatable, non-modifiable |
| **initiator-side-switch-port** | | fcp-wwpn<br>optional | Initiator Side Switch Port Attributes: non-creatable, non-modifiable |
| **initiator-wwpn** | | fcp-wwpn<br>optional | Initiator WWPN Attributes: non-creatable, non-modifiable |
| **io-kbps** | | unsigned64 or short<br>optional | Kbytes/sec on Storage Shelf Attributes: non-creatable, non-modifiable |
| **iops** | | unsigned32 or short<br>optional | Number IOPS per Second on Storage Shelf Attributes: non-creatable, non-modifiable |
| **port-speed** | | unsigned32 or short<br>optional | Port Speed Attributes: non-creatable, non-modifiable |
| **target-port** | | fcp-wwpn<br>optional | Target Port Attributes: non-creatable, non-modifiable |
| **target-side-switch-port** | | fcp-wwpn<br>optional | Target Side Switch Port Attributes: non-creatable, non-modifiable |
| **tpgn** | | unsigned32 or short<br>optional | Target Port Group Number Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-power-supply-unit-info**

[Query]

Returns power supply unit information.

| Name | Range | Type | Description |
|---|---|---|---|
| **psu-cred-factor** | | unsigned32 or short<br>optional | Power Supply Cred Factor Attributes: non-creatable, non-modifiable |
| **psu-fw-version** | | string<br>optional | Power Supply Unit Firmware Version Attributes: non-creatable, non-modifiable |
| **psu-id** | | unsigned32 or short<br>optional | Power Supply Unit ID Attributes: non-creatable, non-modifiable |
| **psu-is-enabled** | | boolean<br>optional | Power Supply Unit Enable/Disable Status Attributes: non-creatable, non-modifiable |
| **psu-location** | | string<br>optional | Power Supply Unit Location Attributes: non-creatable, non-modifiable |
| **psu-op-status** | storage-shelf-psu-op-status<br>optional | | Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown Status,<br>• "normal" - Normal,<br>• "error" - Error,<br>• "dc_over_voltage" - DC Over Voltage,<br>• "dc_under_voltage" - DC Under Voltage,<br>• "dc_over_current" - DC Over Current,<br>• "over_temperature_error" - Over Temperature,<br>• "failed" - Failed,<br>• "off" - Off,<br>• "not_supported" - Not Supported,<br>• "not_installed" - Not Installed |
| **psu-part-number** | | string<br>optional | Power Supply Unit Part Number Attributes: non-creatable, non-modifiable |
| **psu-power-drawn** | | unsigned32 or short<br>optional | Power Drawn Psus PSU In Watts Attributes: non-creatable, non-modifiable |
| **psu-power-rating** | | unsigned32 or short<br>optional | Power Supply Power Ratings In Watts Attributes: non-creatable, non-modifiable |
| **psu-reset-capable** | | boolean<br>optional | Power Supply Unit Reset Capability Attributes: non-creatable, non-modifiable |
| **psu-serial-number** | | string<br>optional | Power Supply Unit Serial Number Attributes: non-creatable, non-modifiable |
| **psu-type** | | string<br>optional | Power Supply Unit Type Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-sas-port-info**

Returns SAS port information.

| Name | Range | Type | Description |
|---|---|---|---|
| **sas-negotiated-port-speed** | | string<br>optional | Negotiated Port Speed Attributes: non-creatable, non-modifiable |
| **sas-port-id** | | string<br>optional | Port ID Attributes: non-creatable, non-modifiable |
| **sas-port-module-id** | | shelf-module-id<br>optional | Port Module ID Attributes: non-creatable, non-modifiable Possible values:<br>• "a" - IOM A,<br>• "b" - IOM B,<br>• "unknown" - unknown |
| **sas-port-status** | | storage-shelf-sas-ex-status<br>optional | Port Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "error" - Error,<br>• "normal" - Normal,<br>• "offline" - Offline,<br>• "unknown" - Unknown Status/Unknown,<br>• "unused" - Unused,<br>• "bay_bad_bmc" - bay-bad-bmc,<br>• "bay_bad_expander" - bay-bad-score-recovery,<br>• "bay_ch_fail" - bay_ch_fail,<br>• "bay_comms_lol" - bay_comms_los,<br>• "bay_crc_brst_thr" - bay_crc_brst_thr,<br>• "bay_crc_rate_thr" - bay_crc_rate_thr,<br>• "bay_data_timeout" - bay_data_timeout,<br>• "bay_dcv_fault" - bay_dcv_fault,<br>• "bay_dcv_psycle" - bay_dcv_psycle,<br>• "bay_dcv_word" - bay_dcv_word,<br>• "bay_dcv_xdf" - bay_gen,<br>• "bay_gen" - bay_gen,<br>• "bay_lol_thr" - bay_lol,<br>• "bay_lp_brst_thr" - bay_lp_brst_thr,<br>• "bay_lp_fw" - bay_lp_fw,<br>• "bay_lp_rate_thr" - bay_lp_rate_thr,<br>• "bay_lpf1" - bay_lpf1,<br>• "bay_lpf2" - bay_lpf2,<br>• "bay_mgmt" - bay_mgmt,<br>• "bay_nac" - bay_nac,<br>• "bay_no_drive" - bay_no_drive,<br>• "bay_nsup" - bay_nsup,<br>• "bay_other_thr" - bay_other_thr,<br>• "bay_rec_lol" - bay_rec_los,<br>• "bay_rlos" - bay_rlos,<br>• "bay_xdf_thr" - bay_xdf_thr,<br>• "bay_xmit_brst_thr" - bay_xmit_brst_thr,<br>• "bay_xmit_rate_thr" - bay_xmit_rate_thr,<br>• "bay_xmit_thr" - bay_xmit_thr,<br>• "diag_transmit" - diag_transmit,<br>• "fault" - fault,<br>• "healthy" - healthy,<br>• "status_unknown" - status_unknown,<br>• "warn_high_crc_brst" - warn_high_crc_delta,<br>• "warn_high_crc_rate" - warn_high_crc_rate,<br>• "warn_high_lp" - warn_high_lp,<br>• "warn_high_xmit_rate" - warn_high_xmit_rate,<br>• "warn_xmit_brst" - warn_xmit_brst,<br>• "xmit" - xmit,<br>• "phy_dig_ch_fault" - phy_dig_ch_fault,<br>• "phy_dig_crc_err" - phy_dig_crc_err,<br>• "phy_dig_crc_err_burst" - phy_dig_crc_err_burst,<br>• "phy_dig_disparity" - phy_dig_disparity,<br>• "phy_dig_disparity_burst" - phy_dig_disparity_burst,<br>• "phy_dig_emulate_reserve" - phy_dig_emulate_reserve,<br>• "phy_dig_invld_dword" - phy_dig_invld_dword,<br>• "phy_dig_invld_dword_burst" - phy_dig_invld_dword_burst,<br>• "phy_dig_loss_dword" - phy_dig_loss_dword,<br>• "phy_dig_loss_dword_burst" - phy_dig_loss_dword_burst,<br>• "phy_dig_main_smp" - phy_dig_main_smp,<br>• "phy_dig_phy_change" - phy_dig_phy_change,<br>• "disabled_removed" - Disabled/Removed,<br>• "empty" - Empty,<br>• "phy_dig_phy_change" - phy_dig_phy_change,<br>• "phy_dig_phy_change_burst" - phy_dig_phy_change_burst,<br>• "phy_dig_phy_reset" - phy_dig_phy_reset,<br>• "phy_dig_phy_reset_burst" - phy_dig_phy_reset_burst,<br>• "disabled" - Phy is disabled or unused,<br>• "enabled" - Phy is enabled,<br>• "phy_mia_detached" - phy_mia_detached,<br>• "phy_mia_unknown" - phy_mia_unknown,<br>• "unknown" - Unknown Phy,<br>• "phy_dig_illegal" - Disabled/Illegal |
| **sas-port-power-status** | | string<br>optional | Port Power Status Attributes: non-creatable, non-modifiable |
| **sas-port-speed** | | string<br>optional | Port Speed Attributes: non-creatable, non-modifiable |
| **sas-port-type** | | storage-shelf-port-type<br>optional | Port Type Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Port type is unknown,<br>• "circle" - Circle,<br>• "qsfpdd" - Square,<br>• "qsfp" - Qsfp,<br>• "sfp" - Disk,<br>• "x" - Sc,<br>• "sff_8644" - Sc,<br>• "unused" - Unused,<br>• "host" - Host,<br>• "disk" - Disk,<br>• "exp" - Exp 1,<br>• "exp2" - Exp 2,<br>• "a_to_a" - A to A,<br>• "a_to_b" - A to B,<br>• "b_to_a" - B to A,<br>• "b_to_b" - B to B |
| **sas-port-wwpn** | | string<br>optional | Port World Wide Port Name Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-state**

unknown|no-status|still-required|onlined|offline|missing Possible values:
- "unknown" - The shelf state is unknown,
- "no_status" - The shelf state is not available,
- "still_required" - The shelf requires initialization,
- "onlined" - The shelf is online,
- "offline" - The shelf is offline,
- "missing" - The shelf is missing

[none]

Element definition: **storage-shelf-temperature-sensor-info**

Returns temperature sensor information.

| Name | Range | Type | Description |
|---|---|---|---|
| **high-critical-threshold** | | temperature-celsius<br>optional | High Critical Threshold Attributes: non-creatable, non-modifiable |
| **high-warning-threshold** | | temperature-celsius<br>optional | High Warning Threshold Attributes: non-creatable, non-modifiable |
| **temp-ambient** | | temperature<br>optional | Temperature Reading at Ambient Value Attributes: non-creatable, non-modifiable |
| **temp-low-critical-threshold** | | temperature-celsius<br>optional | Low Critical Threshold Attributes: non-creatable, non-modifiable |
| **temp-low-warning-threshold** | | temperature-celsius<br>optional | Low Warning Threshold Attributes: non-creatable, non-modifiable |
| **temp-sese-op-status** | | storage-shelf-temperature-op-status<br>optional | Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown Status,<br>• "normal" - Normal,<br>• "under_temperature" - Under Temperature,<br>• "over_temperature" - Over Temperature,<br>• "error" - Error,<br>• "not_supported" - Not Supported,<br>• "not_installed" - Not Installed |
| **temp-sensor-id** | | temperature-celsius<br>optional | Sensor Name Attributes: non-creatable, non-modifiable |
| **temp-sensor-reading** | | temperature-celsius<br>optional | Temperature Reading Attributes: non-creatable, non-modifiable |

Element definition: **storage-shelf-voltage-sensor-info**

Returns voltage sensor information.

| Name | Range | Type | Description |
|---|---|---|---|
| **voltage-op-status** | | storage-shelf-voltage-op-status<br>optional | Operational Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown Status,<br>• "normal" - Normal,<br>• "over_voltage_critical" - Critical Over Voltage,<br>• "under_voltage_critical" - Critical Under Voltage,<br>• "not_supported" - Not Supported,<br>• "not_installed" - Not Installed,<br>• "volt_redundant" - Volt Redundant |
| **voltage-sensor-id** | | unsigned64-or-dash<br>optional | Voltage Sensor ID Attributes: non-creatable, non-modifiable |
| **voltage-sensor-location** | | string<br>optional | Voltage Sensor Location Attributes: non-creatable, non-modifiable |
| **voltage-sensor-reading** | | string<br>optional | Voltage Current Reading Attributes: non-creatable, non-modifiable |

Element definition: **unsigned64-or-dash**

[none]

Element definition: **node-name**

The node's name

[none]

Element definition: **shelf-module-id**

A|B Possible values:
- "a" - IOM A,
- "b" - IOM B,
- "unknown" - unknown

[none]

Element definition: **storage-shelf-bay-op-status**

unknown|normal|error Possible values:
- "unknown" - The operational status of the disk bay is unknown,
- "normal" - The operational status of the disk bay is normal,
- "error" - The operational status of the disk bay is error

[none]

Element definition: **storage-shelf-bay-type**

unknown|single-disk|multi-lun Possible values:
- "unknown" - The disk bay type is unknown,
- "single_disk" - The disk bay carries single disk,
- "multi_lun" - The disk bay carries multiple LUNs

[none]

Element definition: **storage-shelf-boot-device-op-status**

unknown|normal|error|not-supported|not-installed Possible values:
- "unknown" - Unknown,
- "normal" - Normal,
- "error" - Error,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[none]

Element definition: **storage-shelf-coin-battery-op-status**

unknown|normal|error|low|high|not-supported|not-installed Possible values:
- "unknown" - Unknown,
- "normal" - Normal,
- "error" - Error,
- "low" - Low Voltage,
- "high" - High Voltage,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[none]

Element definition: **storage-shelf-current-op-status**

unknown|normal|over-current-critical|under-current-critical|not-supported|not-installed Possible values:
- "unknown" - Unknown Status,
- "normal" - Normal,
- "over_current_critical" - Critical Over Current,
- "under_current_critical" - Critical Under Current,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[none]

Element definition: **storage-shelf-dimm-op-status**

unknown|normal|error|not-supported|not-installed Possible values:
- "unknown" - Unknown,
- "normal" - Normal,
- "error" - Error,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[none]

Element definition: **storage-shell-error-type**

Unknown|ACPP|BootDevice|ControllerIp|Configuration|Current|Dimm|Expander|Fan|Module|PCM|Power|Temperature|Voltage Possible values:

- "unknown" - Unknown,
- "acpp" - Alternate control path processor error,
- "bootdevice" - Boot device error,
- "current" - Current error,
- "fan" - Cooling fan error,
- "module" - Storage controller module error,
- "power" - Power supply error,
- "temperature" - Temperature error,
- "dimm" - Memory DIMM error,
- "bootdevice" - Boot device error,
- "controllerip" - Cain battery error,
- "pcm" - PCM error,
- "expander" - Expander error,
- "pcm" - PCM error

[none]

Element definition: **storage-shell-fan-op-status**

unknown|normal|offerror|not-supported|not-installed Possible values:

- "unknown" - Unknown Status,
- "normal" - Normal,
- "off" - Off,
- "offerror" - Error,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[none]

Element definition: **storage-shell-lcd-status**

on|off Possible values:

- "off",
- "on",
- "unsupported"

[none]

Element definition: **storage-shell-module-fw-progress**

not-available|ready|in-progress|failed Possible values:

- "not_available" - Not available,
- "ready" - Ready,
- "in_progress" - In Progress,
- "failed" - Failed

[none]

Element definition: **storage-shell-module-op-status**

unknown|normal|warning|error|not-installed Possible values:

- "unknown" - The operational status of the module is unknown,
- "normal" - The shelf module is operational,
- "warning" - There are warning conditions, the module is operational,
- "error" - The shelf module has one or more errors that require immediate action,
- "not_installed" - The shelf module is not installed

[none]

Element definition: **storage-shell-ssm-port-speed**

2.5|5.0|8.0 Possible values:

- "unknown" - Port speed is unknown,
- "5_0" - 5.0 Gb/s,
- "8_0" - 8.0 Gb/s

[none]

Element definition: **storage-shell-ssm-port-state**

up|off-link disabled|off-40 link|link down|no-drive Possible values:

- "unknown" - Port state is unknown,
- "up" - Up,
- "off_link_disabled" - Off, Link Disabled,
- "off_40_link" - Off, 40 Gbps Link Layer Link,
- "link_down" - Link Down,
- "no_drive" - No Drive

[none]

Element definition: **storage-shell-ssm-port-type**

cpu|disk|ioc|ethernet Possible values:

- "unknown" - Port type is unknown,
- "cpu" - CPU,
- "disk" - Disk,
- "ioc" - IOC,
- "ethernet" - Ethernet

[none]

Element definition: **storage-shell-port-op-status**

error|normal|offunknown|tbp-bad-term|bad-over-recovery|fw_cfg_file|tbp_comms_fail|tbp_ctl_limit_file|tbp_data_timeout|tbp_drv_fault|tbp_drv_pwr|tbp_drv_self|tbp_gen|tbp_init|tbp_ltp_link_fw|tbp_ltp_RE|tbp_ltp_rate_fw|tbp_ltpFT|tbp_lttd|tbp_overTemp_rx_drive|tbp_overTemp_xcv_drive|tbp_osc|tbp_other_fw|tbp_rec_lost|tbp_rpunt|tbp_stall_fw|tbp_wrd_bnd_fw|tbp_wrd_rate_fw|tbp_xmit_fault|dsa_transmit|transmit|loopback|status_unknown|warn_high_clk_delta|warn_high_cnc_rate|warn_high_fp|warn_high_wrd_rate|term|phy_dis_clk_fault|phy_dis_cnc_err|phy_dis_cnc_err_burst|phy_dis_disparity|phy_dis_disparity_burst|phy_dis_emulate_reserve|phy_dis_invld_dword|phy_dis_invld_dword_burst|phy_dis_lock_dword|phy_dis_lock_dword_burst|phy_dis_man_sequ|phy_dis_manual|phy_dis_nonrecov|empty|phy_dis_phy_change|phy_dis_phy_change_burst|phy_dis_phy_reset|phy_dis_phy_reset_burst|phy_dis_phy_unused|phy_enal|phy_mnt_not_attach|phy_mnt_unknown|phy_unknown|phy_dis_illegal Possible values:

- "error" - Error,
- "normal" - Normal,
- "off" - Disabled,
- "unknown_status" - StatusUnknown,
- "unused" - Unused,
- "tbp_bad_term" - tbp-bad-term,
- "bad_over_recovery" - bad-over-recovery,
- "tbp_cfg_file" - tbp_cfg_file,
- "tbp_comms_fail" - tbp_comms_fail,
- "tbp_crc_bnd_thr" - tbp_crc_bnd_thr,
- "tbp_crc_rate_thr" - tbp_crc_rate_thr,
- "tbp_data_timeout" - tbp_data_timeout,
- "tbp_drv_fault" - tbp_drv_fault,
- "tbp_drv_pwrfail" - tbp_drv_pwrfa,
- "tbp_drv_self" - tbp_drv_self,
- "tbp_err_ref" - tbp_err_ref,
- "tbp_gen" - tbp_gen,
- "tbp_init" - tbp_init,
- "tbp_lfa_bnd_thr" - tbp_lfa_bnd_thr,
- "tbp_ltp_RE" - tbp_ltp_rE,
- "tbp_ltp_rate_fw" - tbp_ltp_rate_thr,
- "tbp_ltpFT" - tbp_ltpFT,
- "tbp_lttd" - tbp_lttd,
- "tbp_overTemp_main" - tbp_overTemp_main,
- "tbp_rpunt" - tbp_rpunt,
- "tbp_rx_drive" - tbp_rx_drive,
- "tbp_stall" - tbp_stall,
- "tbp_wrd_bnd_thr" - tbp_wrd_bnd_thr,
- "tbp_wrd_rate_thr" - tbp_wrd_rate_thr,
- "tbp_xmit_fault" - tbp_xmit_fault,
- "dsa_transmit" - dsa_transmit,
- "transmit" - transmit,
- "loopback" - loopback,
- "status_unknown" - status_unknown,
- "warn_high_clk_delta" - warn_high_clk_delta,
- "warn_high_cnc_rate" - warn_high_cnc_rate,
- "warn_high_fp" - warn_high_fp,
- "warn_high_wrd_rate" - warn_high_wrd_rate,
- "warn_wrd_bnd" - warn_wrd_bnd,
- "term" - term,
- "phy_dis_clk_fault" - phy_dis_clk_fault,
- "phy_dis_cnc_err" - phy_dis_cnc_err,
- "phy_dis_cnc_err_burst" - phy_dis_cnc_err_burst,
- "phy_dis_disparity" - phy_dis_disparity,
- "phy_dis_disparity_burst" - phy_dis_disparity_burst,
- "phy_dis_emulate_reserve" - phy_dis_emulate_reserve,
- "phy_dis_invld_dword" - phy_dis_invld_dword,
- "phy_dis_invld_dword_burst" - phy_dis_invld_dword_burst,
- "phy_dis_lock_dword" - phy_dis_lock_dword,
- "phy_dis_lock_dword_burst" - phy_dis_lock_dword_burst,
- "phy_dis_man_sequ" - phy_dis_man_sequ,
- "phy_dis_manual" - phy_dis_manual,
- "disabled_mirrored" - Disabled(Mirrored),
- "empty" - Empty,
- "phy_dis_phy_change" - phy_dis_phy_change,
- "phy_dis_phy_change_burst" - phy_dis_phy_change_burst,
- "phy_dis_phy_reset" - phy_dis_phy_reset,
- "phy_dis_phy_reset_burst" - phy_dis_phy_reset_burst,
- "disabled" - Phy is disabled or has not attached,
- "enabled" - Phy is enabled,
- "phy_dis_unused" - Phy is not attached,
- "phy_enal_unknown" - phy_enal_unknown,
- "unknown" - Unknown Phy,
- "phy_dis_illegal" - Disabled Illegal

[none]

Element definition: **storage-shell-port-type**

unknown|circle|square|rect|disk|ioc|ual|unused|host|dom|sas|2pci|2_hsl|a_to_b|b_to_a Possible values:

- "unknown" - Port type is unknown,
- "circle" - Circle,
- "square" - Square,
- "rect" - Rect,
- "disk" - Disk,
- "ioc" - IOC,
- "ual" - Ual,
- "unused" - Unused,
- "host" - Host,
- "dom" - DOM,
- "sas1" - Bus 1,
- "sas2" - Bus 2,
- "2_hsl" - H-Hub,
- "a_to_b" - A to B,
- "b_to_a" - B to A

[none]

Element definition: **storage-shell-psu-op-status**

unknown|normal|error|dc-over-voltage|dc-under-voltage|dc-over-current|over-temperature-error|failed|off|not-supported|not-installed Possible values:

- "unknown" - Unknown Status,
- "normal" - Normal,
- "error" - Error,
- "dc_over_voltage" - DC Over Voltage,
- "dc_under_voltage" - DC Under Voltage,
- "dc_over_current" - DC Over Current,
- "over_temperature_error" - Over Temperature,
- "failed" - Failed,
- "off" - Off,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[none]

Element definition: **storage-shell-temperature-op-status**

unknown|normal|under-temperature|over-temperature|error|not-supported|not-installed Possible values:

- "unknown" - Unknown Status,
- "normal" - Normal,
- "under_temperature" - Under Temperature,
- "over_temperature" - Over Temperature,
- "error" - Error,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed

[none]

Element definition: **storage-shell-voltage-op-status**

unknown|normal|over-voltage-critical|under-voltage-critical|not-supported|not-installed|not-recoverable Possible values:

- "unknown" - Unknown Status,
- "normal" - Normal,
- "over_voltage_critical" - Critical Over Voltage,
- "under_voltage_critical" - Critical Under Voltage,
- "not_supported" - Not Supported,
- "not_installed" - Not Installed,
- "not_recoverable" - Not Recoverable

[none]

# APIs in Category: **storage-shelf-firmware**

| | |
|---|---|
| storage-shelf-firmware-file-get-iter | This is an auto generated category. |

## storage-shelf-firmware-file-get-iter

[top]

return the firmware file list

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-shelf-firmware-file optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-shelf-firmware-file optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-shelf-firmware object. All storage-shelf-firmware objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-shelf-firmware-file[] optional | The list of attributes of storage-shelf-firmware objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-shelf-firmware objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **storage-shelf-firmware-file**

[top]

Show firmware files When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **filename** | | string optional | Storage Firmware File Attributes: key, non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# APIs in Category: **storage-switch**


storage-switch-get
storage-switch-get-iter


These APIs enable the getting of values associated with storage switches that have been added for monitoring. These are read only APIs and hence require pre addition of switches for monitoring before these can be used. A storage switch is identified by it's name (set by the administrator and fetched over SNMP) and its information (that these APIs provide) is broadly categorised into following areas:

1. Profile Information: It includes information like switch's wwn, snmp-version, model, vendor etc. 2. Cooling Information: It includes information about switch's temperature sensors, power supply units and fans. 3. Connectivity Information: In includes information about the devices that are directly connected to the switch and the direct paths to it from the nodes. 4. Interface Information: It includes information about the switch's ports, their statistics and Small Form-factor Pluggables. 5. Configuration Information: It includes information about the VSANs and zones configured for the switch. 6. Error Information: It includes information about the errors occurred in the switch.

## storage-switch-get

[top]

Get the attributes of the storage-switch.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-switch-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **name** | | string | Name of the switch. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | storage-switch-info | The attributes of the storage-switch. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## storage-switch-get-iter

[top]

Iterate over a list of storage-switch objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | storage-switch-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | storage-switch-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the storage-switch object. All storage-switch objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | storage-switch-info[] optional | The list of attributes of storage-switch objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more storage-switch objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **storage-switch-info**

[top]

Storage Switch When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **blades** | **[0..2^32-1]** | integer[] optional | Blades to monitor on the switch. Attributes: optional-for-create, modifiable |
| **domain-id** | **[0..2^32-1]** | integer optional | Domain ID of the switch. Attributes: non-creatable, non-modifiable |
| **fabric-name** | | string optional | Name of the fabric containing this switch. Attributes: non-creatable, non-modifiable |
| **firmware-version** | | string optional | Firmware Version of the switch. Attributes: non-creatable, non-modifiable |
| **ip-address** | | ip-address optional | IP Address of the switch. Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **is-director-class** | | boolean optional | Is switch Director class SAN switch? Attributes: non-creatable, non-modifiable |
| **is-local-attach** | | boolean optional | The switch is directly attached to the reporting cluster Attributes: non-creatable, non-modifiable |
| **is-monitoring-enabled** | | boolean optional | Is monitoring enabled for the switch? Attributes: non-creatable, non-modifiable |
| **model** | | string optional | Model of the switch. Attributes: non-creatable, non-modifiable |
| **name** | | string optional | Name of the switch. Attributes: key, required-for-create, non-modifiable |
| **role** | | storage-switch-role optional | Role of switch in the fabric. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Switch Role Unknown,<br>• "primary" - Switch has Primary Role,<br>• "subordinate" - Switch has Subordinate Role |
| **status** | | storage-device-status optional | Status of the switch. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Device Status Unknown,<br>• "ok" - Device Status Ok,<br>• "error" - Device Status Erroneous |
| **storage-switch-connectivity-list** | | storage-switch-connectivity-info[] optional | Information about the individual connection. |
| **storage-switch-error-list** | | storage-switch-error-info[] optional | Information about the individual error. |
| **storage-switch-fan-list** | | storage-switch-fan-info[] optional | Information about individual fan. |
| **storage-switch-path-list** | | storage-switch-path-info[] optional | Information about the individual path. |
| **storage-switch-port-list** | | storage-switch-port-info[] optional | Information about the individual port. |
| **storage-switch-port-statistics-list** | | storage-switch-port-statistics-info[] optional | Information about the port statistics. |
| **storage-switch-power-supply-unit-list** | | storage-switch-power-supply-unit-info[] optional | Information about individual power supply unit. |
| **storage-switch-sfp-list** | | storage-switch-sfp-info[] optional | Information about the individual port sfp. |
| **storage-switch-temperature-sensor-list** | | temperature-sensor-info[] optional | Information about the individual temperature sensor. |
| **storage-switch-vsan-list** | | storage-switch-vsan-info[] optional | Information about the individual vsan. |
| | | storage-switch- | |

| | | | |
|---|---|---|---|
| **storage-switch-zone-list** | | zone-info[] optional | Information about the individual zones. |
| **symbolic-name** | | string optional | If set, symbolic name of the switch, 'Not Set' otherwise. Attributes: non-creatable, non-modifiable |
| **vendor** | | storage-switch-vendor optional | Vendor of the switch. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "brocade" ,<br>• "cisco" |
| **wwn** | | string optional | World Wide Name of the switch. Attributes: non-creatable, non-modifiable |

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **storage-device-status**

[top]

unknown|ok|error Possible values:

- "unknown" - Device Status Unknown,
- "ok" - Device Status Ok,
- "error" - Device Status Erroneous

[none]

# Element definition: **storage-switch-connectivity-info**

[top]

Information about the individual connection.

| Name | Range | Type | Description |
|---|---|---|---|
| **peer-info** | | string optional | Information describing the peer device that is connected to the port. Attributes: non-creatable, non-modifiable |
| **peer-port-wwn** | | string optional | World Wide Name of the peer port that is connected to the port. Attributes: non-creatable, non-modifiable |
| **peer-type** | | storage-switch-port- | Type of peer device that is connected to the port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "bridge" - Bridge, |

| | | | |
|---|---|---|---|
| | | peer-type optional | "switch" - Switch,<br>• "fcp_adapter" - FCP Adapter Port,<br>• "fcvi_adapter" - FCVI Adapter Port |
| **peer-unique-id** | | string optional | Unique textual representation of the peer that is connected to the port. It is UUID of the node hosting the adapter if the peer-type is fcp-initiator or fcvi-initiator, World Wide Name otherwise. Attributes: non-creatable, non-modifiable |
| **port-mode** | | storage-switch-port-mode optional | Operating mode of the port in the switch that has a peer port connected to it. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "auto" - Auto,<br>• "f_port" - Fabric Port,<br>• "fl_port" - Fabric Loop Port,<br>• "e_port" - ISL Port,<br>• "te_port" - Trunking ISL Port,<br>• "u_port" - Universal Port,<br>• "g_port" - Generic Port,<br>• "other" - Other,<br>• "ex_port" - Routing ISL Port,<br>• "d_port" - Diagnostic Port,<br>• "sim_port" - Port Simulator Port,<br>• "ve_port" - Virtual E-Port,<br>• "ae_port" - Analytics E-Port,<br>• "af_port" - Analytics F-Port |
| **port-name** | | string optional | Name of the port in the switch that has a peer port connected to it. Attributes: non-creatable, non-modifiable |
| **port-wwn** | | string optional | World Wide Name of the port in the switch that has a peer port connected to it. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-switch-error-info**

[top]

Information about the individual error.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-message** | | string optional | Text describing the error present in the switch. Attributes: non-creatable, non-modifiable |
| **severity** | | storage-switch-error-severity optional | Severity of the error occurred in the switch. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Severity Unknown,<br>• "notice" - Notice,<br>• "warning" - Warning,<br>• "error" - Error |
| **switch-component-id** | **[0..2^32-1]** | integer optional | Name of the switch component with error. Attributes: non-creatable, non-modifiable |
| **switch-component-name** | | string optional | Switch Component Name List Attributes: non-creatable, non-modifiable |
| | | | Type of the error occurred in the switch. Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **type** | | storage-switch-error-type optional | • "switch_unreachable" - Switch is Unreachable over Management Network,<br>• "temp_above_warning_level" - Switch Temperature Above Warning Level,<br>• "temp_above_critical_level" - Switch Temperature Above Critical Level,<br>• "temp_below_warning_level" - Switch Temperature Below Warning Level,<br>• "temp_below_critical_level" - Switch Temperature Below Critical Level,<br>• "temp_sensor_status_failed" - Temperature Sensor is Failed,<br>• "fan_status_non_operational" - Fan is Non-operational,<br>• "power_supply_status_failed" - Power Supply Unit has Failed,<br>• "power_above_warning_level" - Voltage Above Warning Level,<br>• "power_above_critical_level" - Voltage Above Critical Level,<br>• "power_below_warning_level" - Voltage Below Warning Level,<br>• "power_below_critical_level" - Voltage Below Critical Level,<br>• "sfp_rx_power_above_warning_level" - SFP Receive Power Above Warning Level,<br>• "sfp_rx_power_above_critical_level" - SFP Receive Power Above Critical Level,<br>• "sfp_tx_power_above_warning_level" - SFP Transmit Power Above Warning Level,<br>• "sfp_tx_power_above_critical_level" - SFP Transmit Power Above Critical Level,<br>• "sfp_rx_power_below_warning_level" - SFP Receive Power Above Warning Level,<br>• "sfp_rx_power_below_critical_level" - SFP Receive Power Above Critical Level,<br>• "sfp_tx_power_below_warning_level" - SFP Transmit Power Above Warning Level,<br>• "sfp_tx_power_below_critical_level" - SFP Transmit Power Above Critical Level,<br>• "sfp_status_failed" - SFP has Failed,<br>• "vsan_invalid_frame_delivery_configuration" - VSAN is Configured with Incorrect IOD/OOD settings,<br>• "temp_sensor_status_unavailable" - Temperature Sensor Status is Unavailable,<br>• "fan_status_unavailable" - Fan Status is Unavailable,<br>• "power_supply_inline_power_failed" - Power Supply's Inline Power has Failed,<br>• "power_supply_status_unavailable" - Power Supply Status is Unavailable,<br>• "unknown" - Unknown,<br>• "power_supply_off_env_other" - Power Supply is off because of unknown problem,<br>• "power_supply_off_admin" - Power Supply is administratively off,<br>• "power_supply_off_denied" - Power Supply is powered off because available system power is insufficient,<br>• "power_supply_off_env_power" - Power Supply is powered off because of power problem in the FRU,<br>• "power_supply_off_env_temp" - Power Supply is powered off because of temperature problem, |

| | | | |
|---|---|---|---|
| | | | • "power_supply_off_env_fan" - Power Supply is powered off because of fan problems,<br>• "power_supply_on_but_fan_fail" - Power Supply is on but fan has failed,<br>• "power_supply_off_cooling" - Power Supply is powered off because of the system's insufficient cooling capacity,<br>• "power_supply_off_connector_rating" - Power Supply is powered off because of the system's connector rating exceeded,<br>• "e_ports_down" - All E-ports are down for this blade/switch,<br>• "snmpv3_user_not_configured" - SNMPv3 user is not configured,<br>• "incomplete_snmp_data_refresh" - SNMP data collection failed or is incomplete |

# Element definition: **storage-switch-fan-info**

[top]

Information about individual fan.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string<br>optional | Name of the fan. Attributes: non-creatable, non-modifiable |
| **operational-status** | | storage-switch-fan-oper-status<br>optional | Operational status of the fan. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "operational" ,<br>• "failed" ,<br>• "not_operational" ,<br>• "not_present" |
| **speed** | **[0..2^32-1]** | integer<br>optional | Speed of the fan in RPM. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-switch-path-info**

[top]

Information about the individual path.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string<br>optional | Name of the adapter in the node that to which the switch is connected. Attributes: non-creatable, non-modifiable |
| **adapter-type** | | storage-switch-initiator-type<br>optional | Node Adapter Type List Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "fcp_initiator" ,<br>• "fc_vi" ,<br>• "fcp_target" |
| | | | |

| | | | |
|---|---|---|---|
| **node-name** | | filer-id optional | Name of the node to which the switch is connected. Attributes: non-creatable, non-modifiable |
| **switch-port-name** | | string optional | Name of the port in the switch to which the adapter in the node is connected. Attributes: non-creatable, non-modifiable |
| **switch-port-speed** | **[0..2^32-1]** | integer optional | Speed (in Gbps) of the port in the switch to which the adapter in the node is connected. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-switch-port-info**

[top]

Information about the individual port.

| Name | Range | Type | Description |
|---|---|---|---|
| **administrative-status** | | storage-switch-port-admin-status optional | Administrative status of the port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "enabled" ,<br>• "disabled" |
| **bb-credit** | **[0..2^32-1]** | integer optional | BB credit of the port. Attributes: non-creatable, non-modifiable |
| **is-sfp-present** | | boolean optional | Is SFP present in the port? Attributes: non-creatable, non-modifiable |
| **mode** | | storage-switch-port-mode optional | Operating mode of the port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown,<br>• "auto" - Auto,<br>• "f_port" - Fabric Port,<br>• "fl_port" - Fabric Loop Port,<br>• "e_port" - ISL Port,<br>• "te_port" - Trunking ISL Port,<br>• "u_port" - Universal Port,<br>• "g_port" - Generic Port,<br>• "other" - Other,<br>• "ex_port" - Routing ISL Port,<br>• "d_port" - Diagnostic Port,<br>• "sim_port" - Port Simulator Port,<br>• "ve_port" - Virtual E-Port,<br>• "ae_port" - Analytics E-Port,<br>• "af_port" - Analytics F-Port |
| **name** | | string optional | Name of the port. Attributes: non-creatable, non-modifiable |
| **operational-speed** | **[0..2^32-1]** | integer optional | Operational speed of the port in Gbps. Attributes: non-creatable, non-modifiable |
| **operational-status** | | storage-switch-port-oper-status optional | Operational status of the port. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "online" ,<br>• "offline" |

| | | | |
|---|---|---|---|
| **peer-port-wwn** | | string optional | Port's Peer port world wide name. Attributes: non-creatable, non-modifiable |
| **wwn** | | string optional | World Wide Name of the port. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-switch-port-statistics-info**

[top]

Information about the port statistics.

| Name | Range | Type | Description |
|---|---|---|---|
| **frame-error-count** | **[0..2^32-1]** | integer optional | Frame error count for the port. Attributes: non-creatable, non-modifiable |
| **name** | | string optional | Name of the port. Attributes: non-creatable, non-modifiable |
| **rx-frames-count** | **[0..2^32-1]** | integer optional | Number of frames received by the port. Attributes: non-creatable, non-modifiable |
| **rx-octets-count** | **[0..2^32-1]** | integer optional | Number of octets received by the port. Attributes: non-creatable, non-modifiable |
| **tx-frames-count** | **[0..2^32-1]** | integer optional | Number of frames transmitted by the port. Attributes: non-creatable, non-modifiable |
| **tx-octets-count** | **[0..2^32-1]** | integer optional | Number of octets transmitted by the port. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-switch-power-supply-unit-info**

[top]

Information about individual power supply unit.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | Name of power supply unit. Attributes: non-creatable, non-modifiable |
| **operational-status** | | storage-switch-power-sensor-status optional | Operational status of power supply unit. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Power Status Unknown,<br>• "normal" - Power Status Normal,<br>• "warning" - Power Status Warning,<br>• "faulty" - Power Sensor is faulty,<br>• "not_present" - Power Sensor is not present |
| **serial-number** | | string optional | Serial number of power supply unit. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-switch-role**

[top]

unknown|primary|subordinate Possible values:

"unknown" - Switch Role Unknown,
- "primary" - Switch has Primary Role,
- "subordinate" - Switch has Subordinate Role

[none]

# Element definition: **storage-switch-sfp-info**

[top]

Information about the individual port sfp.

| Name | Range | Type | Description |
|---|---|---|---|
| **part-number** | | string optional | Part number of SFP. Attributes: non-creatable, non-modifiable |
| **port-name** | | string optional | Name of the port. Attributes: non-creatable, non-modifiable |
| **serial-number** | | string optional | Serial number of SFP. Attributes: non-creatable, non-modifiable |
| **transmitter-type** | | storage-switch-sfp-tx-type optional | Transmitter type of SFP. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown transmitter type.,<br>• "long_wave_laser" - Long wave laser.,<br>• "short_wave_laser" - Short wave laser.,<br>• "long_wave_laser_cost_reduced" - Cost reduced long wave laser.,<br>• "electrical" - Electrical.,<br>• "ten_gig_base_sr" - 10 gigabit base short range transceiver.,<br>• "ten_gig_base_lr" - 10 gigabit base long range transceiver.,<br>• "ten_gig_base_er" - 10 gigabit base extended range transceiver.,<br>• "ten_gig_base_lx4" - 10 gigabit base long range transceiver for extended operating temperature.,<br>• "ten_gig_base_sw" - 10 gigabit base short wave transceiver.,<br>• "ten_gig_base_lw" - 10 gigabit base long wave transceiver.,<br>• "ten_gig_base_ew" - 10 gigabit base extended wave transceiver. |
| | | | Type of SFP. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Unknown type.,<br>• "other" - Other than the types listed here.,<br>• "gbic" - Gigabit interface card.,<br>• "embedded" - Unremovable gigabit interface card.,<br>• "glm" - Gigabit link module.,<br>• "gbic_with_serial_id" - Gigabit interface card with serial ID.,<br>• "gbic_without_serial_id" - Gigabit interface card without serial ID.,<br>• "sfp_with_serial_id" - Small form factor pluggable with serial ID., |

| | | | |
|---|---|---|---|
| **type** | | storage-switch-sfp-type optional | • "sfp_without_serial_id" - Small form factor pluggable without serial ID.,<br>• "xfp" - 10 gigabit small form factor pluggable transceiver.,<br>• "x2_short" - X2 short.,<br>• "x2_medium" - X2 medium.,<br>• "x2_tall" - X2 tall.,<br>• "xpak_short" - Xpak short.,<br>• "xpak_medium" - Xpak medium.,<br>• "xpak_tall" - Xpak tall.,<br>• "xenpak" - Xenpak,<br>• "sfp_dw_dm" - Small form factor pluggable dense wavelength division multiplexing.,<br>• "qsfp" - Quad small form factor pluggable.,<br>• "x2_dw_dm" - X2 dense wavelength division multiplexing.,<br>• "gbic_not_installed" - Gigabit interface card is not installed.,<br>• "small_form_factor" - Small form factor. |
| **vendor** | | string optional | Vendor of SFP. Attributes: non-creatable, non-modifiable |

# Element definition: **storage-switch-vendor**

[top]

unknown|Brocade|Cisco Possible values:

- "unknown" ,
- "brocade" ,
- "cisco"

[none]

# Element definition: **storage-switch-vsan-info**

[top]

Information about the individual vsan.

| Name | Range | Type | Description |
|---|---|---|---|
| **index** | **[0..2^32-1]** | integer optional | Index of the VSAN. Attributes: non-creatable, non-modifiable |
| **is-iod-set** | | boolean optional | Is in order delivery set for the VSAN? Attributes: non-creatable, non-modifiable |
| **load-balancing-type** | | storage-switch-vsan-load-balancing-type optional | Load balancing type set in the VSAN. Attributes: non-creatable, non-modifiable Possible values:<br>• "src_id_dest_id" - Based on source ID and destination ID.,<br>• "src_id_dest_id_ox_id" - Based on source ID, destination ID and originator exchange ID. |
| **name** | | string optional | Name of the VSAN. Attributes: non-creatable, non-modifiable |
| | | | Operational status of the VSAN. Attributes: non- |

| | | | |
|---|---|---|---|
| **operational-status** | | storage-switch-vsan-oper-state optional | creatable, non-modifiable Possible values:<br>• "up" ,<br>• "down" |

## Element definition: **storage-switch-zone-info**

[top]

Information about the individual zones.

| Name | Range | Type | Description |
|---|---|---|---|
| **member-port-id** | | string optional | ID of the member port participating in the zone. Attributes: non-creatable, non-modifiable |
| **member-port-name** | | string optional | Name of the port participating in the zone. Attributes: non-creatable, non-modifiable |
| **member-port-switch-name** | | string optional | Name of the switch that contains the port participating in the zone. Attributes: non-creatable, non-modifiable |
| **member-wwn** | | string optional | World wide name of the member participating in the zone. Attributes: non-creatable, non-modifiable |
| **name** | | string optional | Name of the zone. Attributes: non-creatable, non-modifiable |
| **vsan-id** | **[1..4094]** | integer optional | Identifier of the VSAN to which the zone belongs. Attributes: non-creatable, non-modifiable |

## Element definition: **temperature-sensor-info**

[top]

Information about the individual temperature sensor.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | Name of the temperature sensor. Attributes: non-creatable, non-modifiable |
| **status** | | storage-switch-temp-sensor-status optional | Operational status of the temperature sensor. Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "normal" ,<br>• "warning" ,<br>• "critical" |
| **temperature-reading** | **[-2^31..2^31-1]** | integer optional | Temperature Sensor reading in degree celsius. Attributes: non-creatable, non-modifiable |

## Element definition: **filer-id**

[top]

Filer UUID

[none]

## Element definition: **storage-switch-error-severity**

[top]

unknown|notice|warning|error Possible values:

- "unknown" - Severity Unknown,
- "notice" - Notice,
- "warning" - Warning,
- "error" - Error

[none]

## Element definition: **storage-switch-error-type**

[top]

switch-unreachable|temp-above-warning-level|temp-above-critical-level|temp-below-warning-level|temp-below-critical-level|temp-sensor-status-failed|fan-status-non-operational|power-supply-status-failed|power-above-warning-level|power-above-critical-level|power-below-warning-level|power-below-critical-level|sfp-rx-power-above-warning-level|sfp-rx-power-above-critical-level|sfp-tx-power-above-warning-level|sfp-tx-power-above-critical-level|sfp-rx-power-below-warning-level|sfp-rx-power-below-critical-level|sfp-tx-power-below-warning-level|sfp-tx-power-below-critical-level|sfp-status-failed|vsan-invalid-frame-delivery-configuration|temp-sensor-status-unavailable|fan-status-unavailable|power-supply-inline-power-failed|power-supply-status-unavailable|unknown|power-supply-off-env-other|power-supply-off-admin|power-supply-off-denied|power-supply-off-env-power|power-supply-off-env-temp|power-supply-off-env-fan|power-supply-on-but-fan-fail|power-supply-off-cooling|power-supply2 :tor- ating|e-ports-down|snmpv3-user-not-configured|incomplete-snmp-data-refresh Possible values:

- "switch_unreachable" - Switch is Unreachable over Management Network,
- "temp_above_warning_level" - Switch Temperature Above Warning Level,
- "temp_above_critical_level" - Switch Temperature Above Critical Level,
- "temp_below_warning_level" - Switch Temperature Below Warning Level,
- "temp_below_critical_level" - Switch Temperature Below Critical Level,
- "temp_sensor_status_failed" - Temperature Sensor is Failed,
- "fan_status_non_operational" - Fan is Non-operational,
- "power_supply_status_failed" - Power Supply Unit has Failed,
- "power_above_warning_level" - Voltage Above Warning Level,
- "power_above_critical_level" - Voltage Above Critical Level,
- "power_below_warning_level" - Voltage Below Warning Level,
- "power_below_critical_level" - Voltage Below Critical Level,
- "sfp_rx_power_above_warning_level" - SFP Receive Power Above Warning Level,
- "sfp_rx_power_above_critical_level" - SFP Receive Power Above Critical Level,
- "sfp_tx_power_above_warning_level" - SFP Transmit Power Above Warning Level,
- "sfp_tx_power_above_critical_level" - SFP Transmit Power Above Critical Level,
- "sfp_rx_power_below_warning_level" - SFP Receive Power Above Warning Level,
- "sfp_rx_power_below_critical_level" - SFP Receive Power Above Critical Level,
- "sfp_tx_power_below_warning_level" - SFP Transmit Power Above Warning Level,
- "sfp_tx_power_below_critical_level" - SFP Transmit Power Above Critical Level,
- "sfp_status_failed" - SFP has Failed,
- "vsan_invalid_frame_delivery_configuration" - VSAN is Configured with Incorrect IOD/OOD settings,
- "temp_sensor_status_unavailable" - Temperature Sensor Status is Unavailable,

"fan_status_unavailable" - Fan Status is Unavailable,
- "power_supply_inline_power_failed" - Power Supply's Inline Power has Failed,
- "power_supply_status_unavailable" - Power Supply Status is Unavailable,
- "unknown" - Unknown,
- "power_supply_off_env_other" - Power Supply is off because of unknown problem,
- "power_supply_off_admin" - Power Supply is administratively off,
- "power_supply_off_denied" - Power Supply is powered off because available system power is insufficient,
- "power_supply_off_env_power" - Power Supply is powered off because of power problem in the FRU,
- "power_supply_off_env_temp" - Power Supply is powered off because of temperature problem,
- "power_supply_off_env_fan" - Power Supply is powered off because of fan problems,
- "power_supply_on_but_fan_fail" - Power Supply is on but fan has failed,
- "power_supply_off_cooling" - Power Supply is powered off because of the system's insufficient cooling capacity,
- "power_supply_off_connector_rating" - Power Supply is powered off because of the system's connector rating exceeded,
- "e_ports_down" - All E-ports are down for this blade/switch,
- "snmpv3_user_not_configured" - SNMPv3 user is not configured,
- "incomplete_snmp_data_refresh" - SNMP data collection failed or is incomplete

[none]

# Element definition: **storage-switch-fan-oper-status**

[top]

unknown|operational|failed|not-operational|not-present Possible values:

- "unknown" ,
- "operational" ,
- "failed" ,
- "not_operational" ,
- "not_present"

[none]

# Element definition: **storage-switch-initiator-type**

[top]

unknown|FCP-Initiator|FC-VI|FCP-Target Possible values:

- "unknown" ,
- "fcp_initiator" ,
- "fc_vi" ,
- "fcp_target"

[none]

# Element definition: **storage-switch-port-admin-status**

[top]

unknown|enabled|disabled Possible values:

- "unknown" ,
- "enabled" ,
- "disabled"

[none]

## Element definition: **storage-switch-port-mode**

[top]

unknown|auto|F-port|FL-port|E-port|TE-port|U-port|G-port|other|EX-port|D-port|SIM-port|VE-port|AE-port|AF-port Possible values:

- "unknown" - Unknown,
- "auto" - Auto,
- "f_port" - Fabric Port,
- "fl_port" - Fabric Loop Port,
- "e_port" - ISL Port,
- "te_port" - Trunking ISL Port,
- "u_port" - Universal Port,
- "g_port" - Generic Port,
- "other" - Other,
- "ex_port" - Routing ISL Port,
- "d_port" - Diagnostic Port,
- "sim_port" - Port Simulator Port,
- "ve_port" - Virtual E-Port,
- "ae_port" - Analytics E-Port,
- "af_port" - Analytics F-Port

[none]

## Element definition: **storage-switch-port-oper-status**

[top]

unknown|online|offline Possible values:

- "unknown" ,
- "online" ,
- "offline"

[none]

## Element definition: **storage-switch-port-peer-type**

[top]

unknown|bridge|switch|fcp-adapter|fcvi-adapter Possible values:

- "unknown" - Unknown,
- "bridge" - Bridge,

- "switch" - Switch,
- "fcp_adapter" - FCP Adapter Port,
- "fcvi_adapter" - FCVI Adapter Port

[none]

## Element definition: **storage-switch-power-sensor-status**

[top]

unknown|normal|warning|faulty|not-present Possible values:

- "unknown" - Power Status Unknown,
- "normal" - Power Status Normal,
- "warning" - Power Status Warning,
- "faulty" - Power Sensor is faulty,
- "not_present" - Power Sensor is not present

[none]

## Element definition: **storage-switch-sfp-tx-type**

[top]

unknown|long-wave-laser|short-wave-laser|long-wave-laser-cost-reduced|electrical|ten-gig-base-sr|ten-gig-base-lr|ten-gig-base-er|ten-gig-base-lx4|ten-gig-base-sw|ten-gig-base-lw|ten-gig-base-ew Possible values:

- "unknown" - Unknown transmitter type.,
- "long_wave_laser" - Long wave laser.,
- "short_wave_laser" - Short wave laser.,
- "long_wave_laser_cost_reduced" - Cost reduced long wave laser.,
- "electrical" - Electrical.,
- "ten_gig_base_sr" - 10 gigabit base short range transceiver.,
- "ten_gig_base_lr" - 10 gigabit base long range transceiver.,
- "ten_gig_base_er" - 10 gigabit base extended range transceiver.,
- "ten_gig_base_lx4" - 10 gigabit base long range transceiver for extended operating temperature.,
- "ten_gig_base_sw" - 10 gigabit base short wave transceiver.,
- "ten_gig_base_lw" - 10 gigabit base long wave transceiver.,
- "ten_gig_base_ew" - 10 gigabit base extended wave transceiver.

[none]

## Element definition: **storage-switch-sfp-type**

[top]

unknown|other|gbic|embedded|glm|gbic-with-serial-id|gbic-without-serial-id|sfp-with-serial-id|sfp-without-serial-id|xfp|x2-short|x2-medium|x2-tall|xpak-short|xpak-medium|xpak-tall|xenpak|sfp-dw-dm|qsfp|x2-dw-dm|gbic-not-installed|small-form-factor Possible values:

- "unknown" - Unknown type.,
- "other" - Other than the types listed here.,

- "gbic" - Gigabit interface card.,
- "embedded" - Unremovable gigabit interface card.,
- "glm" - Gigabit link module.,
- "gbic_with_serial_id" - Gigabit interface card with serial ID.,
- "gbic_without_serial_id" - Gigabit interface card without serial ID.,
- "sfp_with_serial_id" - Small form factor pluggable with serial ID.,
- "sfp_without_serial_id" - Small form factor pluggable without serial ID.,
- "xfp" - 10 gigabit small form factor pluggable transceiver.,
- "x2_short" - X2 short.,
- "x2_medium" - X2 medium.,
- "x2_tall" - X2 tall.,
- "xpak_short" - Xpak short.,
- "xpak_medium" - Xpak medium.,
- "xpak_tall" - Xpak tall.,
- "xenpak" - Xenpak,
- "sfp_dw_dm" - Small form factor pluggable dense wavelength division multiplexing.,
- "qsfp" - Quad small form factor pluggable.,
- "x2_dw_dm" - X2 dense wavelength division multiplexing.,
- "gbic_not_installed" - Gigabit interface card is not installed.,
- "small_form_factor" - Small form factor.

[none]

# Element definition: **storage-switch-temp-sensor-status**

[top]

unknown|normal|warning|critical Possible values:

- "unknown" ,
- "normal" ,
- "warning" ,
- "critical"

[none]

# Element definition: **storage-switch-vsan-load-balancing-type**

[top]

src-id-dest-id|src-id-dest-id-ox-id Possible values:

- "src_id_dest_id" - Based on source ID and destination ID.,
- "src_id_dest_id_ox_id" - Based on source ID, destination ID and originator exchange ID.

[none]

# Element definition: **storage-switch-vsan-oper-state**

[top]

up|down Possible values:

- "up" ,
- "down"

[none]

# APIs in Category: **system**


external-cache-get
external-cache-modify
system-api-get-elements
system-api-list
system-api-list-types
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system-image-update-get-abort
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system-node-discovery-get-iter
system-node-get
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system-status-hypervisor-modify
system-status-restart-restart-service
system-status-service-get-iter
system-user-capability-get-iter

# external-cache-get

[top]

Get the cluster-wide EC QoS settings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | external-cache-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | external-cache-info | The attributes of the external-cache. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# external-cache-modify

[top]

Modify the existing cluster-wide EC QoS settings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Is Enabled? |
| **is-hya-enabled** | | boolean optional | Is HyA Caching Enabled? |
| **is-rewarm-enabled** | | boolean optional | Is Rewarm On? |
| **node** | | node-name | Node |

| | | | |
|---|---|---|---|
| **pcs-size** | **[0..2^32-1]** | integer<br>optional | PCS Size |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## system-api-get-elements

[top]

get elements for specified apis

| Input Name | Range | Type | Description |
|---|---|---|---|
| **api-list** | | api-list-info[] | list of apis to retrieve |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **api-entries** | | system-api-entry-info[] | |

| Errno | Description |
|---|---|
| **EAPIERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

## system-api-list

[top]

get list of apis. This returns the names only - to get the parameter info, use system-api-get-elements

| Output Name | Range | Type | Description |
|---|---|---|---|
| **apis** | | system-api-info[] | |

| Errno | Description |
|---|---|
| **EAPIERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

## system-api-list-types

[top]

get list and description of typedefs

| Output Name | Range | Type | Description |
|---|---|---|---|
| **type-entries** | | system-api-type-entry-info[] | |

| Vfiler-enabled |
| --- |
| Yes |

## system-available-replication-transfers

[top]

Provide a mechanism to calculate the number of replication operations that could be started. Returns the number of replication operations that could be started for each replication type. Another output is the maximum number of transfers for each replication type.

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **replication-transfer-table** | | replication-transfer-info[] | Table with entries mapping each replication operation to number of transfers which could be started. |

| Vfiler-enabled |
| --- |
| Yes |

## system-cache-mirror-disable

[top]

Disable Cache Mirror

| Errno | Description |
| --- | --- |
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

## system-cache-mirror-enable

[top]

Enable Cache Mirror

| Errno | Description |
| --- | --- |
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

## system-cache-mirror-get

[top]

Get the attributes of Cache Mirror Settings.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| | | | Specify the attributes that should be returned. If not present, all |

| | | | |
|---|---|---|---|
| **desired-attributes** | | cache-mirror optional | attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | cache-mirror | The attributes of the system-cache-mirror. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-cache-mirror-get-iter

[top]

Iterate over a list of Cache Mirror Settings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | cache-mirror optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | cache-mirror optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the system-cache-mirror object. All system-cache-mirror objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | cache-mirror[] optional | The list of attributes of system-cache-mirror objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more system-cache-mirror objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-get-info

[top]

Obtain appliance information which includes cpu and backplane information. The output contains the head information in a sysconfig -a command. I/O information is not included.

| Output Name | Range | Type | Description |
|---|---|---|---|
| system-info | | system-info | |

| Vfiler-enabled |
|---|
| Yes |

# system-get-node-info-iter

[top]

Obtain appliance information which includes cpu and backplane information. The output contains the head information in a sysconfig -a command. I/O information is not included. System refers to a node in a cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | system-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | system-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the system-info object. All system-info objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | system-info[] optional | The list of attributes of system-info objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more system-info objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# system-get-ontapi-version

[top]

Obtain the current ONTAPI major and minor versions.

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **major-version** | | integer | Current ONTAPI major version supported by this appliance. |
| **minor-version** | | integer | Current ONTAPI minor version supported by this appliance. |
| **node-ontapi-details** | | node-ontapi-detail-info[] optional | List of nodes along with the ONTAPI versions supported by each of them. |

| Vfiler-enabled |
|---|
| Yes |

# system-get-vendor-info

[top]

Obtain the Data ONTAP vendor information.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **autosupport-email** | | string | Vendor's AutoSupport e-mail target. |
| **autosupport-url** | | string | Vendor's AutoSupport URL target. |
| **complete-name** | | string | Complete name of vendor. |
| **customer-support-contact** | | string | Vendor's technical support contact information. |
| **customer-support-name** | | string | Name of vendor's customer support organization. |
| **information-url** | | string | Vendor's AutoSupport information URL. |
| **ontap-oid-prefix** | | string | Vendor's starting SNMP OID prefix for Data ONTAP. The suffix that follows is the storage system MIB. For example, ".1.3.6.1.4.1.789". To obtain the filer's model name, one would concatenate the OID prefix and ".1.1.5.0" from the storage system MIB. |
| **product-url** | | string | Vendor's installed product information URL. |
| **short-name** | | string | Vendor's short name. |

| Errno | Description |
|---|---|
| **EAPIERROR** | |

| Vfiler-enabled |
|---|
| Yes |

# system-get-version

[top]

Obtain the Data ONTAP version.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **build-timestamp** | | integer optional | Time of build creation, in seconds since January 1, 1970, of the image running on the appliance or of the build whose Data ONTAP version is lowest across the cluster. This field is available in Data ONTAP 8.1 or later. |
| **is-clustered** | | boolean | If true, indicates Data ONTAP Cluster-Mode, else Data ONTAP 7-Mode. This field is available in Data ONTAP 8.1 or later. |
| **node-kernel-info-details** | | system-node-kernel-info[] optional | List of all diagnostics and firmware related files of a node. |
| **node-version-details** | | node-version-detail-info[] optional | List of node names along with the Data ONTAP version running on each node. This field is returned only if the cluster is currently operating with more than one version of Data ONTAP. |
| **version** | | string | Current Data ONTAP version running on the appliance. If the cluster is currently operating with more than one version of Data ONTAP, then the lowest version of all is returned. |
| **version-tuple** | | system-version-tuple optional | The Data ONTAP version tuple, lowest across the cluster i.e. the effective cluster version. This field is available in Data ONTAP 8.1 or later. |

| Vfiler-enabled |
|---|
| Yes |

# system-hypervisor-host-config-create

[top]

Create the hypervisor host config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address-ipv4** | | ip-address | Address |
| **node** | | filer-id | Node |
| **port-ipv4** | **[0..2^32-1]** | integer optional | UDP Port |
| **return-record** | | boolean optional | If set to true, returns the Hypervisor Host Config on successful creation. Default: false |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | system-hypervisor-host-config-info optional | The Hypervisor Host Config created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-hypervisor-host-config-destroy

[top]

Destroy the hypervisor host config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-hypervisor-host-config-get

[top]

Get the attributes of the hypervisor host config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-hypervisor-host-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | filer-id | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | system-hypervisor-host-config-info | The attributes of the Hypervisor Host Config. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-hypervisor-host-config-get-iter

[top]

Iterate over the attributes of the hypervisor host config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-hypervisor-host-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | system-hypervisor- | A query that specifies which objects to return. A query could be |

| | | | |
|---|---|---|---|
| **query** | | host-config-info optional | specified on any number of attributes in the Hypervisor Host Config object. All Hypervisor Host Config objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | system-hypervisor-host-config-info[] optional | The list of attributes of Hypervisor Host Config objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more Hypervisor Host Config objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-hypervisor-host-config-modify

[top]

Modify the hypervisor host config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **address-ipv4** | | ip-address optional | Address |
| **node** | | filer-id | Node |
| **port-ipv4** | **[0..2^32-1]** | integer optional | UDP Port |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-hypervisor-snmpv3-config-create

[top]

Create the hypervisor snmpv3 config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **auth-password** | | string optional | Authentication Password |
| **auth-protocol** | | string optional | Authentication Protocol |
| | | string | |

| | | | |
|---|---|---|---|
| **engine-id** | | optional | Engine ID |
| **node** | | filer-id | Node |
| **priv-protocol** | | string optional | Private Protocol |
| **return-record** | | boolean optional | If set to true, returns the Hypervisor SNMPv4 Config on successful creation. Default: false |
| **snmp-trapport** | **[0..2^32-1]** | integer optional | SNMP Trap Port |
| **username** | | string | Username |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | system-hypervisor-snmpv3-config-info optional | The Hypervisor SNMPv4 Config created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-hypervisor-snmpv3-config-destroy

[top]

Destroy the hypervisor snmpv3 config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | filer-id | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-hypervisor-snmpv3-config-get

[top]

Get the attributes of the hypervisor snmpv3 config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-hypervisor-snmpv3-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | filer-id | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | system-hypervisor-snmpv3-config-info | The attributes of the Hypervisor SNMPv4 Config. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# system-hypervisor-snmpv3-config-get-iter

[top]

Iterate over the attributes of the hypervisor snmpv3 config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | system-hypervisor-snmpv3-config-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | system-hypervisor-snmpv3-config-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the Hypervisor SNMPv4 Config object. All Hypervisor SNMPv4 Config objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | system-hypervisor-snmpv3-config-info[] optional | The list of attributes of Hypervisor SNMPv4 Config objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more Hypervisor SNMPv4 Config objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# system-hypervisor-snmpv3-config-modify

[top]

Modify the hypervisor snmpv3 config.

| Input Name | Range | Type | Description |
|---|---|---|---|
| auth-password | | string optional | Authentication Password |
| | | string | |

| | | | |
|---|---|---|---|
| **auth-protocol** | | optional | Authentication Protocol |
| **engine-id** | | string optional | Engine ID |
| **node** | | filer-id | Node |
| **priv-protocol** | | string optional | Private Protocol |
| **snmp-trapport** | **[0..2^32-1]** | integer optional | SNMP Trap Port |
| **username** | | string optional | Username |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-hypervisor-uplink-mapping-create

[top]

Create the hypervisor uplink mapping.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | filer-id | Node |
| **port** | | net-port | Port |
| **return-record** | | boolean optional | If set to true, returns the Hypervisor Uplink Mapping on successful creation. Default: false |
| **uplinks** | | string[] | Uplink Mapping |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | system-hypervisor-uplink-mapping-info optional | The Hypervisor Uplink Mapping created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-hypervisor-uplink-mapping-destroy

[top]

Destroy the hypervisor uplink mapping.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | filer-id | Node |
| **port** | | net-port | Port |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-hypervisor-uplink-mapping-get

[top]

Get the attributes of a hypervisor uplink mapping.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-hypervisor-uplink-mapping-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | filer-id | Node |
| **port** | | net-port | Port |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | system-hypervisor-uplink-mapping-info | The attributes of the Hypervisor Uplink Mapping. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-hypervisor-uplink-mapping-modify

[top]

Modify the hypervisor uplink mapping.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | filer-id | Node |
| **port** | | net-port | Port |
| **uplinks** | | string[] optional | Uplink Mapping |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-image-external-package-delete

[top]

Delete file on external device

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **device** | | externaldevice | Device Possible values:<br>• "usb0" - external USB port 0,<br>• "usb1" - external USB port 1 |
| **node** | | string | Node |
| **package** | | string | File Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-image-external-package-get-iter

[top]

Display file listing on external device

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-image-external-package-attributes optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | system-image-external-package-attributes optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the system object. All system objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | system-image-external-package-attributes[] optional | The list of attributes of system objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more system objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-image-fetch-package

[top]

Fetch a file from a URL. This API will return immediately. The progress can be monitored using the 'system-image-update-progress-get' API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Node |
| **package** | | string | Package URL |
| **rename-package** | | string optional | Rename the File |
| **replace-package** | | boolean optional | Replace the Local File |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-image-get-iter

[top]

Display software image information

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-image-attributes optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | system-image-attributes optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the system object. All system objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | system-image-attributes[] optional | The list of attributes of system objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more system objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-image-modify

[top]

Modify software image configuration

| Input Name | Range | Type | Description |
|---|---|---|---|
| **image** | | string | Image Name |
| **is-default** | | boolean optional | Is Default Image |
| **node** | | string | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-image-package-delete

[top]

Delete a software package

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string | Node |
| **package** | | string | Package File Name |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-image-package-get-iter

[top]

Display software information for all packages

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-image-package-attributes optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | system-image-package-attributes optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the system object. All system objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next- |

| | | | |
|---|---|---|---|
| | | | tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | system-image-package-attributes[] optional | The list of attributes of system objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more system objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-image-update

[top]

Perform software image upgrade/downgrade. This API will return immediately. The progress can be monitored using the 'system-image-update-progress-get' API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ignore-compatibility** | | boolean optional | Ignore Version Compatibility Checking |
| **ignore-offline** | | boolean optional | Ignore Offline Aggregates and Volumes |
| **node** | | string | Node |
| **package** | | string | Package URL |
| **rename-package** | | string optional | Rename the File |
| **replace** | | string optional | Image to Replace |
| **replace-package** | | boolean optional | Replace the Local File |
| **setdefault** | | boolean optional | Set Newly Updated Image as Default |
| **validate-only** | | boolean optional | Validate the Package before Installation |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-image-update-get-abort

[top]

Abort software image update or get operation

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-image-update-progress-get

[top]

Show progress information for current or previous update

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **exit-message** | | string optional | Exit Message |
| **exit-status** | | string optional | Exit Status |
| **last-message** | | string optional | Internal message |
| **phase** | | string optional | Phase |
| **run-status** | | string optional | Run Status |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-node-discovery-get-iter

[top]

Get the discovered nodes sequentially. This returns all unconfigured nodes and all cluster nodes found within the local cluster network.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-node-discovery optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | system-node-discovery optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the system-node-discovery object. All system-node-discovery objects matching this query up to 'max-records' will be returned. |
| | | | Specify the tag from the last call. It is usually not specified for |

| | | | |
|---|---|---|---|
| **tag** | | string optional | the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | system-node-discovery[] optional | The list of attributes of system-node-discovery objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more system-node-discovery objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-node-get

[top]

Obtain the node information when the node is part of a cluster. Information returned includes details like location, serial-number, asset tag, uptime, vendor name etc.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | node-details-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | The textual name of a node. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | node-details-info | The attributes of the system-node. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-node-get-iter

[top]

Obtain the node information when the node is a part of the cluster in an iteration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | node-details-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | node-details-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the system-node object. All system-node objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | node-details-info[] optional | The list of attributes of system-node objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more system-node objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-node-modify

[top]

Modify the node information when the node is a part of the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-diff-svcs** | | boolean optional | Is this node part of differentiated services storage infrastructure. |
| **node** | | node-name | The textual name of a node. |
| **node-asset-tag** | | string optional | The asset tag of the node. |
| **node-location** | | string optional | The physical location of the node. For example, Sunnyvale. |
| **node-owner** | | string optional | The owner of the node. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-node-power-cycle

[top]

Remote Node Power Cycle

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| **node** | | node-name | Node which needs to be power cycled |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-node-power-get

[top]

Get power status information about a node

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-node-power-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Target node for the operation |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | system-node-power-info | The attributes of the system-node-power. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-node-power-off

[top]

Remote Node Power Off

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node which needs to be powered off |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-node-power-on

[top]

Remote Node Power On

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name | Node which needs to be powered on |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-node-reboot

[top]

Reboot the specified node. Only an admin can reboot the node. If attempted by a user with insufficient privileges EAPIPRIVILEGE is returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ignore-quorum-warnings** | | boolean optional | Skip quorum check before reboot. |
| **ignore-strict-sync-warnings** | | boolean optional | Skip SnapMirror Synchronous Strict Sync check before reboot. |
| **is-dump** | | boolean optional | If 'true', a core dump will be created. Default value is 'true'. |
| **is-inhibit-takeover** | | boolean optional | If 'true', storage takeover by partner will be disallowed. Default value is 'true'. |
| **is-skip-lif-migration-before-reboot** | | boolean optional | If 'true', skip migrating LIFs away from this node prior to reboot. Default value is 'true'. |
| **node** | | string | Node to reboot. |
| **reason** | | string optional | Reason for reboot. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EAPIPRIVILEGE** | |
| **EINTERNALERROR** | |
| **E_CLUSTER_WARNING_FOR_EPSILON_GOING_DOWN** | |
| **E_CLUSTER_WARNING_FOR_GOING_TO_FRAGILE_QUORUM** | |
| **E_CLUSTER_WARNING_FOR_GOING_TO_NO_QUORUM** | |
| **E_FOLLOW_UPGRADE_PROCEDURE** | |
| **E_RESET_DEFAULT_IMAGE_UPGRADE** | |
| **E_RESET_DEFAULT_IMAGE_REVERT** | |

# system-node-rename

[top]

Rename the specified node to a new name specified by 'new-name'

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-name** | | string | New Name |
| **node** | | node-name | The textual name of a node. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# system-node-reset

[top]

Reset node using selected BIOS firmware

| Input Name | Range | Type | Description |
|---|---|---|---|
| firmware | | bios-fw-type optional | BIOS Firmware to use on reboot |
| node | | node-name | Node to be reset |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# system-node-shutdown

[top]

Shut down a node. Only an admin can initiate a node shutdown. If attempted by a user with insufficient privileges EAPIPRIVILEGE is returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| ignore-quorum-warnings | | boolean optional | Skip quorum check before halt. |
| ignore-strict-sync-warnings | | boolean optional | Skip SnapMirror Synchronous Strict Sync check before reboot. |
| is-dump | | boolean optional | If 'true', a core dump will be created. Default value is 'true'. |
| is-inhibit-takeover | | boolean optional | If 'true', storage takeover by partner will be disallowed. Default value is 'true'. |
| is-skip-lif-migration-before-shutdown | | boolean optional | If 'true', skip migrating LIFs away from this node prior to shutdown. Default value is 'true'. |
| node | | string | Node to shutdown. |
| reason | | string optional | Reason for shutdown. |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EAPIPRIVILEGE | |
| EINTERNALERROR | |
| E_CLUSTER_WARNING_FOR_EPSILON_GOING_DOWN | |
| E_CLUSTER_WARNING_FOR_GOING_TO_FRAGILE_QUORUM | |
| E_CLUSTER_WARNING_FOR_GOING_TO_NO_QUORUM | |
| E_FOLLOW_UPGRADE_PROCEDURE | |
| E_RESET_DEFAULT_IMAGE_UPGRADE | |

| E_RESET_DEFAULT_IMAGE_REVERT | |
|---|---|

# system-services-web-get

[top]

Get the configuration for the web server for Data ONTAP web services

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-services-web-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | system-services-web-info | The attributes of the system. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-services-web-node-get

[top]

Get the status of the web server for Data ONTAP web services

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-services-web-node-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | system-services-web-node-info | The attributes of the system. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-services-web-node-get-iter

[top]

Get the status of the web server for Data ONTAP web services

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | system-services-web-node-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | system-services-web-node-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the system object. All system objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | system-services-web-node-info[] optional | The list of attributes of system objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more system objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# system-set-new-ontap-version-downloaded

[top]

Called when a new version of Data ONTAP is downloaded making a non-disruptive upgrade possible.

# system-set-node-stable-after-startup

[top]

This function is called by the GX management layer once a node has booted up to the point where it is operational. This "notification" allows the dblade to signal its partner that it is ready to receive additional aggregates to complete a send-home.

| Errno | Description |
|---|---|

| Errno | Description |
| --- | --- |
| **EINTERNALERROR** | |

# system-status-hypervisor-get

[top]

Returns the hypervisor support levels

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **desired-attributes** | | status-hypervisor-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **attributes** | | status-hypervisor-info | The attributes of the status-hypervisor. |

| Errno | Description |
| --- | --- |
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# system-status-hypervisor-modify

[top]

Modifies the hypervisor support levels

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **host-type** | | oss-host-type | Hypervisor platform type |
| **support-level** | | oss-support-level | Hypervisor support level |

| Errno | Description |
| --- | --- |
| **EINVALIDACCESS** | |

# system-status-restart-restart-service

[top]

Restart a system status service

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **service** | | oss-restart | Service to restart Possible values:<br>• "statd" ,<br>• "mond" ,<br>• "both" |

| | |
| --- | --- |

| Errno | Description |
|---|---|
| EOBJECTNOTFOUND | |
| EINTERNALERROR | |

# system-status-service-get-iter

[top]

Returns status information for objects in the system

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the status_service object. All status_service objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | status-info[] optional | The list of attributes of status_service objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more status_service objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# system-user-capability-get-iter

[top]

Returns the objects and their operations which are permitted to user who called this API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | capability-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| | | capability- | A query that specifies which objects to return. A query could be specified on any number of attributes in the security login role |

| | | | |
|---|---|---|---|
| **query** | | info<br>optional | object. All security login role objects matching this query up to 'max-records' will be returned. |
| **tag** | | string<br>optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | capability-info[]<br>optional | The list of attributes of security login role objects. |
| **next-tag** | | string<br>optional | Tag for the next call. Not present when there are no more security login role objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **api-list-info**

[top]

name of the API

[none]

# Element definition: **bios-fw-type**

[top]

Choices for the two BIOS firmware images available for booting the system Possible values:

- "primary" - BIOS Firmware which the system boots from by default,
- "backup" - BIOS Firmware which the system boots from if primary fails,
- "current" - BIOS Firmware which the system is currently booted from

[none]

# Element definition: **cache-mirror**

[top]

Cache Mirror typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **enabled** | | boolean optional | Is Cache mirror enabled? Attributes: non-creatable, modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |

# Element definition: **capability-info**

[top]

Capability information about the object and their operations. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **object-name** | | string optional | Object name, for e.g., 'volume', 'storage.aggregate', 'vserver.nfs' etc.. Attributes: key, non-creatable, non-modifiable |
| **operation-list** | | operation-info[] optional | Operation details. Contains the operation name, command path and API name. |

# Element definition: **external-cache-info**

[top]

External Cache Settings typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean optional | Is Enabled? Attributes: non-creatable, modifiable |
| **is-hya-enabled** | | boolean optional | Is HyA Caching Enabled? Attributes: non-creatable, modifiable |
| **is-rewarm-enabled** | | boolean optional | Is Rewarm On? Attributes: non-creatable, modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **pcs-size** | **[0..2^32-1]** | integer optional | PCS Size Attributes: non-creatable, modifiable |

# Element definition: **externaldevice** [top]

usb0|usb1 Possible values:

- "usb0" - external USB port 0,
- "usb1" - external USB port 1

[none]

# Element definition: **filer-id** [top]

Filer UUID

[none]

# Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

# Element definition: **net-port** [top]

Network Port formatted as 1-byte 'type', 4-byte 'slot', 1-byte 'suffix', and 4-byte 'vlan'.

[none]

# Element definition: **node-details-info** [top]

Contains information about a specific node When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cpu-busytime** | **[0..2^32-1]** | integer optional | The time (in hundredths of a second) that the CPU has been doing useful work since the last boot. Attributes: non-creatable, non-modifiable |
| **cpu-firmware-release** | | string optional | Firmware release number. Defined by the CPU manufacturer. Attributes: non-creatable, non-modifiable |
| **env-failed-fan-count** | **[0..2^32-1]** | integer optional | Count of the number of chassis fans which are not operating within the recommended RPM range. Attributes: non-creatable, non-modifiable |
| **env-failed-fan-message** | | string optional | Text message describing the current condition of chassis fans. This is useful only if env-failed-fan-count is not zero. Attributes: non-creatable, non-modifiable |
| **env-failed-power-supply-count** | **[0..2^32-1]** | integer optional | Number of failed power supply units. Attributes: non-creatable, non-modifiable |
| **env-failed-power-supply-message** | | string optional | Text message describing the state of any power supplies which are currently degraded. This is useful only if env-failed-power-supply-count is not zero. Attributes: non-creatable, non-modifiable |
| **env-over-temperature** | | boolean optional | An indication of whether the hardware is currently operating outside of its recommended temperature range. The hardware will shutdown if the temperature exceeds critical thresholds. Attributes: non-creatable, non-modifiable |
| **is-all-flash-optimized** | | boolean optional | Is this node configured to only support SSD drives. If true, no HDDs are allowed on this node. Attributes: non-creatable, non-modifiable |
| **is-all-flash-select-optimized** | | boolean optional | Is this node configured to only support SSD drives for Select. If true, no HDDs are allowed on this node. Attributes: non-creatable, non-modifiable |
| **is-capacity-optimized** | | boolean optional | Is this node All Flash and Capacity Optimized. Attributes: non-creatable, non-modifiable |
| **is-cloud-optimized** | | boolean optional | Is this node configured to support cloud services. Attributes: non-creatable, non-modifiable |
| **is-diff-svcs** | | boolean optional | Is this node part of differentiated services storage infrastructure. Attributes: non-creatable, modifiable |
| **is-epsilon-node** | | boolean optional | You can designate a node as epsilon to add weight to its voting in a cluster with an even number of nodes. In a cluster, only one node can be designated as epsilon at any given time. A boolean value of true means the node is epsilon. Attributes: non-creatable, modifiable |
| **is-node-cluster-eligible** | | boolean optional | This parameter states nodes that are eligible to participate in the cluster. A boolean value of true means the node is eligible. Attributes: non-creatable, modifiable |
| **is-node-healthy** | | boolean optional | This parameter is used to determine health of a node in a cluster. A boolean value of true means the node is healthy. Attributes: non-creatable, non-modifiable |
| **is-perf-optimized** | | boolean optional | Is this node All Flash and Performance Optimized. Attributes: non-creatable, non-modifiable |
| **maximum-aggregate-size** | | size optional | The maximum supported aggregate size in bytes. Attributes: non-creatable, non-modifiable |
| | | | The maximum number of flexible volumes supported on this |

| | | | |
|---|---|---|---|
| **maximum-number-of-volumes** | **[0..2^32-1]** | integer optional | node. This does not include the number of volumes which can be supported when this node does a takeover of its partner node in a High Availability configuration. Attributes: non-creatable, non-modifiable |
| **maximum-volume-size** | | size optional | The maximum supported volume size in bytes. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | The textual name of a node. Attributes: key, non-creatable, non-modifiable |
| **node-asset-tag** | | string optional | The asset tag of the node. Attributes: non-creatable, modifiable |
| **node-location** | | string optional | The physical location of the node. For example, Sunnyvale. Attributes: non-creatable, modifiable |
| **node-model** | | string optional | The model of the node. For example, FAS3070. Attributes: non-creatable, non-modifiable |
| **node-nvram-id** | | integer optional | Vendor specific NVRAM ID of the node. Attributes: non-creatable, non-modifiable |
| **node-owner** | | string optional | The owner of the node. Attributes: non-creatable, modifiable |
| **node-serial-number** | | string optional | The serial number of the node. This is defined by the vendor. Currently, a string of numbers. Attributes: non-creatable, non-modifiable |
| **node-storage-configuration** | | storage-configuration-state-enum optional | The storage configuration in the system. The possible values are:<br>• 'mixed_path'<br>• 'single_path'<br>• 'multi_path'<br>• 'quad_path'<br>• 'single_path_ha'<br>• 'multi_path_ha'<br>• 'mixed_path_ha'<br>• 'quad_path_ha'<br>• 'unknown'<br>Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" ,<br>• "single_path" ,<br>• "multi_path" ,<br>• "mixed_path" ,<br>• "single_path_ha" ,<br>• "multi_path_ha" ,<br>• "mixed_path_ha" ,<br>• "quad_path" ,<br>• "quad_path_ha" |
| **node-system-id** | | string optional | The system Id of the node. This is defined by the vendor. Generally, it is a string of numbers. Attributes: non-creatable, non-modifiable |
| **node-uptime** | **[0..2^32-1]** | integer optional | Total time, in seconds, that the node has been up. Attributes: non-creatable, non-modifiable |
| **node-uuid** | | string optional | The universally unique identifier for the node. It is a 36-character string composed of 32 hexadecimal characters. For example, '542366ea-a024-11dd-9caa-7302e474c5ae'. Attributes: non-creatable, non-modifiable |
| **node-vendor** | | string optional | The hardware vendor of the node. Attributes: non-creatable, non-modifiable |
| | | | Status of the NVRAM battery. The possible values that could |

| | | | |
|---|---|---|---|
| **nvram-battery-status** | | nvram-battery-status-enum optional | be returned:<br><br>• 'battery_ok'<br>• 'battery_partially_discharged'<br>• 'battery_fully_discharged '<br>• 'battery_not_present'<br>• 'battery_near_end_of_life'<br>• 'battery_at_end_of_life'<br>• 'battery_unknown'<br>• 'battery_over_charged'<br>• 'battery_fully_charged'<br><br>Attributes: non-creatable, non-modifiable Possible values:<br><br>• "battery_ok" ,<br>• "battery_partially_discharged" ,<br>• "battery_fully_discharged" ,<br>• "battery_not_present" ,<br>• "battery_near_end_of_life" ,<br>• "battery_at_end_of_life" ,<br>• "battery_unknown" ,<br>• "battery_over_charged" ,<br>• "battery_fully_charged" |
| **product-version** | | string optional | Product Version Attributes: non-creatable, non-modifiable |
| **sas2-sas3-mixed-stack-support** | | sas2-sas3-mixed-stack-support optional | Support of mixed SAS2/SAS3 stacks. Attributes: non-creatable, non-modifiable Possible values:<br><br>• "all" - SAS2/SAS3 mixing supported in all stacks,<br>• "direct_attached" - SAS2/SAS3 mixing supported in direct-attached stacks,<br>• "bridge_attached" - SAS2/SAS3 mixing supported in bridge-attached stacks,<br>• "none" - SAS2/SAS3 mixing not supported |
| **vm-system-disks** | | vm-system-disks optional | Contains virtual machine system disk backing info |
| **vmhost-info** | | vmhost-info optional | Contains virtual machine host information |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **node-ontapi-detail-info**

[top]

The node names along with the ONTAPI version on the respective node.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **major-version** | | integer | Current ONTAPI major version supported by this node. Range: [0..2^31-1]. |
| **minor-version** | | integer | Current ONTAPI minor version supported by this node. Range: [0..2^31-1]. |
| **node-name** | | string | Name of the node. |
| **node-uuid** | | string | UUID, Universal Unique IDentifier, of the node. |

# Element definition: **node-version-detail-info**

[top]

The node names along with the ONTAP version on the respective node.

| Name | Range | Type | Description |
|---|---|---|---|
| **build-timestamp** | | integer optional | Time of build creation, in seconds since January 1, 1970, of the image running on the node. This field is available in Data ONTAP 8.1 or later. |
| **node-name** | | string | Name of the node. |
| **node-uuid** | | string | UUID, Universal Unique IDentifier, of the node. |
| **version** | | string | Data ONTAP version running on the node. |

# Element definition: **oss-host-type**

[top]

ESX|KVM Possible values:

- "esx" ,
- "kvm"

[none]

# Element definition: **oss-restart**

[top]

statd|mond|both Possible values:

- "statd" ,
- "mond" ,
- "both"

[none]

# Element definition: **oss-support-level**

[top]

standard|premium|multi-node Possible values:

- "standard" ,
- "premium" ,
- "multi_node"

[none]

# Element definition: **replication-transfer-info**

[top]

Structure of each entry in the transfer accounting table

| Name | Range | Type | Description |
|---|---|---|---|
| **replication-available-transfers** | | integer | Number of transfers that could be started at this point in time, if we choose only this particular replication type. Range:[0..2^32-1] |
| **replication-maximum-transfers** | | integer | Maximum number of transfers that can be started, if we choose only this particular replication type. Range:[1..2^32-1] |
| **replication-type** | | string | Type of replication operation. Qtree-snapmirror/SnapVault have two core data transfer mechanisms which they can utilize for data transfer. One is the legacy engine and the other is the newer engine. By default Data ONTAP enables the new engine. The user can choose to flip between the new engine and legacy engine. options-get api with an input of replication.logical.transfer_limits can be used to detect the type of engine. "current" implies a new engine while "previous" implies the legacy engine. Open Systems SnapVault (OSSV) always uses the legacy engine for transfers. Legacy volume-snapmirror limits are used when data resides on a traditional volume. Possible values of a replication operation are<br>• "legacy_qtree_snapmirror_source";<br>• "legacy_qtree_snapmirror_destination";<br>• "qtree_snapmirror_source";<br>• "qtree_snapmirror_destination";<br>• "legacy_volume_snapmirror_source";<br>• "legacy_volume_snapmirror_destination";<br>• "volume_snapmirror_source";<br>• "volume_snapmirror_destination";<br>• "legacy_snapvault_source";<br>• "legacy_snapvault_destination";<br>• "snapvault_source";<br>• "snapvault_destination";<br>• "sync_snapmirror_source";<br>• "sync_snapmirror_destination";<br>• "volume_copy_source";<br>• "volume_copy_destination"; |

# Element definition: **status-hypervisor-info**

[top]

Information that defines the hypervisor support level When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **host-type** | | oss-host-type optional | Hypervisor platform type Attributes: non-creatable, modifiable Possible values:<br>• "esx" ,<br>• "kvm" |
| **support-level** | | oss-support-level optional | Hypervisor support level Attributes: non-creatable, modifiable Possible values:<br>• "standard" ,<br>• "premium" ,<br>• "multi_node" |

# Element definition: **status-info**

[top]

Information about Data ONTAP status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster-id** | | string optional | Cluster ID. Attributes: non-creatable, non-modifiable |
| **internal-name** | | string optional | Internal name of the status object. Attributes: non-creatable, non-modifiable |
| **is-cluster-scope** | | boolean optional | Cluster scope. Attributes: non-creatable, non-modifiable |
| **name** | | string optional | Name of the status object. Attributes: non-creatable, non-modifiable |
| **status** | | string optional | Status of the status object. Attributes: non-creatable, non-modifiable |
| **update-time** | | datetime optional | Last status update time. Attributes: non-creatable, non-modifiable |
| **vserver-id** | | string optional | Vserver ID. Attributes: non-creatable, non-modifiable |

# Element definition: **system-api-entry-info**

[top]

list of api names and their elements

| Name | Range | Type | Description |
|---|---|---|---|
| **api-elements** | | system-api-element-info[] | list of api elements |
| **name** | | string | api name |

# Element definition: **system-api-info**

[top]

api information

| Name | Range | Type | Description |
|---|---|---|---|
| **is-streaming** | | boolean optional | does api stream data? |
| **license** | | string optional | license needed if any |
| **name** | | string | name of api |

# Element definition: **system-api-type-entry-info**

[top]

list of type names and their elements

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | type name |
| **type-elements** | | system-api-element-info[] | list of type elements |

# Element definition: **system-hypervisor-host-config-info**

[top]

Hypervisor Host Config Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **address-ipv4** | | ip-address optional | Address Attributes: required-for-create, modifiable |
| **node** | | filer-id | Node Attributes: key, required-for-create, non-modifiable |

| | | | |
|---|---|---|---|
| | | optional | |
| **port-ipv4** | **[0..2^32-1]** | integer optional | UDP Port Attributes: optional-for-create, modifiable |

# Element definition: **system-hypervisor-snmpv3-config-info**

[top]

Hypervisor SNMP V3 Config Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **auth-password** | | string optional | Authentication Password Attributes: optional-for-create, modifiable |
| **auth-protocol** | | string optional | Authentication Protocol Attributes: optional-for-create, modifiable |
| **engine-id** | | string optional | Engine ID Attributes: optional-for-create, modifiable |
| **node** | | filer-id optional | Node Attributes: key, required-for-create, non-modifiable |
| **priv-protocol** | | string optional | Private Protocol Attributes: optional-for-create, modifiable |
| **snmp-trapport** | **[0..2^32-1]** | integer optional | SNMP Trap Port Attributes: optional-for-create, modifiable |
| **username** | | string optional | Username Attributes: required-for-create, modifiable |

# Element definition: **system-hypervisor-uplink-mapping-info**

[top]

Hypervisor Uplink Mapping Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **node** | | filer-id optional | Node Attributes: key, required-for-create, non-modifiable |
| | | net-port | |

| | | | |
|---|---|---|---|
| **port** | | optional | Port Attributes: key, required-for-create, non-modifiable |
| **uplinks** | | string[] optional | Uplink Mapping Attributes: required-for-create, modifiable |

# Element definition: **system-image-attributes**

[top]

These attributes describe or modify the configuration of the nodes's boot images. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **image** | | string optional | Image Name Attributes: key, non-creatable, non-modifiable |
| **install-time** | | datetime optional | Install Date Attributes: non-creatable, non-modifiable |
| **is-current** | | boolean optional | Is Current Image Attributes: non-creatable, non-modifiable |
| **is-default** | | boolean optional | Is Default Image Attributes: non-creatable, modifiable |
| **kernel-path** | | string optional | Kernel Image Path Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Node Attributes: key, non-creatable, non-modifiable |
| **rootfs-path** | | string optional | Root Filesystem Image Path Attributes: non-creatable, non-modifiable |
| **version** | | string optional | Software Version Attributes: non-creatable, non-modifiable |

# Element definition: **system-image-external-package-attributes**

[top]

These attributes provide details about the software packages available on the external device connected to the system. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **device** | | externaldevice optional | Device Attributes: key, optional-for-create, non-modifiable Possible values:<br>• "usb0" - external USB port 0,<br>• "usb1" - external USB port 1 |
| **node** | | string optional | Node Attributes: key, non-creatable, non-modifiable |
| **package** | | string optional | File Name Attributes: key, optional-for-create, non-modifiable |

# Element definition: **system-image-package-attributes**

[top]

These attributes provide details about the software packages available on the system. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **node** | | string optional | Node Attributes: key, non-creatable, non-modifiable |
| **package** | | string optional | Package File Name Attributes: key, optional-for-create, non-modifiable |

# Element definition: **system-info**

[top]

Information about the system. Here system refers to a cluster node when running in cluster mode.

| Name | Range | Type | Description |
|---|---|---|---|
| **backplane-part-number** | | string optional | Part number of the backplane. |
| **backplane-revision** | | string optional | Revision of the backplane part number. |
| **backplane-serial-number** | | string optional | Backplane serial number. |
| **board-speed** | | integer | Speed of the system board in mega Hertz. |
| **board-type** | | string | Type of the system board. This is defined by the vendor |
| **controller-address** | | string optional | The location of the controller in a multi-controller platform. Defined by the platform layer. Possible values: A,B,C,... |
| **cpu-firmware-release** | | string optional | Firmware release number. Defined by the CPU manufacturer. |
| | | | |

| | | | |
|---|---|---|---|
| **cpu-microcode-version** | | string | cpu's microcode version. Defined by the CPU manufacturer. |
| **cpu-part-number** | | string optional | CPU's part number. Defined by the CPU manufacturer. |
| **cpu-processor-id** | | string optional | Processor's ID. Defined by the CPU manufacturer. |
| **cpu-processor-type** | | string optional | Processor's Type. Defined by the CPU manufacturer. |
| **cpu-revision** | | string optional | CPU's part number revision. Defined by the CPU manufacturer. |
| **cpu-serial-number** | | string optional | CPU's serial number. Defined by the CPU manufacturer. |
| **maximum-aggregate-size** | **[0..2^64-1]** | integer optional | The platform's maximum aggregate size in bytes. |
| **maximum-flexible-volume-count** | **[0..2^32-1]** | integer optional | The platform's maximum number of flexible volumes supported on this node. This does not include the number of volumes which can be supported when this node does a takeover of its partner node in a High Availability configuration. |
| **maximum-flexible-volume-size** | **[0..2^64-1]** | integer optional | The platform's maximum flexible volume size in bytes. |
| **memory-size** | | integer | Memory size in megabytes. (1024*1024). |
| **number-of-processors** | | integer | Number of processors in the appliance. |
| **partner-system-id** | | string optional | Partner's system ID. Displayed in a cluster environment. A string of 10 characters. |
| **partner-system-name** | | string optional | Partner's system name. Displayed in a cluster environment. Defined in the partner's setup. |
| **partner-system-serial-number** | | string optional | Partner System serial number. Currently a string of numbers. |
| **prod-type** | | string optional | Will be set to "V-Series", "gfiler", "gateway" or "FAS" depending upon the vendor providing the raw storage. |
| **storage-configuration** | | string optional | Storage configuration status for the controller. The possible values are:<br>• "mixed_path"<br>• "single_path"<br>• "multi_path"<br>• "single_path_ha"<br>• "multi_path_ha"<br>• "mixed_path_ha"<br>• "unknown" |
| **supports-raid-array** | | boolean | Indicates whether the system supports raid arrays back-end connectivity or not. Possible values: "true" or "false". |
| **system-id** | | string | System ID. This is defined by the vendor. Currently, it is a string of numbers |
| **system-machine-type** | | string optional | Machine type of the system, like FAS3050 |

| | | | |
|---|---|---|---|
| **system-model** | | string | Model name of the system, like FAS3050 |
| **system-name** | | string | System name. This is the name defined during setup. |
| **system-revision** | | string optional | System revision. There revision id of the system board. Currently, a character followed by a number, B0. |
| **system-serial-number** | | string optional | System serial number.Currently a string of numbers. |
| **vendor-data1** | | string optional | Vendor specific opaque data field 1. |
| **vendor-data2** | | string optional | Vendor specific opaque data field 2. |
| **vendor-data3** | | string optional | Vendor specific opaque data field 3. |
| **vendor-id** | | string | Hardware vendor identifier. |
| **vm-system-disks** | | vm-system-disks optional | Backing info for the Data ONTAP-v system disks |
| **vmhost-info** | | vmhost-info optional | Info block for the hypervisor physical node on Data ONTAP-v |

# Element definition: **system-node-discovery**

[top]

Discovered nodes. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cluster-ip-addresses** | | ip-address[] optional | The cluster IP addresses of the discovered node. Attributes: non-creatable, non-modifiable |
| **cluster-name** | | string optional | Cluster Name Attributes: non-creatable, non-modifiable |
| **cluster-netmask** | | ip-address optional | The cluster LIF netmask. Attributes: non-creatable, non-modifiable |
| **cluster-uuid** | | uuid optional | Cluster UUID Attributes: non-creatable, non-modifiable |
| **is-node-in-cluster** | | boolean optional | If true, the node is currently a member of the cluster identified in the cluster-uuid and cluster-name. If false, this node is not currently a member of a cluster. Attributes: non-creatable, non-modifiable |
| **node** | | string optional | Node Name Attributes: key, required-for-create, non-modifiable |

| | | | |
|---|---|---|---|
| **node-model** | | string optional | The model of the node. For example, FAS3070. Attributes: non-creatable, non-modifiable |
| **node-nvram-id** | | nvramid optional | Vendor specific NVRAM ID of the node. Attributes: non-creatable, non-modifiable |
| **node-serial-number** | | string optional | The serial number of the node. This is defined by the vendor. Currently, a string of numbers. Attributes: non-creatable, non-modifiable |
| **partner-nvram-id** | | nvramid optional | The NVRAM-ID of the partner to the discovered node. Attributes: non-creatable, non-modifiable |
| **version** | | string optional | Data ONTAP version running on the node. Attributes: non-creatable, non-modifiable |

# Element definition: **system-node-kernel-info**

[top]

Diagnostics and firmware details of a node

| Name | Range | Type | Description |
|---|---|---|---|
| **compilation-flags** | | string optional | Displays the verbose output which currently includes the compilation flags |
| **firmware-info** | | system-path-version[] optional | Firmware path and firmware version |
| **kernel-info** | | system-path-version[] optional | Kernel path and kernel version |
| **node-name** | | string | Name of the node |

# Element definition: **system-node-power-info**

[top]

Node Power Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name optional | Target node for the operation Attributes: key, non-creatable, non-modifiable |
| **status** | | power-status optional | Current Power Status Attributes: non-creatable, non-modifiable Possible values:<br>• "on" - Node is powered on,<br>• "off" - Node is powered off |

# Element definition: **system-services-web-info**

[top]

Web server configuration When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **csrf-protection-enabled** | | boolean optional | CSRF Protection Enabled Attributes: non-creatable, modifiable |
| **csrf-token-absolute-timeout** | **[0..2^32-1]** | integer optional | CSRF Token Absolute Timeout (Seconds) Attributes: non-creatable, modifiable |
| **csrf-token-concurrent-limit** | **[0..9999]** | integer optional | Maximum Number of Concurrent CSRF Tokens Attributes: non-creatable, modifiable |
| **csrf-token-idle-timeout** | **[0..2^32-1]** | integer optional | CSRF Token Idle Timeout (Seconds) Attributes: non-creatable, modifiable |
| **external** | | boolean optional | Indicates whether or not web services are available to remote clients Attributes: non-creatable, modifiable |
| **http-enabled** | | boolean optional | HTTP Enabled Attributes: non-creatable, modifiable |
| **http-port** | **[0..65535]** | integer optional | HTTP Port Attributes: non-creatable, modifiable |
| **https-port** | **[0..65535]** | integer optional | HTTPS Port Attributes: non-creatable, modifiable |
| **per-address-limit** | **[24..999]** | integer optional | Per Address Limit Attributes: non-creatable, modifiable |
| **ssl-fips-enabled** | | boolean optional | Global FIPS Enabled Attributes: non-creatable, non-modifiable |
| **sslv3-enabled** | | boolean optional | SSLv3 Enabled Attributes: non-creatable, non-modifiable |
| **status** | | web-proto-status optional | Protocol Status Attributes: non-creatable, non-modifiable Possible values:<br>• "offline" - All web services are consistently configured and working correctly,<br>• "partial" - One or more nodes' web services are unavailable due to an error condition,<br>• "mixed" - The nodes in the cluster do not share the same web services configuration,<br>• "online" - All of the nodes' web services are unavailable due to an error condition,<br>• "unclustered" - The current node is not part of an active cluster |
| **tlsv1-enabled** | | boolean optional | TLSv1 Enabled Attributes: non-creatable, non-modifiable |
| **wait-queue-** | **[0..2^32-** | integer | |

| | | | |
|---|---|---|---|
| **capacity** | **1]** | optional | Wait Queue Capacity Attributes: non-creatable, modifiable |

# Element definition: **system-services-web-node-info**

[top]

Node web server status When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **csrf-token-count** | **[0..2^32-1]** | integer optional | CSRF Token Count Attributes: non-creatable, non-modifiable |
| **external** | | boolean optional | Indicates whether or not web services are available to remote clients Attributes: non-creatable, modifiable |
| **http-enabled** | | boolean optional | HTTP Enabled Attributes: non-creatable, modifiable |
| **http-port** | **[0..65535]** | integer optional | HTTP Port Attributes: non-creatable, modifiable |
| **https-port** | **[0..65535]** | integer optional | HTTPS Port Attributes: non-creatable, modifiable |
| **mean-connection-wait-time** | **[0..2^32-1]** | integer optional | Mean Connection Wait Time (ms) Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **peak-concurrency** | **[0..2^64-1]** | integer optional | Peak Concurrency Attributes: non-creatable, non-modifiable |
| **peak-connection-wait-time** | **[0..2^32-1]** | integer optional | Peak Connection Wait Time (ms) Attributes: non-creatable, non-modifiable |
| **peak-per-address-concurrency** | **[0..2^64-1]** | integer optional | Peak Per-Address Concurrency Attributes: non-creatable, non-modifiable |
| **per-address-limit** | **[24..999]** | integer optional | Per Address Limit Attributes: non-creatable, modifiable |
| **status** | | web-proto-status optional | Protocol Status Attributes: non-creatable, non-modifiable Possible values:<br>• "offline" - All web services are consistently configured and working correctly,<br>• "partial" - One or more nodes' web services are unavailable due to an error condition,<br>• "mixed" - The nodes in the cluster do not share the same web services configuration,<br>• "online" - All of the nodes' web services are unavailable due to an error condition,<br>• "unclustered" - The current node is not part of an active cluster |

| | | | |
|---|---|---|---|
| **status-code** | **[0..2^32-1]** | integer optional | Status Return Code Attributes: non-creatable, non-modifiable |
| **total-bytes** | **[0..2^32-1]** | integer optional | Total Bytes Served Attributes: non-creatable, non-modifiable |
| **total-connection-wait-time** | **[0..2^64-1]** | integer optional | Total Connection Wait Time (ms) Attributes: non-creatable, non-modifiable |
| **total-connections** | **[0..2^64-1]** | integer optional | Total Connections Attributes: non-creatable, non-modifiable |
| **total-delayed-connections** | **[0..2^64-1]** | integer optional | Total Delayed Connections Attributes: non-creatable, non-modifiable |
| **total-hits** | **[0..2^32-1]** | integer optional | Total HTTP Requests Attributes: non-creatable, non-modifiable |
| **total-http-ops** | **[0..2^32-1]** | integer optional | Total HTTP ops Attributes: non-creatable, non-modifiable |
| **total-https-ops** | **[0..2^32-1]** | integer optional | Total HTTPS ops Attributes: non-creatable, non-modifiable |
| **total-pend-auth** | **[0..2^32-1]** | integer optional | Total Pending Auth Attributes: non-creatable, non-modifiable |
| **total-rc-1xx** | **[0..2^32-1]** | integer optional | Total RCs 100-199 Attributes: non-creatable, non-modifiable |
| **total-rc-2xx** | **[0..2^32-1]** | integer optional | Total RCs 200-299 Attributes: non-creatable, non-modifiable |
| **total-rc-3xx** | **[0..2^32-1]** | integer optional | Total RCs 300-399 Attributes: non-creatable, non-modifiable |
| **total-rc-4xx** | **[0..2^32-1]** | integer optional | Total RCs 400-499 Attributes: non-creatable, non-modifiable |
| **total-rc-5xx** | **[0..2^32-1]** | integer optional | Total RCs 500-599 Attributes: non-creatable, non-modifiable |
| **total-workers** | **[0..2^32-1]** | integer optional | Total Workers Attributes: non-creatable, non-modifiable |
| **wait-queue-capacity** | **[0..2^32-1]** | integer optional | Wait Queue Capacity Attributes: non-creatable, modifiable |
| **work-state-close** | **[0..2^32-1]** | integer optional | Workers Closing Attributes: non-creatable, non-modifiable |
| **work-state-keep** | **[0..2^32-1]** | integer optional | Workers in KeepAlive Attributes: non-creatable, non-modifiable |
| **work-state-log** | **[0..2^32-1]** | integer optional | Workers Logging Attributes: non-creatable, non-modifiable |
| **work-state-read** | **[0..2^32-1]** | integer optional | Workers Reading Attributes: non-creatable, non-modifiable |
| **work-state-ready** | **[0..2^32-1]** | integer optional | Workers Ready Attributes: non-creatable, non-modifiable |
| **work-state-write** | **[0..2^32-1]** | integer optional | Workers Writing Attributes: non-creatable, non-modifiable |
| **workers-avail** | **[0..2^32-1]** | integer optional | Workers Available Attributes: non-creatable, non-modifiable |
| **workers-busy** | **[0..2^32-1]** | integer optional | Workers Busy Attributes: non-creatable, non-modifiable |

## Element definition: **system-version-tuple**

[top]

Contains the Data ONTAP version tuple corresponding to the lowest version across the cluster.

| Name | Range | Type | Description |
|---|---|---|---|
| **generation** | | integer | First integer of the Data ONTAP version tuple corresponding the lowest version across the cluster. |
| **major** | | integer | Second integer of the Data ONTAP version tuple corresponding the lowest version across the cluster. |
| **minor** | | integer | Third integer of the Data ONTAP version tuple corresponding the lowest version across the cluster. |

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **externaldevice**

[top]

usb0|usb1 Possible values:

- "usb0" - external USB port 0,
- "usb1" - external USB port 1

[none]

# Element definition: **filer-id**

[top]

Filer UUID

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **net-port**

[top]

Network Port formatted as 1-byte 'type', 4-byte 'slot', 1-byte 'suffix', and 4-byte 'vlan'.

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **nvram-battery-status-enum**

[top]

ok|partially discharged|fully discharged|not present|near eol|eol|unknown|over charged|fully charged
Possible values:

- "battery_ok" ,
- "battery_partially_discharged" ,
- "battery_fully_discharged" ,
- "battery_not_present" ,
- "battery_near_end_of_life" ,
- "battery_at_end_of_life" ,
- "battery_unknown" ,
- "battery_over_charged" ,
- "battery_fully_charged"

[none]

## Element definition: **nvramid**

[top]

NVRAM Id

[none]

## Element definition: **operation-info**

[top]

Operation details. Contains the operation name, command path and API name.

| Name | Range | Type | Description |
|---|---|---|---|
| **api-name** | | string optional | API corresponding to operation, for e.g., if object name is 'volume' and operation name is 'create' then operation's api name would be 'volume-create'. If multiple APIs are associated with same operation then API names will be ',' separated. Attributes: non-creatable, non-modifiable |
| **command-path** | | string optional | Operation Command Directory Path Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **name** | | string optional | Name of the operation, for e.g., 'create', 'modify' etc.. Attributes: key, non-creatable, non-modifiable |

# Element definition: **oss-host-type**

[top]

ESX|KVM Possible values:

- "esx" ,
- "kvm"

[none]

# Element definition: **oss-support-level**

[top]

standard|premium|multi-node Possible values:

- "standard" ,
- "premium" ,
- "multi_node"

[none]

# Element definition: **power-status**

[top]

Possible values for power status of any node Possible values:

- "on" - Node is powered on,
- "off" - Node is powered off

[none]

# Element definition: **sas2-sas3-mixed-stack-support**

[top]

all|direct-attached|bridge-attached|none Possible values:

- "all" - SAS2/SAS3 mixing supported in all stacks,
- "direct_attached" - SAS2/SAS3 mixing supported in direct-attached stacks,
- "bridge_attached" - SAS2/SAS3 mixing supported in bridge-attached stacks,
- "none" - SAS2/SAS3 mixing not supported

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **storage-configuration-state-enum**

[top]

Unknown|Single-Path|Multi-Path|Mixed-Path|Single-Path HA|Multi-Path HA|Mixed-Path HA|Quad-Path|Quad-Path HA Possible values:

- "unknown" ,
- "single_path" ,
- "multi_path" ,
- "mixed_path" ,
- "single_path_ha" ,
- "multi_path_ha" ,
- "mixed_path_ha" ,
- "quad_path" ,
- "quad_path_ha"

[none]

# Element definition: **system-api-element-info**

[top]

api element description. This can be a simple type or a reference to another typedef (as defined in the 'type' element. Arrays are signified by having '[]' appended to the type name.

| Name | Range | Type | Description |
|---|---|---|---|
| **encrypted** | | string optional | encryption type. If missing the parameter isn't encrypted |
| **is-nonempty** | | boolean optional | must element be non-empty. If false or missing element value may be empty. |
| **is-optional** | | boolean optional | is element optional. If false or missing element is required. |
| **is-output** | | boolean optional | is element an output element. If false or missing then is an input element |
| **is-validated** | | boolean optional | argument will have strong validation done by the server (e.g. integer range). If false or empty, no validation will be done. |
| **name** | | string | name of element |
| **type** | | string | type of variable possible values: "string", "integer", "boolean", type-name |

# Element definition: **system-path-version**

[top]

Image-path and image version for diagnostics and firmware files of the node

| Name | Range | Type | Description |
|---|---|---|---|
| **path-info** | | string optional | File path . Displays the file path in form /cfcard/x86_64/.. |
| **version-info** | | string optional | File version . Kernel and file versions Example: Firmware #.#.# or OS version |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **vm-system-disks**

[top]

Storage info block for the hypervisor physical node on Data ONTAP-v (VSA)

| Name | Range | Type | Description |
|---|---|---|---|
| **vm-bootdisk-area-name** | | string optional | The name of the hypervisor's storage area for the VMs bootdisk. For ESX this is the name of a datastore. |
| **vm-bootdisk-file-name** | | string optional | The hypervisor's filename for the VMs bootdisk. |
| **vm-coredisk-area-name** | | string optional | The name of the hypervisor's storage area for the VMs coredump and swap disk. For ESX this is the name of a datastore. |
| **vm-coredisk-file-name** | | string optional | The hypervisor's filename for the VMs coredump disk. |
| **vm-logdisk-area-name** | | string optional | The name of the hypervisor's storage area for the VMs log disk. For ESX this is the name of a datastore. |
| **vm-logdisk-file-name** | | string optional | The hypervisor's filename for the VMs log disk. |

# Element definition: **vmhost-info**

[top]

Storage info block for the hypervisor physical node on Data ONTAP-v (VSA)

| Name | Range | Type | Description |
|---|---|---|---|
| **vm-custom-max-** | | integer optional | The maximum system capacity (in TB) that can be configured on the VM. Example is "20". |

| | | | |
|---|---|---|---|
| **capacity** | | | |
| **vm-uuid** | | string optional | The hypervisor-supplied UUID, Universal Unique Identifier, for the virtual machine. Example is, "4230f064-02f8-xy3a-02d1-zz89702287e0". |
| **vmhost-bios-release-date** | | string optional | Release date for the currently running hypervisor BIOS. Example is "2000-01-01T00:00:00Z". |
| **vmhost-bios-version** | | string optional | Current BIOS version of the hypervisor physical chassis. Example is "S5500.2.1.3.0.081620131102". |
| **vmhost-boot-time** | | string optional | Time when the hypervisor was last booted. Example is "2014-01-01T00:00:00.420462-04:00". |
| **vmhost-cpu-clock-rate** | **[0..2^32-1]** | integer optional | Speed of the hypervisor CPU cores (MHz). |
| **vmhost-cpu-core-count** | **[0..2^32-1]** | integer optional | Number of physical CPU cores on the hypervisor. Physical CPU cores are the processors contained by a CPU package. |
| **vmhost-cpu-socket-count** | **[0..2^32-1]** | integer optional | Number of physical CPU packages on the hypervisor. Physical CPU packages are chips that contain one or more processors. Processors contained by a package are also known as CPU cores. For example, one dual-core package is comprised of one chip that contains two CPU cores. |
| **vmhost-cpu-thread-count** | **[0..2^32-1]** | integer optional | Number of physical CPU threads on the hypervisor. |
| **vmhost-error** | | string optional | Error (if any) while retrieving hypervisor details. Example is "[13115] vSphere server is missing". |
| **vmhost-gateway** | | string optional | The default gateway (IPv4 or IPv6) for the hypervisor. Examples are "192.168.0.1", "2001:0db8:85a3:0000:0000:8a2e:0370:7334". |
| **vmhost-hardware-vendor** | | string optional | Name of the hypervisor hardware manufacturer. Example is "IBM". |
| **vmhost-hypervisor** | | string optional | Complete product name, including the version information for the hypervisor. |
| **vmhost-ip-address** | | string optional | Primary IP address (IPv4 or IPv6) assigned to the hypervisor. Examples are "192.168.0.1", "2001:0db8:85a3:0000:0000:8a2e:0370:7334". |
| **vmhost-memory** | **[0..2^64-1]** | integer optional | Physical memory size of the hypervisor (bytes). |
| **vmhost-model** | | string optional | The hardware model of the hypervisor machine. Example is "IBM eServer BladeCenter HS21". |
| **vmhost-name** | | string optional | Host name assigned to the hypervisor. Example is "myesx.example.com". |
| **vmhost-netmask** | | string optional | Subnet mask address (IPv4 or IPv6) for the hypervisor. Examples are "192.168.0.1", "2001:0db8:85a3:0000:0000:8a2e:0370:7334". |
| **vmhost-processor-id** | | string optional | Processor ID of the hypervisor. Example is "0000:0000:0000:0001:0000:0110:0111:0110". |
| **vmhost-processor-type** | | string optional | CPU Model of the hypervisor. |
| **vmhost-software-** | | string optional | Name of the virtual machine software manufacturer. |

| | | | |
|---|---|---|---|
| **vendor** | | | |
| **vmhost-uuid** | | string optional | UUID, Universal Unique Identifier, of the hypervisor. Example is, "4230f064-02f8-xy3a-02d1-zz89702287e0". |

# Element definition: **web-proto-status**

[top]

offline|partial|mixed|online|unclustered Possible values:

- "offline" - All web services are consistently configured and working correctly,
- "partial" - One or more nodes' web services are unavailable due to an error condition,
- "mixed" - The nodes in the cluster do not share the same web services configuration,
- "online" - All of the nodes' web services are unavailable due to an error condition,
- "unclustered" - The current node is not part of an active cluster

[none]

# APIs in Category: **tape-mc-info**


tape-mc-get
tape-mc-get-iter
tape-mc-info-alias-clear
tape-mc-info-alias-set
tape-mc-info-offline
tape-mc-info-online
tape-mc-info-position
tape-mc-info-reset
tape-mc-info-test-release
tape-mc-info-test-reserve
tape-mc-info-trace


This set of ZAPIs allows management of cluster-wide tape drive and media changer devices.

## tape-mc-get

[top]

Return a tape drive / media changer view

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | tape-mc-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **device-id** | | string | Device ID |
| **node-name** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | tape-mc-info | The attributes of the tape-mc-info. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## tape-mc-get-iter

[top]

Iterate over the list of Tape/MC objects

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | tape-mc-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 300 |
| **query** | | tape-mc-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the tape-mc-info object. All tape-mc-info objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | tape-mc-info[] optional | The list of attributes of tape-mc-info objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more tape-mc-info objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# tape-mc-info-alias-clear

[top]

Clear tape drive / media changer alias. Specify name or clear-scope but not both.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **clear-scope** | | tape-mc-device-scope-enum optional | Scope of Alias Clear Operation |
| **name** | | string optional | Alias Name That Is to Be Cleared |
| **node-name** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# tape-mc-info-alias-set

[top]

Set a tape/drive media changer alias

| Input Name | Range | Type | Description |
|---|---|---|---|
| **mapping** | | string | Mapping for Alias Name |
| **name** | | string | Alias Name for Tape Drive or Media Changer |
| **node-name** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# tape-mc-info-offline

[top]

Take a tape drive offline. Specify name or device-id but not both.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **device-id** | | string optional | Tape Drive Device ID |
| **device-name** | | string optional | Tape Drive Device Name |
| **node-name** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# tape-mc-info-online

[top]

Bring a tape drive online

| Input Name | Range | Type | Description |
|---|---|---|---|
| **device-id** | | string optional | Tape Drive Device ID |
| **device-name** | | string optional | Tape Drive Device Name |
| **node-name** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# tape-mc-info-position

[top]

Position tape cartridge

| Input Name | Range | Type | Description |
|---|---|---|---|
| **count** | | integer optional | Count for Positioning |
| **device-name** | | string | Tape Drive Device Name |
| **node-name** | | node-name | Node |
| | | | |

| | | | |
|---|---|---|---|
| **operation** | | tape-mc-tape-oper-enum | Tape Position Operation |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# tape-mc-info-reset

[top]

Reset the tape drive

| Input Name | Range | Type | Description |
|---|---|---|---|
| **device-id** | | string | Tape Drive Device ID |
| **node-name** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# tape-mc-info-test-release

[top]

Release a tape drive test reservation

| Input Name | Range | Type | Description |
|---|---|---|---|
| **device-id** | | string | Tape Drive Device ID |
| **node-name** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# tape-mc-info-test-reserve

[top]

Reserve a tape drive for testing

| Input Name | Range | Type | Description |
|---|---|---|---|
| **device-id** | | string | Tape Drive Device ID |
| **node-name** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# tape-mc-info-trace

[top]

Enable/disable tape trace operations

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-trace-enabled** | | boolean | Tape Trace Enabled or Disabled |
| **node-name** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **tape-mc-device-scope-enum**

[top]

tape|media-changer|all Possible values:

- "none" - Scope none,
- "tape" - Scope of the operation is tape drives only,
- "media_changer" - Scope of the operation is for media changers only,
- "all" - Scope of the operation is for both tape drives and media changers

[none]

# Element definition: **tape-mc-info**

[top]

Information about Tape and Media Changer Devices When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **alias-** | | string | Alias Mapping Attributes: non-creatable, non- |

| | | | |
|---|---|---|---|
| **mapping** | | optional | modifiable |
| **alias-name** | | string optional | Alias Name Attributes: non-creatable, non-modifiable |
| **block-number** | **[-2^31..2^31-1]** | integer optional | Block Number Attributes: non-creatable, non-modifiable |
| **density-formats** | | device-density-format[] optional | Device density formats |
| **description** | | string optional | Description Attributes: non-creatable, non-modifiable |
| **device-id** | | string optional | Device ID Attributes: key, non-creatable, non-modifiable |
| **device-if-type** | | tape-mc-device-if-type-enum optional | Device Interface Type Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Tape drive/media changer interface type unknown,<br>• "fibre_channel" - Tape drive/media changer fibre channel interface type,<br>• "sas" - Tape drive/Media changer SAS interface type,<br>• "pscsi" - Tape drive/media changer pSCSI interface type |
| **device-names** | | device-name-density[] optional | Device names for tape positioning |
| **device-state** | | tape-mc-device-state-enum optional | Operational State of Device Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - State of the tape device is unknown,<br>• "available" - Tape device available for use,<br>• "ready_write_enabled" - Tape drive is ready and write-enabled,<br>• "ready_write_protected" - Tape drive is ready and write-protected,<br>• "offline" - Tape device is offline,<br>• "in_use" - Tape device is currently in use,<br>• "error" - Tape device is reporting errors,<br>• "reserved_by_another_host" - Tape device is reserved by another node or host,<br>• "normal" - Tape device is in a normal functional state,<br>• "rewinding" - Tape device is rewinding a tape,<br>• "erasing" - Tape device is erasing a tape |
| **device-type** | | string optional | Device Type Attributes: non-creatable, non-modifiable |
| **error** | | string optional | Tape Error Attributes: non-creatable, non-modifiable |
| **file-number** | **[-2^31..2^31-1]** | integer optional | File Number Attributes: non-creatable, non-modifiable |
| **functional-status** | | tape-mc-func-status-enum optional | Functional Status Attributes: non-creatable, non-modifiable Possible values:<br>• "unknown" - Tape device status unknown,<br>• "normal" - Tape device shows normal status, |

| | | | |
|---|---|---|---|
| | | | "error" - Tape device is reporting errors |
| **initiator** | | string optional | Initiator Port Attributes: non-creatable, non-modifiable |
| **node-name** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **residual-count** | **[-2^31..2^31-1]** | integer optional | Residual Count of Last I/O Operation Attributes: non-creatable, non-modifiable |
| **resv-type** | | tape-mc-resv-type-enum optional | Reservation Type for device Attributes: non-creatable, non-modifiable Possible values:<br>• "off" ,<br>• "persistent" ,<br>• "scsi" |
| **serial-number** | | string optional | Serial Number Attributes: non-creatable, non-modifiable |
| **wwnn** | | string optional | World Wide Node Name Attributes: non-creatable, non-modifiable |
| **wwpn** | | string optional | World Wide Port Name Attributes: non-creatable, non-modifiable |

# Element definition: **tape-mc-tape-oper-enum**

[top]

weof|fsf|bsf|fsr|bsr|rewind|erase|eom Possible values:

- "weof" - Write end-of-file,
- "fsf" - Forward space files,
- "bsf" - Backward space files,
- "fsr" - Forward space records,
- "bsr" - Backward space records,
- "rewind" - Rewind tape cartridge,
- "erase" - Erase tape media,
- "eom" - End of tape media

[none]

# Element definition: **device-density-format**

[top]

Device density formats

| Name | Range | Type | Description |
|---|---|---|---|
| **device-format** | | string optional | Tape Cartridge Format Attributes: non-creatable, non-modifiable |

# Element definition: **device-name-density**

[top]

Device names for tape positioning

| Name | Range | Type | Description |
|---|---|---|---|
| **device-name-no-rewind** | | string optional | Device Name for No Rewind Attributes: non-creatable, non-modifiable |
| **device-name-rewind** | | string optional | Device Name for Rewind Attributes: non-creatable, non-modifiable |
| **device-name-unload-reload** | | string optional | Device Name for Unload Reload Attributes: non-creatable, non-modifiable |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **tape-mc-device-if-type-enum**

[top]

unknown|fibre-channel|SAS|pSCSI Possible values:

- "unknown" - Tape drive/media changer interface type unknown,
- "fibre_channel" - Tape drive/media changer fibre channel interface type,
- "sas" - Tape drive/Media changer SAS interface type,
- "pscsi" - Tape drive/media changer pSCSI interface type

[none]

# Element definition: **tape-mc-device-state-enum**

[top]

unknown|available|ready-write-enabled|ready-write-protected|offline|in-use|error|reserved-by-another-host|normal Possible values:

- "unknown" - State of the tape device is unknown,
- "available" - Tape device available for use,
- "ready_write_enabled" - Tape drive is ready and write-enabled,
- "ready_write_protected" - Tape drive is ready and write-protected,
- "offline" - Tape device is offline,
- "in_use" - Tape device is currently in use,
- "error" - Tape device is reporting errors,
- "reserved_by_another_host" - Tape device is reserved by another node or host,
- "normal" - Tape device is in a normal functional state,
- "rewinding" - Tape device is rewinding a tape,
- "erasing" - Tape device is erasing a tape

[none]

# Element definition: **tape-mc-func-status-enum**

[top]

unknown|normal|error Possible values:

- "unknown" - Tape device status unknown,
- "normal" - Tape device shows normal status,
- "error" - Tape device is reporting errors

[none]

# Element definition: **tape-mc-resv-type-enum**

[top]

off|persistent|scsi Possible values:

- "off" ,
- "persistent" ,
- "scsi"

[none]

# APIs in Category: **template-management**


template-management-template-copy
template-management-template-delete
template-management-template-download
template-management-template-get
template-management-template-get-iter
template-management-template-parameter-get
template-management-template-parameter-get-iter
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template-management-template-provision
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template-management-template-rename
template-management-template-upload


This set of ZAPIs allows to manage Templates.

## template-management-template-copy

[top]

Copy a Template.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-name** | | string | Destination template. |
| **name** | | string | Name of the template |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ETEMPLATENOTFOUND** | |
| **E_TEMPLATE_CLUSTER_VERSION_NOT_SUPPORTED** | |
| **E_TEMPLATE_FILE_NOT_EXISTS** | |
| **E_TEMPLATE_INTERNAL_FAILURE** | |

# template-management-template-delete

[top]

Delete a template.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the template. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ETEMPLATENOTFOUND** | |
| **E_TEMPLATE_CLUSTER_VERSION_NOT_SUPPORTED** | |

# template-management-template-download

[top]

Download a template.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | Name of the template. |
| **uri** | | string | URI of the template. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **E_TEMPLATE_DOWNLOAD_FAILED** | |
| **E_TEMPLATE_VERSION_KEY_NOT_FOUND** | |
| **E_TEMPLATE_NAME_NOT_FOUND** | |
| **E_TEMPLATE_INVALID_TEMPLATE** | |
| **E_TEMPLATE_VERSION_NOT_SUPPORTED** | |
| **E_TEMPLATE_SYNTAX_ERROR** | |
| **E_TEMPLATE_INTERNAL_ERROR** | |
| **E_TEMPLATE_TEMPLATE_TYPE_NOT_FOUND** | |
| **E_TEMPLATE_INTERNAL_FAILURE** | |
| **E_TEMPLATE_INVALID_TYPE** | |
| **E_TEMPLATE_USE_NAME_OPTION** | |
| **E_TEMPLATE_SAME_NAME_EXISTS** | |

# template-management-template-get

[top]

Get the attributes of the template.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-** | | template-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If |

| | | | |
|---|---|---|---|
| **attributes** | | optional | present, only the desired attributes for which information is available will be returned. |
| **name** | | template-name | Name of the template |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | template-info | The attributes of the template-management. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# template-management-template-get-iter

[top]

Display information about templates.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | template-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | template-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the template-management object. All template-management objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | template-info[] optional | The list of attributes of template-management objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more template-management objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# template-management-template-parameter-get

[top]

Get the parameter of a Template.

| | | | |
|---|---|---|---|

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | template-parameter-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **name** | | string | Name of the parameter |
| **template** | | template-name | Name of the template |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | template-parameter-info | The attributes of the template-management. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# template-management-template-parameter-get-iter

[top]

Get the parameters of the Template.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | template-parameter-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | template-parameter-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the template-management object. All template-management objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | template-parameter-info[] optional | The list of attributes of template-management objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more template-management objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# template-management-template-parameter-modify

[top]

Modify attributes of a parameter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **default-value** | | string optional | Default value of the parameter |
| **name** | | string | Name of the parameter |
| **template** | | template-name | Name of the template |

| Errno | Description |
|---|---|
| **E_TEMPLATE_PERMISSION_DENIED** | |
| **E_TEMPLATE_INTERNAL_FAILURE** | |
| **E_TEMPLATE_CONST_MAX_LEN** | |
| **E_TEMPLATE_CONST_MAX_MIN_LEN** | |
| **E_TEMPLATE_CONST_ALLOW_VALS** | |
| **E_TEMPLATE_TYPE_CHECK_FAILED** | |

# template-management-template-parameter-modify-iter

[top]

Modify attributes of a parameter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | template-parameter-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple template-management objects match a given query. If set to true, the API will continue modifying the next matching template-management even when modification of a previous template-management fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching template-management even when the modification of a previous matching template-management fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | template-parameter-info | If modifying a specific template-management, this input element must specify all keys. If modifying template-management objects based on query, this input element must specify a query. |

| | | | |
|---|---|---|---|
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of template-management objects (just keys) that were not modified due to some error. If set to false, the list of template-management objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of template-management objects (just keys) that were successfully updated. If set to false, the list of template-management objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | template-management-template-parameter-modify-iter-info[] | Information about template-management objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching template-management objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of template-management objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of template-management objects that matched the query and were successfully updated. |
| **success-list** | | template-management-template-parameter-modify-iter-info[] | The template-management objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# template-management-template-provision

[top]

Configures a Vserver according to the specification provided in the template. This is an async operation. On a successful queuing of the import operation, a job ID of the job that would configure the Vserver would be returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **custom-inputs** | | custom-input-info[] optional | An array, one entry per each custom input. |
| **template** | | string | The name of the template. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **job-id** | **[0..2^64-1]** | integer optional | The job id of the job that was queued to configure the Vserver. |

| | |
|---|---|
| | |

| Errno | Description |
| --- | --- |
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

# template-management-template-provision-error-get

[top]

Get the Template Provision Error Details.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **desired-attributes** | | template-provision-error-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **jobid** | **[0..2^64-1]** | integer | Job ID |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **attributes** | | template-provision-error-info | The attributes of the template-management. |

| Errno | Description |
| --- | --- |
| **EINTERNALERROR** | |

# template-management-template-rename

[top]

Rename a template.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **name** | | string | Name of the template |
| **new-name** | | string | New name of the template. |

| Errno | Description |
| --- | --- |
| **EINTERNALERROR** | |
| **ETEMPLATENOTFOUND** | |
| **E_TEMPLATE_FILE_NOT_EXISTS** | |
| **E_TEMPLATE_NOT_SUPP_ON_RO_AND_SERVICE** | |
| **E_TEMPLATE_SUPP_ONLY_ON_TEMPLATES** | |
| **E_TEMPLATE_INTERNAL_FAILURE** | |
| **E_TEMPLATE_SAME_NAME_EXISTS** | |

# template-management-template-upload

[top]

Upload a template.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the template. |
| **uri** | | string | URI to upload the template. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **E_TEMPLATE_UPLOAD_FAILED** | |
| **E_TEMPLATE_FILE_NOT_EXISTS** | |
| **E_TEMPLATE_PROVIDE_DESTINATION_FILE_NAME** | |
| **E_TEMPLATE_CLUSTER_VERSION_NOT_SUPPORTED** | |

# Element definition: **custom-input-info**

[top]

| Name | Range | Type | Description |
|---|---|---|---|
| **key** | | string | Name of the attribute. |
| **value** | | string | Value of the attribute. |

# Element definition: **template-info**

[top]

When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | Description Attributes: non-creatable, non-modifiable |
| **missing-prerequisites** | | string optional | Missing Prerequesites Attributes: non-creatable, non-modifiable |
| **name** | | template-name optional | Name of the template Attributes: key, non-creatable, non-modifiable |
| **parent-template** | | string optional | Parent template name Attributes: non-creatable, non-modifiable |
| **permission** | | template-permission optional | Permission Attributes: non-creatable, non-modifiable Possible values:<br>• "readonly" - Read Only,<br>• "readwrite" - Read Write |
| **uuid** | | uuid | UUID of the template Attributes: non-creatable, non- |

| | | | |
|---|---|---|---|
| | | optional | modifiable |
| **version** | | string optional | Version Attributes: non-creatable, non-modifiable |

# Element definition: **template-management-template-parameter-modify-iter-info** [top]

Information about the modify operation that was attempted/performed against template-management object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **template-management-key** | | template-parameter-info | The keys for the template-management object to which the modify operation applies. |

# Element definition: **template-name** [top]

The name of the Template.

[none]

# Element definition: **template-parameter-info** [top]

Template Parameter Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **allowed-vals** | | string optional | Allowed values Attributes: non-creatable, non-modifiable |
| **default-value** | | string optional | Default value of the parameter Attributes: non-creatable, modifiable |
| **max-length** | **[0..2^32-1]** | integer optional | Maximum length Attributes: non-creatable, non-modifiable |
| **name** | | string optional | Name of the parameter Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **permission** | | string optional | Template permission Attributes: non-creatable, non-modifiable |
| **range-max** | **[0..2^32-1]** | integer optional | Maximum range Attributes: non-creatable, non-modifiable |
| **range-min** | **[0..2^32-1]** | integer optional | Minumum range Attributes: non-creatable, non-modifiable |
| **recommended-value** | | string optional | Recommended value of the parameter Attributes: non-creatable, non-modifiable |
| **template** | | template-name optional | Name of the template Attributes: key, non-creatable, non-modifiable |
| **type** | | string optional | Type of the parameter Attributes: non-creatable, non-modifiable |

# Element definition: **template-provision-error-info**

[top]

Template Provision Errors When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **failure-errornum** | **[0..2^32-1]** | integer optional | Failure Error Number Attributes: non-creatable, non-modifiable |
| **failure-reason** | | string optional | Failure Reason Attributes: non-creatable, non-modifiable |
| **input-params** | | string[] optional | Input Parameters Attributes: non-creatable, non-modifiable |
| **jobid** | **[0..2^64-1]** | integer optional | Job ID Attributes: key, non-creatable, non-modifiable |

# Element definition: **template-name**

[top]

The name of the Template.

[none]

# Element definition: **template-permission**

[top]

template_permission Possible values:

- "readonly" - Read Only,
- "readwrite" - Read Write

[none]

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# APIs in Category: **ucm**


ucm-adapter-get
ucm-adapter-get-iter
ucm-adapter-modify


UCM provides a management framework to manage configurations of all Fibre Channel (FC) adapters and Converged Network Adapters (CNA) under Data ONTAP. Some adapters with dual operational modes can be configured into either FC or CNA modes. When configured as a CNA, the adapter can concurrently support Ethernet and Fibre Channel over Ethernet (FCoE). When configured as an FC adapter, the adapter only supports native FC. Not all adapters support both modes. Under FC or FCoE, Data ONTAP supports two different functions or FC-4 types: initiator, or target. The initiator type can be used for FC storage loops, FC TapeSAN, and OPR functionality. The target type can be used for SAN attach (FCP/Blocks access) functionality. To modify the configuration of an adapter, use the ucm-adapter-modify API.

## ucm-adapter-get

[top]

Get the attributes of the UC Adapter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | Adapter |
| **desired-attributes** | | uc-adapter-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node-name** | | node-name | Node |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | uc-adapter-info | The attributes of the UC Adapter. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## ucm-adapter-get-iter

[top]

Iterate over a list of UC Adapter objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | uc- | Specify the attributes that should be returned. If not present, all |

| | | | |
|---|---|---|---|
| **desired-attributes** | | adapter-info optional | attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | uc-adapter-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the UC Adapter object. All UC Adapter objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | uc-adapter-info[] optional | The list of attributes of UC Adapter objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more UC Adapter objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

## ucm-adapter-modify

[top]

Modify the attributes of UC Adapter object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string | Adapter |
| **fc4-type** | | ucm-type optional | Configured Type |
| **mode** | | ucm-mode optional | Configured Mode |
| **node-name** | | node-name | Node |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

## Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **uc-adapter-info**

[top]

Information for one UC Adapter When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **adapter-name** | | string optional | Adapter Attributes: key, non-creatable, non-modifiable |
| **fc4-type** | | ucm-type optional | Current Type Attributes: non-creatable, non-modifiable Possible values:<br>• "initiator" - Initiator mode,<br>• "target" - Target mode,<br>• "fcvi" - Fcvi mode |
| **mode** | | ucm-mode optional | Current Mode Attributes: non-creatable, non-modifiable Possible values:<br>• "fc" - Fibre Channel,<br>• "cna" - Converged Network Adapter |
| **node-name** | | node-name optional | Node Attributes: key, non-creatable, non-modifiable |
| **pending-fc4-type** | | ucm-type optional | Pending Type Attributes: non-creatable, non-modifiable Possible values:<br>• "initiator" - Initiator mode,<br>• "target" - Target mode,<br>• "fcvi" - Fcvi mode |
| **pending-mode** | | ucm-mode optional | Pending Mode Attributes: non-creatable, non-modifiable Possible values:<br>• "fc" - Fibre Channel,<br>• "cna" - Converged Network Adapter |
| **status** | | string optional | Administrative Status Attributes: non-creatable, non-modifiable |
| **supported-fc4-type-for-cna-mode** | | ucm-type[] optional | Supported CNA Types Attributes: non-creatable, non-modifiable Possible values:<br>• "initiator" - Initiator mode,<br>• "target" - Target mode,<br>• "fcvi" - Fcvi mode |
| | | | Supported FC Types Attributes: non-creatable, non-modifiable Possible values: |

| | | | |
|---|---|---|---|
| **supported-fc4-type-for-fc-mode** | | ucm-type[] optional | • "initiator" - Initiator mode,<br>• "target" - Target mode,<br>• "fcvi" - Fcvi mode |
| **supported-mode** | | ucm-mode[] optional | Supported Modes Attributes: non-creatable, non-modifiable Possible values:<br>• "fc" - Fibre Channel,<br>• "cna" - Converged Network Adapter |

# Element definition: **ucm-mode**

[top]

The operational mode of the adapter. Possible values:

- "fc" - Fibre Channel,
- "cna" - Converged Network Adapter

[none]

# Element definition: **ucm-type**

[top]

The FC-4 type of the adapter. Possible values:

- "initiator" - Initiator mode,
- "target" - Target mode,
- "fcvi" - Fcvi mode

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# APIs in Category: **useradmin**


useradmin-domainuser-add
useradmin-domainuser-delete
useradmin-domainuser-list
useradmin-group-add
useradmin-group-delete
useradmin-group-list
useradmin-group-modify
useradmin-role-add
useradmin-role-delete
useradmin-role-list
useradmin-role-modify
useradmin-user-add
useradmin-user-delete
useradmin-user-list
useradmin-user-modify
useradmin-user-modify-password


## useradmin-domainuser-add

[top]

Adds a nonlocal user into a group or groups. The user can be added as a SID or as domain\username. This API is only used in a windows environment.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **user-identifier** | | string | Name of the user in domain\username format. This can also be a SID (Windows security identifier) describing a user. A SID has the format S-1-5-21-int-int-int-rid. |
| **useradmin-groups** | | useradmin-group-info[] | List of local groups to contain the domain user. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EONTAPI_EPERM** | |
| **ECIFSNOTCONFIGURED** | |

| Vfiler-enabled |
|---|
| **Yes** |

## useradmin-domainuser-delete

[top]

Removes a nonlocal user from a group or groups. The user can be removed as a SID or as domain\username. This API is only used in a windows environment.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **user-identifier** | | string | Name of the user in domain\username format. This can also be a SID (Windows security identifier) describing a user. A SID has the format S-1-5-21-int-int-int-rid. |
| **useradmin-groups** | | useradmin-group-info[] | Remove the SID from this list of local groups. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EONTAPI_EPERM** | |
| **ECIFSNOTCONFIGURED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# useradmin-domainuser-list

[top]

List all of the SIDs in a given group. This API is only used in a windows environment.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **group-name** | | string | List only the SIDs in this group. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **user-identifiers** | | sid[] | List of SID's inside of the group. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EONTAPI_EPERM** | |
| **ECIFSNOTCONFIGURED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# useradmin-group-add

[top]

Adds a group given the information provided.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **useradmin-group** | | useradmin-group-info | New group information. A group must have a name and at least one role. A comment is also allowed. All other fields are ignored. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
| --- |
| Yes |

## useradmin-group-delete

[top]

Deletes a group.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| group-name | | string | The name of the group to be deleted. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

## useradmin-group-list

[top]

Lists full information for all groups on the system.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| group-name | | string optional | List only the information associated with this group. |
| verbose | | boolean optional | Default is false. If set to true, then the allowed capabilities are placed into the group-info structure. Depending on number of groups and roles, this operation may take a long time. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| useradmin-groups | | useradmin-group-info[] | List of groups and information associated with them. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

| Vfiler-enabled |
| --- |
| Yes |

## useradmin-group-modify

[top]

Modifies a group given the information provided.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| | | | |

| | | | |
|---|---|---|---|
| **new-group-name** | | string optional | New group name for this group. This is used to rename the group specified in useradmin-group. If this value is invalid, useradmin-group-modify fails without changing anything. The value is optional, and if not provided, the group name will be unchanged. |
| **useradmin-group** | | useradmin-group-info | A group must have a name. If one or more roless and/or a comment is provided, the group is modified accordingly. All other fields are ignored. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# useradmin-role-add

[top]

Adds a role given the information provided.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **useradmin-role** | | useradmin-role-info | New role information. A role must have a name and at least one allowed capability. A role-info comment is also allowed. All other fields are ignored. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# useradmin-role-delete

[top]

Deletes a role.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **role-name** | | string | The name of the role to be deleted. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# useradmin-role-list

[top]

Lists full information for all roles on the system.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **role-name** | | string<br>optional | List only the information associated with this role. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **useradmin-roles** | | useradmin-role-info[] | List of roles and information associated with them. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# useradmin-role-modify

[top]

Modifies a role given the information provided.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **useradmin-role** | | useradmin-role-info | A role must have a name. If one or more capabilities and/or a comment is provided, the role is modified accordingly. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# useradmin-user-add

[top]

Adds a user given the information provided.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **password** | | string | Password for the user. Please see documentation for constraints on the password. |
| **useradmin-user** | | useradmin-user-info | New user information. A user must have a name and at least one group. A comment and full-name are also allowed. All other fields are ignored. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDPASSWORD** | |

| Vfiler-enabled |
|---|
| **Yes** |

# useradmin-user-delete

[top]

Deletes a user.

| Input Name | Range | Type | Description |
|---|---|---|---|
| user-name | | string | The name of the user to be deleted. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

| Vfiler-enabled |
|---|
| Yes |

# useradmin-user-list

[top]

Lists information for all administrative users on the system with the exception of root and snmp.

| Input Name | Range | Type | Description |
|---|---|---|---|
| group-name | | string optional | List only the users which are a part of this group. This option must be left empty if the option "user-name" contains a value. |
| user-name | | string optional | List only the information associated with this user. This option must be left empty if the option "group-name" contains a value. |
| verbose | | boolean optional | Default is false. If set to true, then the allowed capabilities are placed into the user-info structure. Depending on number of users, groups, and roles; this operation may take a long time. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| useradmin-users | | useradmin-user-info[] | List of users and information associated with them. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

| Vfiler-enabled |
|---|
| Yes |

# useradmin-user-modify

[top]

Modifies a user given the information provided.

| Input Name | Range | Type | Description |
|---|---|---|---|
| useradmin- | | useradmin- | A user must have a name. If one or more groups a comment and/or a full-name is provided, the user is modified accordingly. All other fields |

| | | | |
|---|---|---|---|
| **user** | | user-info | are ignored. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

## useradmin-user-modify-password

[top]

Changes the password of a specified user.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-password** | | string | New password for the user. Please see documentation for constraints on the password. |
| **old-password** | | string optional | Current password for the user. A user with the capability 'security-passwd-change-others' and at least the same capabilities as the user being changed, does not need to enter the current password in order to change it to a new one. |
| **user-name** | | string | The user who's password should be changed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDPASSWORD** | |
| **EONTAPI_EPERM** | |

| Vfiler-enabled |
|---|
| **Yes** |

## Element definition: **sid**

[top]

Windows security identifier describing a user. A SID has the format S-1-5-21-int-int-int-rid.

[none]

## Element definition: **useradmin-group-info**

[top]

Structure containing information pertaining to a group.

| Name | Range | Type | Description |
|---|---|---|---|
| **allowed-capabilities** | | useradmin-capability-info[] optional | List of capabilities the group is allowed. |

| | | | |
|---|---|---|---|
| **comment** | | string optional | Comment for the group. |
| **name** | | string | Name of the group. |
| **rid** | | string optional | Unique relative identifier (per domain) for this group. (Used only for Windows.) |
| **useradmin-roles** | | useradmin-role-info[] optional | List of roles this group contains. The only included entry in this structure is the name field. For full role information user useradmin-role-list. |

# Element definition: **useradmin-role-info**

[top]

Structure containing information pertaining to a role.

| Name | Range | Type | Description |
|---|---|---|---|
| **allowed-capabilities** | | useradmin-capability-info[] optional | List of capabilities the role is allowed. |
| **comment** | | string optional | Comment for the role. |
| **name** | | string | Name of the role. |

# Element definition: **useradmin-user-info**

[top]

Structure containing information pertaining to a user.

| Name | Range | Type | Description |
|---|---|---|---|
| **allowed-capabilities** | | useradmin-capability-info[] optional | List of capabilities the user is allowed. |
| **comment** | | string optional | Comment for the user. This is only set if the user has a comment. |
| **full-name** | | string optional | Full name of the user. (Used only for Windows.) This is only set if the user has a full-name. |
| **name** | | string | Name of the user. |
| **password-maximum-age** | | integer optional | Number of days that this user's password can be active before the user must change it. Default value is 2^31-1 days. |
| **password-minimum-age** | | integer optional | Number of days that this user's password must be active before the user can change it. Default value is 0. |
| **rid** | | string optional | Unique relative identifier (per domain) for this user. (Used only for Windows.) |
| **status** | | string optional | Current status of the user account. This element cannot be used as an input. It is used as an output for useradmin-user-list. Possible values: "enabled", "disabled", or "expired". |
| **useradmin-groups** | | useradmin-group-info[] | List of groups this user is part of. The only included entry in this structure is the name field. For full group information user useradmin-group-list. |

# Element definition: **useradmin-capability-info**

[top]

Capability to run a command or commands on the filer.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of the capability Possible values include: "*", "login-*", "cli-*", "api-*", "security-*"... Instead of "*", commands and subcommands can be specified directly. Please see man page or other documentation for more details. |

# Element definition: **useradmin-group-info**

[top]

Structure containing information pertaining to a group.

| Name | Range | Type | Description |
|---|---|---|---|
| **allowed-capabilities** | | useradmin-capability-info[] optional | List of capabilities the group is allowed. |
| **comment** | | string optional | Comment for the group. |
| **name** | | string | Name of the group. |
| **rid** | | string optional | Unique relative identifier (per domain) for this group. (Used only for Windows.) |
| **useradmin-roles** | | useradmin-role-info[] optional | List of roles this group contains. The only included entry in this structure is the name field. For full role information user useradmin-role-list. |

# Element definition: **useradmin-role-info**

[top]

Structure containing information pertaining to a role.

| Name | Range | Type | Description |
|---|---|---|---|
| **allowed-capabilities** | | useradmin-capability-info[] optional | List of capabilities the role is allowed. |
| **comment** | | string optional | Comment for the role. |
| **name** | | string | Name of the role. |

# Element definition: **useradmin-capability-info**

[top]

Capability to run a command or commands on the filer.

| Name | Range | Type | Description |
| --- | --- | --- | --- |
| **name** | | string | Name of the capability Possible values include: "*", "login-*", "cli-*", "api-*", "security-*"... Instead of "*", commands and subcommands can be specified directly. Please see man page or other documentation for more details. |

# APIs in Category: **virtual-machine**


virtual-machine-get-info
virtual-machine-maintenance-event-acknowlege
virtual-machine-maintenance-event-get
virtual-machine-maintenance-event-get-iter
virtual-machine-system-disks-get-iter
vm-disk-object-store-create
vm-disk-object-store-destroy
vm-disk-object-store-dns-cache-create
vm-disk-object-store-dns-cache-destroy
vm-disk-object-store-dns-cache-get-iter
vm-disk-object-store-dns-cache-modify
vm-disk-object-store-get-iter
vm-disk-object-store-modify
vm-network-load-balancer-get-iter


## virtual-machine-get-info

[top]

Retrieve virtual machine instance information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vm-instance-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **node** | | node-name | The name of the node. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vm-instance-info | The attributes of the virtual-machine. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSAPLATFORMNOTSUPPORTED** | |
| **EVSAVMINFOACCESSERROR** | |

## virtual-machine-maintenance-event-acknowlege

[top]

Acknowlege that the system is ready for the event to start

| Input Name | Range | Type | Description |
|---|---|---|---|
| **event-id** | | string | Event ID |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# virtual-machine-maintenance-event-get

[top]

Retrieve virtual machine instance maintenance event information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vm-instance-maintenance-event optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **event-id** | | string | A cloud provider-supplied unique event ID for this virtual machine maintenance event, for example 2831c724-97ca-4395-b8d3-a65c2a65b502. |
| **node** | | filer-id | The name of the node. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vm-instance-maintenance-event | The attributes of the virtual-machine. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# virtual-machine-maintenance-event-get-iter

[top]

Retrieve virtual machine instance maintenance event information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vm-instance-maintenance-event optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vm-instance-maintenance-event optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the virtual-machine object. All virtual-machine objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next- |

| | | | |
|---|---|---|---|
| | | | tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vm-instance-maintenance-event[] optional | The list of attributes of virtual-machine objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more virtual-machine objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# virtual-machine-system-disks-get-iter

[top]

Retrieve Cloud Volumes ONTAP virtual machine system disks details.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | virtual-machine-system-disks-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | virtual-machine-system-disks-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the virtual-machine-system-disks object. All virtual-machine-system-disks objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | virtual-machine-system-disks-info[] optional | The list of attributes of virtual-machine-system-disks objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more virtual-machine-system-disks objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| | |
|---|---|
| **EVSAPLATFORMNOTSUPPORTED** | |
| **EVSAVMINFOACCESSERROR** | |

# vm-disk-object-store-create

[top]

Define the configuration for an object store.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **azure-account** | | string | Azure Storage Account. |
| **azure-private-key** | | string | Azure Storage Account Access Key. |
| **container-name** | | string | Container Name. |
| **node** | | filer-id | ONTAP Node Name. |
| **object-store-name** | | object-store-name | ONTAP Name for this Object Store Config. |
| **port** | **[0..65535]** | integer | Port Number of the Object Store. |
| **server** | | string | Fully Qualified Domain Name of the Object Store Server. |
| **update-partner** | | boolean optional | Required parameter when the system is running in an HA configuration. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSAPLATFORMNOTSUPPORTED** | |
| **EVSAOBJECTSTOREDUPLICATE** | |
| **EVSAOBJECTSTORENAMETOOLONG** | |
| **EVSAOBJECTSTORENAMETOOSHORT** | |
| **EVSAOBJECTSTORENAMENOTVALID** | |
| **EVSAOBJECTSTORENAMEINVALIDFIRSTCHAR** | |
| **EVSAOBJECTSTORENAMEINUSE** | |
| **EVSAREQUPDATEPARTNER** | |
| **EVSANOPARTNERNAME** | |
| **EVSAINVALIDOPTIONUPDATEPARTNER** | |
| **EVSAOBJECTSTORECONFIGSYNC** | |
| **E_OBJSTORE_CLIENT_OPERATION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_SERVER_ERROR** | |
| **E_OBJSTORE_CLIENT_CONNECTION_ERROR** | |
| **E_OBJSTORE_CLIENT_INTERNAL_ERROR** | |
| **E_OBJSTORE_CLIENT_ACCESS_DENIED** | |
| **E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED** | |
| **E_OBJSTORE_CLIENT_DNS_NOT_FOUND** | |
| **E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_NO_SUCH_BUCKET** | |
| **E_OBJSTORE_CLIENT_STORE_INACCESSIBLE** | |
| **E_OBJSTORE_CLIENT_OTHER** | |

# vm-disk-object-store-destroy

[top]

Deletes the disk object store.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **node** | | filer-id | ONTAP Node Name. |
| **object-store-name** | | object-store-name | ONTAP Name for this Object Store Config. |
| **update-partner** | | boolean<br>optional | Update HA Partner |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSAPLATFORMNOTSUPPORTED** | |
| **EVSAREQUPDATEPARTNER** | |
| **EVSANOPARTNERNAME** | |
| **EVSAINVALIDOPTIONUPDATEPARTNER** | |

# vm-disk-object-store-dns-cache-create

[top]

Add a DNS mapping to the cache.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hostname** | | string | Hostname of the Object Store Server. |
| **ipaddress** | | ip-address | IP Address of the Object Store Server. |
| **node** | | filer-id | The name of the Node. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSAPLATFORMNOTSUPPORTED** | |

# vm-disk-object-store-dns-cache-destroy

[top]

Delete a DNS mapping from the cache.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hostname** | | string | Hostname of the Object Store Server. |
| **node** | | filer-id | The name of the Node. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSAPLATFORMNOTSUPPORTED** | |

# vm-disk-object-store-dns-cache-get-iter

[top]

Iterate over the list of cached DNS mappings.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vm-disk-object-store-dns-cache-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vm-disk-object-store-dns-cache-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vm-disk-object-store-dns-cache object. All vm-disk-object-store-dns-cache objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vm-disk-object-store-dns-cache-info[] optional | The list of attributes of vm-disk-object-store-dns-cache objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vm-disk-object-store-dns-cache objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# vm-disk-object-store-dns-cache-modify

[top]

Modify a DNS mapping in the cache.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hostname** | | string | Hostname of the Object Store Server. |
| **ipaddress** | | ip-address | IP Address of the Object Store Server. |
| **node** | | filer-id | The name of the Node. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EVSAPLATFORMNOTSUPPORTED | |

# vm-disk-object-store-get-iter

[top]

Iterate over the list of object store configurations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | vm-disk-object-store-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | vm-disk-object-store-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vm-disk-object-store object. All vm-disk-object-store objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | vm-disk-object-store-info[] optional | The list of attributes of vm-disk-object-store objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more vm-disk-object-store objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# vm-disk-object-store-modify

[top]

Modify the configuration of an object store.

| Input Name | Range | Type | Description |
|---|---|---|---|
| azure-private- | | string | Azure Storage Account Access Key. |

| | | | |
|---|---|---|---|
| **key** | | optional | |
| **node** | | filer-id | ONTAP Node Name. |
| **object-store-name** | | object-store-name | ONTAP Name for this Object Store Config. |
| **server** | | string optional | Fully Qualified Domain Name of the Object Store Server. |
| **update-partner** | | boolean optional | Required parameter when the system is running in an HA configuration. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSAPLATFORMNOTSUPPORTED** | |
| **EVSAREQUPDATEPARTNER** | |
| **EVSANOPARTNERNAME** | |
| **EVSAINVALIDOPTIONUPDATEPARTNER** | |
| **E_OBJSTORE_CLIENT_OPERATION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_SERVER_ERROR** | |
| **E_OBJSTORE_CLIENT_CONNECTION_ERROR** | |
| **E_OBJSTORE_CLIENT_INTERNAL_ERROR** | |
| **E_OBJSTORE_CLIENT_ACCESS_DENIED** | |
| **E_OBJSTORE_CLIENT_HOSTNAME_TO_IP_LOOKUP_FAILED** | |
| **E_OBJSTORE_CLIENT_DNS_NOT_FOUND** | |
| **E_OBJSTORE_CLIENT_CONNECTION_TIMEOUT** | |
| **E_OBJSTORE_CLIENT_NO_SUCH_BUCKET** | |
| **E_OBJSTORE_CLIENT_STORE_INACCESSIBLE** | |
| **E_OBJSTORE_CLIENT_OTHER** | |

# vm-network-load-balancer-get-iter

[top]

Retrieve network load balancer information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vm-network-load-balancer-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vm-network-load-balancer-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the virtual-machine object. All virtual-machine objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vm-network-load-balancer-info[] optional | The list of attributes of virtual-machine objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more virtual-machine objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSAPLATFORMNOTSUPPORTED** | |

# Element definition: **filer-id**

[top]

Filer UUID

[none]

# Element definition: **ip-address**

[top]

IPv4 and IPv6 address

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **object-store-name**

[top]

Name of the object store

[none]

# Element definition: **virtual-machine-system-disks-info**

[top]

Cloud Volumes ONTAP virtual machine system disks. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **node** | | node-name optional | The name of the node. Attributes: key, required-for-create, non-modifiable |
| **vmdisk-bus-target-lun-id** | | string optional | Bus-Target-LUN ID for the disk. Attributes: non-creatable, non-modifiable |
| **vmdisk-capacity** | | string optional | Size of the system disk Attributes: non-creatable, non-modifiable |
| **vmdisk-file-name** | | string optional | File name of the system disk used by the hypervisor. Attributes: non-creatable, non-modifiable |
| **vmdisk-id** | | string optional | System Disk ID. Attributes: non-creatable, non-modifiable |
| **vmdisk-info** | | string optional | Platform-specific disk information. Attributes: non-creatable, non-modifiable |
| **vmdisk-purpose** | | string optional | Purpose of the System Disk - Boot, NVRAM or Core. Attributes: key, required-for-create, non-modifiable |
| **vmdisk-type** | | string optional | Type of the system disk - VMDISK or SSD. Attributes: non-creatable, non-modifiable |

# Element definition: **vm-disk-object-store-dns-cache-info**

[top]

VM Disk Object Store DNS Cache. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **hostname** | | string optional | Hostname of the Object Store Server. Attributes: key, required-for-create, non-modifiable |
| **ipaddress** | | ip-address optional | IP Address of the Object Store Server. Attributes: required-for-create, modifiable |
| **lookup-** | | datetime | Last time a DNS lookup was performed. Attributes: non-creatable, non- |

| | | | |
|---|---|---|---|
| **time** | | optional | modifiable |
| **node** | | filer-id optional | The name of the Node. Attributes: key, required-for-create, non-modifiable |

# Element definition: **vm-disk-object-store-info**

[top]

VM Disk Object Store Configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **alive** | | boolean optional | Is Server Alive. Attributes: non-creatable, non-modifiable |
| **azure-account** | | string optional | Azure Storage Account. Attributes: required-for-create, non-modifiable |
| **container-name** | | string optional | Container Name. Attributes: required-for-create, non-modifiable |
| **node** | | filer-id optional | ONTAP Node Name. Attributes: key, required-for-create, non-modifiable |
| **object-store-name** | | object-store-name optional | ONTAP Name for this Object Store Config. Attributes: key, required-for-create, non-modifiable |
| **port** | **[0..65535]** | integer optional | Port Number of the Object Store. Attributes: required-for-create, non-modifiable |
| **server** | | string optional | Fully Qualified Domain Name of the Object Store Server. Attributes: required-for-create, modifiable |
| **update-partner** | | boolean optional | Required parameter when the system is running in an HA configuration. Attributes: optional-for-create, modifiable |

# Element definition: **vm-instance-info**

[top]

Virtual machine instance information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **account-id** | | string optional | The cloud provider-associated account ID for this virtual machine, for example 122047257761. This parameter is usually associated with a cloud provider login ID and password. Attributes: non-creatable, non-modifiable |
| **automatic-restart** | | string optional | Automatic restart policy setting. Attributes: non-creatable, non-modifiable |
| **availability-zone** | | string optional | A distinct location within a region that is insulated from failures in other availability zones. It provides low-latency network connectivity to other availability zones in the same region. A typical availability zone name might be us-east-1d which would reside within the us-east-1 region. Attributes: non-creatable, non-modifiable |
| **cpu-platform** | | string optional | CPU platform of the instance Attributes: non-creatable, non-modifiable |
| **fault-domain** | **[0..2^32-1]** | integer optional | A cloud provider-assigned numerical fault domain ID for this virtual machine within an Availability Set. Attributes: non-creatable, non-modifiable |
| **image-id** | | string optional | The image ID installed on this virtual machine instance, for example ami-26bahc7c. It identifies a pre-defined template of a computing device's software environment. It contains the operating system and can also include application software, such as database servers, middleware, and web servers. In this case, the ID refers to an image that contains everything required to run Data ONTAP in the cloud. Attributes: non-creatable, non-modifiable |
| **instance-id** | | string optional | A cloud provider-supplied unique instance ID for this virtual machine, for example i-a9d42f89 or db00a7755a5e4e8a8fe4b19bc3b330c3.1 Attributes: non-creatable, non-modifiable |
| **instance-type** | | string optional | A specification (as defined by the cloud provider) that defines the memory, CPU, storage capacity and usage cost for a virtual machine instance. Some intance types are designed for standard applications, whereas others are designed for CPU-intensive or memory-intensive applications and so on. m3.xlarge is an example of an instance-type. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | The name of the node. Attributes: key, non-creatable, non-modifiable |
| **offer** | | string optional | A Marketplace is an online store that offers applications and services either built on or designed to integrate with a particular cloud provider. A virtual machine offer corresponds to a class of product offering from a publisher. An offer is a collection of SKUs. Every offer appears as its own entity in the provider Marketplace. Attributes: non-creatable, non-modifiable |
| **on-host-maintenance** | | string optional | VM Policy setting when hypervisor host maintenance occurs. Attributes: non-creatable, non-modifiable |
| **primary-ip** | | string optional | The primary IP address assigned to this virtual machine instance, e.g. 192.168.0.1. Attributes: non-creatable, non-modifiable |
| **provider** | | string optional | The Provider on which this instance is running. Attributes: non-creatable, non-modifiable |
| **region** | | string optional | A named set of resources in the same geographical area. For example us-east-1 might be the name for a collection of compute and storage resources on the eastern coast of the United States. Typically a region contains multiple availability zones. Attributes: non-creatable, non-modifiable |
| **resource-group-name** | | string optional | Resource group for the instance. Attributes: non-creatable, non-modifiable |
| | | | A SKU is the smallest purchasable unit of an offer. While within the |

| | | | |
|---|---|---|---|
| **sku** | | string optional | same product. class (offer), SKUs allow you to differentiate between different features supported, VM image types and billing models supported. Attributes: non-creatable, non-modifiable |
| **sku-version** | | string optional | The version for this virtual machine SKU. Attributes: non-creatable, non-modifiable |
| **update-domain** | **[0..2^32-1]** | integer optional | A cloud provider-assigned numerical update domain ID for this virtual machine within an Availability Set. Attributes: non-creatable, non-modifiable |
| **version** | | string optional | The instance metadata version of this virtual machine instance. Attributes: non-creatable, non-modifiable |

# Element definition: **vm-instance-maintenance-event**

[top]

Virtual machine instance maintenance event. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **event-id** | | string optional | A cloud provider-supplied unique event ID for this virtual machine maintenance event, for example 2831c724-97ca-4395-b8d3-a65c2a65b502. Attributes: key, non-creatable, non-modifiable |
| **event-status** | | maint-event-status optional | Scheduled or Started. Attributes: non-creatable, non-modifiable Possible values:<br>• "scheduled" ,<br>• "started" |
| **event-type** | | maint-event-type optional | Freeze, Reboot, or Redeploy. Attributes: non-creatable, non-modifiable Possible values:<br>• "freeze" ,<br>• "reboot" ,<br>• "redeploy" |
| **node** | | filer-id optional | The name of the node. Attributes: key, non-creatable, non-modifiable |
| **not-before-time** | | datetime optional | The event will not start before the indicated time, for example: Mon, 19 Sep 2018 18:29:47 GMT. Attributes: non-creatable, non-modifiable |

# Element definition: **vm-network-load-balancer-info**

[top]

Network load balancer information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired

attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **active** | | boolean optional | Network load balancer is actively receiving health probe requests on this TCP port. Attributes: non-creatable, non-modifiable |
| **last-probe-time** | | datetime optional | The timestamp of the most recent health probe request on this TCP port. Attributes: non-creatable, non-modifiable |
| **lif-id** | **[0..2^32-1]** | integer optional | ONTAP LIF ID. Attributes: key, non-creatable, non-modifiable |
| **lif-name** | | string optional | ONTAP LIF Name. Attributes: non-creatable, non-modifiable |
| **node** | | filer-id optional | The name of the node. Attributes: key, required-for-create, non-modifiable |
| **probe-port** | **[0..65535]** | integer optional | A TCP port which is regularly probed by the network load balancer. When the TCP port is healthy and open, the network load balancer will continue sending traffic to an associated network route. When unhealthy, the network load balancer will redirect all traffic intended for this route to an alternate route. Attributes: non-creatable, non-modifiable |
| **remove-listener** | | boolean optional | Whether or not ONTAP has programmatically told the netwwork load balancer to stop listening on the health probe associated with this LIF. Attributes: non-creatable, non-modifiable |
| **vserver-name** | | string optional | Vserver Name. Attributes: non-creatable, non-modifiable |

# Element definition: **datetime** [top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **filer-id** [top]

Filer UUID

[none]

# Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

## Element definition: **maint-event-status**

[top]

Cloud provider maintenance event status Possible values:

- "scheduled" ,
- "started"

[none]

## Element definition: **maint-event-type**

[top]

Cloud provider maintenance event types Possible values:

- "freeze" ,
- "reboot" ,
- "redeploy"

[none]

## Element definition: **node-name**

[top]

The node's name

[none]

## Element definition: **object-store-name**

[top]

Name of the object store

[none]

# APIs in Category: **volume**


volume-add
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volume-mirror
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volume-modify-iter-async
volume-mount
volume-move-get-iter
volume-move-pause

volume-move-resume
volume-move-start
volume-move-target-aggr-get-iter
volume-move-trigger-abort
volume-move-trigger-cutover
volume-offline
volume-offline-async
volume-online
volume-online-async
volume-options-list-info
volume-rehost
volume-rename
volume-rename-async
volume-restrict
volume-restrict-async
volume-scrub-list-info
volume-scrub-resume
volume-scrub-start
volume-scrub-stop
volume-scrub-suspend
volume-set-language
volume-set-option
volume-set-total-files
volume-size
volume-size-async
volume-space-get-iter
volume-split
volume-tiering-policies-list
volume-transition-check
volume-transition-prepare-to-downgrade
volume-transition-protect
volume-unmount
volume-verify-list-info
volume-verify-resume
volume-verify-start
volume-verify-stop
volume-verify-suspend
volume-wafl-info

# volume-add

[top]

Adds disks to the given traditional volume. Specify the disks to add in the same way as for 'volume-create'. Disks cannot be added to a mirrored traditional volume if one of its plexes is offline. Addition of the specified disk(s) may not have completed by the time the API returns. Use 'volume-list-info' to query the traditional volume's status, and thus determine when the disk addition is complete. It is not possible to add disks directly to a flexible volume; if that is the goal, then consider using 'volume-container' to find the flexible volume's containing aggregate, then use 'aggr-add' to add the desired disks there (which, of course, will make their storage available to all flexible volumes contained in that same aggregate).

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **disk-count** | | integer optional | Number of disks to add, including parity disks. The disks will come from the spare pool. The smallest disks in the spare pool join the volume first, unless "disk-size" is specified as an argument. Range : [0..2^31-1]. |
| **disk-size** | | integer optional | The disk size in 4KB blocks. Disks that are within approximately 20% of the specified size are selected for use in the traditional volume. If neither the "disk-size" nor the "disk-size-with-unit" is specified, the smallest disks in the spare pool join the traditional volume first. This option is ignored if a specific list of disks to use is provided via the "disks" argument. Range : [0..2^63-1]. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned. |
| **disk-size-with-unit** | | string optional | The disk size in specified unit. It is a positive integer number followed by unit of "T", "G", "M" or "K". This option is ignored if a specific list of disks to use is provided via the "disks" argument. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned. |
| **disks** | | disk-info[] optional | Specific list of disks to add to the traditional volume. If the traditional volume is mirrored and a specific disk list is supplied, another list ("mirror-disks") must also be supplied with the same number of disks. |
| **force** | | boolean optional | Disks in a plex are not permitted to span spare spare pools. This behavior is overridden with this option when it is set to "true". |
| **mirror-disks** | | disk-info[] optional | Specific list of mirror disks needed to accompany the list in the "disks" argument. This list must contain the same number of disks specified in "disks". |
| **raid-group** | | string optional | Specifies the RAID group (for example, 'rg0') to which the indicated disks are to be added. When a RAID group other than the last RAID group is specified, the traditional volume can no longer be reverted to a version of ONTAP prior to 6.2. In such a case, the "force" option must be specified as well. By default, the filer fills up one RAID group with disks before starting another RAID group. Suppose a traditional volume currently has one RAID group of 12 disks and its RAID group size is 14. If you add 5 disks to this traditional volume, it will have one RAID group with 14 disks and another RAID group with 3 disks. The filer does not evenly distribute disks among RAID groups. |
| **volume** | | string | Name of the traditional volume to which disks are to be added. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **bad-disks** | | disk-info[] optional | List of disks that were not added. This is only returned if there are bad disks. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMERGINVALID** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMEDISKSIZEINVALID** | |
| **EVOLUMEDISKDUP** | |
| **EDISKTYPEWRONGFORVOL** | |

# volume-autosize-get

[top]

Given the name of a volume, get the autosize settings. This API is not supported for Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | The name of the volume for which we want to get autosize. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **grow-threshold-percent** | | integer optional | The threshold capacity percentage at which the volume automatically grows. Range : [0..100] |
| **increment-size** | | string optional | The increment size by which the volume would be grown, in kbytes. |
| **is-enabled** | | boolean | This element is deprecated in Data ONTAP 8.2 and later. Please use autosize-mode instead. When this parameter is 'true', the 'grow' autosize mode is in effect, while 'false' means that the autosize mode to 'off'. |
| **maximum-size** | | string | The maximum size to which the volume would be grown automatically, in kbytes. |
| **minimum-size** | | string optional | The minimum size to which the volume would be shrunk automatically, in kbytes. |
| **mode** | | string optional | The operating mode of autosize. Valid values are "grow", "grow_shrink", and "off". |
| **shrink-threshold-percent** | | integer optional | The threshold capacity percentage at which the volume automatically shrinks. Range : [0..100] |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-autosize-set

[top]

Given the name of a volume, set the autosize settings. This API is not supported for FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **grow-threshold-percent** | | integer optional | Specifies the percentage of the flexible volume's capacity at which autogrow is initiated. The default grow threshold varies from 85% to 98%, depending on the volume size. It is an error for the grow threshold to be less than or equal to the shrink threshold. Range : [0..100] |
| **increment-** | | string | Specify the flexible volume's increment size using the following format < number > [k\|m\|g\|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', |

| | | | |
|---|---|---|---|
| **size** | | optional | 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value of increment size is 5%. |
| **is-enabled** | | boolean optional | This element is deprecated in Data ONTAP 8.2 and later. Please use autosize-mode instead. Setting this parameter to 'true' enables the 'grow' mode, while setting it to 'false' disables autosize and sets the autosize mode to 'off'. The default value is 'false'. |
| **maximum-size** | | string optional | Specify the flexible volume's maximum allowed size using the following format < number > [k\|m\|g\|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value is 20% greater than the volume size at the time autosize was enabled. It is an error for the maximum volume size to be less than the current volume size. It is also an error for the maximum size to be less than or equal to the minimum size. |
| **minimum-size** | | string optional | Specify the flexible volume's minimum allowed size using the following format < number > [k\|m\|g\|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value is the size of the volume at the time the 'grow_shrink' mode was enabled. It is an error for the minimum size to be greater than or equal to the maximum size. |
| **mode** | | string optional | Specify the flexible volume's autosize mode of operation. Valid values are "grow", "grow_shrink", and "off". The default mode is "off". |
| **reset** | | boolean optional | Sets the values of is-enabled, maximum size, increment-size, minimum-size, grow-threshold-percent, shrink-threshold-percent and mode to their defaults. |
| **shrink-threshold-percent** | | integer optional | Specifies the percentage of the flexible volume's capacity at which autoshrink is initiated. The default shrink theshold is 50%. It is an error for the shrink threshold to be greater than or equal to the grow threshold. Range : [0..100] |
| **volume** | | string | The name of the flexible volume for which we want to set autosize. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# volume-autosize-set-async

[top]

Given the name of a volume, set the autosize settings. This API is not supported for flexible volumes or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Specifies the percentage of the flexible volume's capacity at which |

| | | | |
|---|---|---|---|
| **grow-threshold-percent** | | integer optional | autogrow is initiated. The default grow threshold varies from 85% to 98%, depending on the volume size. It is an error for the grow threshold to be less than or equal to the shrink threshold. Range : [0..100] |
| **maximum-size** | | string optional | Specify the flexible volume's maximum allowed size using the following format < number > [k\|m\|g\|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value is 20% greater than the volume size at the time autosize was enabled. It is an error for the maximum volume size to be less than the current volume size. It is also an error for the maximum size to be less than or equal to the minimum size. |
| **minimum-size** | | string optional | Specify the flexible volume's minimum allowed size using the following format < number > [k\|m\|g\|t] The amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The default value is the size of the volume at the time the 'grow_shrink' mode was enabled. It is an error for the minimum size to be greater than or equal to the maximum size. |
| **mode** | | string optional | Specify the flexible volume's autosize mode of operation. Valid values are "grow", "grow_shrink", and "off". The default mode is "off". |
| **reset** | | boolean optional | Sets the values of is-enabled, maximum size, increment-size, minimum-size, grow-threshold-percent, shrink-threshold-percent and mode to their defaults. |
| **shrink-threshold-percent** | | integer optional | Specifies the percentage of the flexible volume's capacity at which autoshrink is initiated. The default shrink theshold is 50%. It is an error for the shrink threshold to be greater than or equal to the grow threshold. Range : [0..100] |
| **volume** | | string | The name of the flexible volume for which we want to set autosize. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# volume-clone-create

[top]

Create a flexible volume that is a clone of a "backing" or "parent" flexible volume. A clone is a volume that is a writable snapshot of another volume. Initially, the clone and its parent share the same storage; more storage space is consumed only as one volume or the other changes. If a specific snapshot name within the parent volume is provided, it is chosen as the parent snapshot. Otherwise, the filer will create a new, distinctively- named snapshot in the parent volume for that purpose. The parent snapshot is locked in the parent volume, preventing its deletion until the clone is either destroyed or split from the parent using the 'volume-clone-split-start' command (see below). This command fails if the chosen parent volume is currently involved in a split operation. This command also fails if the chosen parent volume is a traditional volume. Cloning is a new capability that applies exclusively to flexible volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **comment** | | string optional | A description for the clone volume being created. The maximum length of the description is 1023 characters. |
| **force-worm-clone** | | boolean optional | If set to 'true', forces the creation of clone on a worm volume. If set to 'false', clone creation on any worm volume will fail, because clones of worm volumes are not deletable until all the inherited worm files on newly created clone have expired. Default value is false. |
| **gid** | **[1..2^32-1]** | integer optional | The UNIX group ID for the clone volume. |
| **junction-active** | | boolean optional | This field indicates whether the mounted volume is accessible. The default is true. If the mounted junction path is not accessible, the volume does not appear in the owning Vserver's namespace. This field applies only to Cluster-Mode volumes. |
| **junction-path** | | string optional | The Junction Path at which this volume is to be mounted.<br><br>The fully-qualified pathname in the owning Vserver's namespace at which a volume is mounted. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'.<br><br>An example of a valid junction path is: '/user/my_volume'.<br><br>Only one volume can be mounted at any given junction path. If an incorrect junction path is specified, EINVALIDINPUTERROR is returned. If another volume is mounted at the specified junction path, EVOLALREADYMOUNTED is returned. |
| **match-parent-storage-tier** | | boolean optional | Specifies whether the FlexClone volume splits the data blocks by matching its parent storage tier. This option is applicable only if the tiering policy and the tiering minimum cooling days of the parent volume and the FlexClone volume are the same. |
| **parent-snapshot** | | string optional | Name of the snapshot within 'parent-volume' that is to serve as the parent snapshot for the clone. If not provided, the filer will create a new snapshot named 'clone_parent_' (using a freshy-generated UUID) in 'parent-volume' for this purpose. |
| **parent-volume** | | string | Name of the parent flexible volume for the clone. |
| **parent-vserver** | | string optional | Parent flexible volume's Vserver. |
| **qos-policy-** | | | The QoS Policy Group Name that is to be associated with this FlexClone volume in order to enforce Service Level Objectives (SLO). If you do not assign a QoS policy group to a volume, the system will |

| | | | |
|---|---|---|---|
| **group-name** | | string optional | not monitor and control the traffic to it. Note that "none" is a reserved keyword used to remove the association of a storage object to a QoS policy group. Specifying "none" as a QoS policy group in this command would have no effect. |
| **space-reserve** | | string optional | Specifies the type of volume guarantee for the clone. Possible values: none, file, volume. If this argument is not provided, then guarantee type is inherited from parent volume. |
| **uid** | **[1..2^32-1]** | integer optional | The UNIX user ID for the clone volume. |
| **volume** | | string | Desired name of the clone. |
| **volume-type** | | string optional | The type of the volume to be created. Possible values:<br>• "rw" - read-write volume (default setting),<br>• "dp" - data-protection volume<br>If not provided, the filer will assume the default value i.e. "rw" volume. Creation of data-protection volume clone is only allowed from parent-volume which is paloma logical DP volume. |
| **vserver** | | string | Name of the Vserver in which the clone will be created. |
| **vserver-dr-protection** | | string optional | Specifies the protection type for the volume in a Vserver DR setup.<br>Possible values:<br>• 'protected' ... Volume will be replicated to the destination,<br>• 'unprotected' ... Volume will not be replicated to the destination. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENOTONLINE** | |
| **EVOL_ALREADY_MOUNTED** | |
| **EINVALIDINPUTERROR** | |
| **ESNAPSHOTDOESNOTEXIST** | |
| **ESNAPSHOTBUSY** | |
| **EDP_CLONE_NOT_ALLOWED** | |
| **ESNAPSHOT_NOT_EXPORTED** | |
| **EONTAPI_EEXIST** | |
| **EVOL_MAX_CLONEDEPHREACHED** | |
| **EONDEMAND_CANT_CREATE_FILE** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **E_QOS_OBJECT_OVERLAP_ERROR** | |
| **E_QOS_NO_SUCH_PG** | |
| **E_QOS_TOO_MANY_USER_WIDS** | |
| **E_QOS_GENERAP_OP_ERROR** | |
| **E_QOS_VSERVERIZATION_VIOLATION** | |
| **E_QOS_VOL_TYPE_UNSUPPORTED** | |
| **EPARENT_NOT_DP_VSERVER_WHEN_CLONE_IN_DIFFERENT_VSERVER** | |
| **E_PROTECTION_HANDLING_FAILED** | |
| **E_GUARANTEED_CLONE_CANT_BE_LOGICALLY_ENFORCED** | |

| Vfiler-enabled |
| --- |
| Yes |

# volume-clone-get

[top]

Display details of a specific FlexClone volume

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **desired-attributes** | | volume-clone-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **volume** | | string | FlexClone Volume |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **attributes** | | volume-clone-info | The attributes of the volume. |

| Errno | Description |
| --- | --- |
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENOTCLONE** | |
| **EVOL7MSNAPSHOT** | |

# volume-clone-get-iter

[top]

Display a list of FlexClone volumes

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **desired-attributes** | | volume-clone-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 10 |
| **query** | | volume-clone-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| **attributes-** | | volume-clone- | The list of attributes of volume objects. |

| | | | |
|---|---|---|---|
| **list** | | info[] optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more volume objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-clone-split-estimate

[top]

Display an estimate of additional storage required in the underlying aggregate to perform a volume clone split operation. This command fails if applied to a traditional volume. Cloning is a new capability that applies exclusively to flexible volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | The name of the clone whose split usage is being estimated. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **clone-split-estimate** | | clone-split-estimate-info[] | An estimate of the number of blocks required in the enclosing aggregate to split a clone from its parent. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENOTCLONE** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUMEINUSE** | |
| **EINTERNALERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-clone-split-start

[top]

Begin the process by which the given clone is split off from its underlying parent volume and snapshot. New storage is allocated for the clone that is distinct from its parent. This process may take some time and proceeds in the background. Use the 'volume-clone-split-status' command to view the operation's progress. Both clone and parent volumes remain available during the process of splitting them apart. Upon completion, the snapshot on which the clone was based will be unlocked in the parent volume. Any snapshots in the clone are removed at the end of processing. Use the 'volume-clone-split-stop' command to stop this process. This command fails if applied to a traditional volume. Cloning is a new capability that applies exclusively to flexible volumes.

In Data ONTAP Cluster-Mode, a job is created to perform the split operation. The job id of the job is returned in the API response. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **match-parent-storage-tier** | | boolean optional | Specifies whether the FlexClone volume splits the data blocks by matching its parent storage tier. This option is applicable only if the tiering policy and the tiering minimum cooling days of the parent volume and the FlexClone volume are the same. |
| **volume** | | string | Name of the clone that we want split off from its parent volume and snapshot. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | error code, if the operation caused an error. |
| **result-error-message** | | string optional | error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | The job id of the job that was queued to split the clone volume. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded", "in-progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENOTCLONE** | |
| **EVOL_SCAN_INIT_FAILED** | |
| **EVOL_CLONE_BEING_SPLIT** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-clone-split-status

[top]

Display the progress in separating clones from their underlying parent volumes and snapshots. If a clone name is specified, then the split status for that clone is provided. If no clone name is provided, then status is provided for all clones currently being split. This command fails if applied to a traditional volume, and EONTAPI_EVOLNOTFLEX is thrown. Cloning is a capability that applies exclusively to flexible volumes. This command fails if the volume specified is not a clone, and EVOLNOTCLONE is thrown. This command fails if the volume specified is not being split, and EVOLOPNOTUNDERWAY is thrown.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string optional | The name of the clone being split off from its parent volume and snapshot for which we want status. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **clone-split-details** | | clone-split-detail-info[] optional | List of clones that are currently being split from their parent volumes, along with all relevant status information. |

| Errno | Description |
|---|---|

| | |
|---|---|
| **EONTAPI_ENOENT** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EONTAPI_EVOLNOTFLEX** | |
| **EVOLNOTCLONE** | |
| **EVOLOPNOTUNDERWAY** | |
| **EVOLUMENOTONLINE** | |
| **EINTERNALERROR** | |
| **EAGGRDOESNOTEXIST** | |
| **EONTAPI_ENOSPC** | |
| **EPARENTNOTONLINE** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-clone-split-stop

[top]

Stop the process of splitting off a clone from its parent volume and snapshot. All of the blocks that were formerly shared between the given clone and its parent volume that have already been split off will remain that way. This command fails if applied to a traditional volume. Cloning is a new capability that applies exclusively to flexible volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | The name of the clone for which we want to stop the process of being split off from its parent volume and snapshot. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLNOTCLONE** | |
| **EVOLOPNOTUNDERWAY** | |
| **EINTERNALERROR** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-container

[top]

Return the name of the containing aggregate for the named flexible volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | The name of the flexible volume for which we want the containing aggregate. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | | |

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|---|---|---|---|
| **containing-aggregate** | | string | Name of the given volume's containing aggregate, if applicable. |

| Errno | Description |
|---|---|
| **EONTAPI_ENOENT** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-create

[top]

Create a volume.

The detailed behavior of this API depends on where it is received:

1. In Data ONTAP Cluster-Mode, create a new flexible volume.

2. In Data ONTAP 7-Mode, create a new flexible, traditional, or sparse volume with the given name and characteristics. Freshly-created traditional volumes may not be operational immediately after the API returns. Use 'volume-list-info' to obtain information about volumes, including the status of the newly-created traditional volume in order to determine when it is fully operational.

This API is not supported for FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **antivirus-on-access-policy** | | string optional | {Deprecated, this field does not have any effect on the operation of the volume.} The name of the Anti-Virus On-Access policy. The default policy name is 'default'.<br><br>If not specified when creating a volume, the Anti-Virus On-Access Policy is inherited from the owning Vserver. Currently, this policy can only be managed using the 'antivirus' command line interfaces. |
| **application-io-size** | | string optional | This field specifies the block size used for volume efficiency compression for the volume.<br><br>Possible values:<br>• '8K' ... 8K,<br>• 'auto' ... auto |
| **cache-retention-priority** | | string optional | The cache retention priority that is to be associated with the volume. This policy decides how long blocks of a volume will be cached in flash pool once they become cold. The possible values for this field are:<br>• low - Cache the cold blocks for the lowest time.<br>• normal - Cache the cold blocks for the default time.<br>• high - Cache the cold blocks for the highest time. |

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| | | | Default cache retention priority is normal. |
| **caching-policy** | | string optional | The caching policy that is to be associated with this volume. This policy is used to make caching decisions for this volume. The possible options for this value are:<br><br>• none - Does not cache any user data or metadata blocks.<br>• auto - Read caches all metadata blocks and randomly read user data blocks and write caches all randomly overwritten user data blocks.<br>• meta - Read caches only metadata blocks.<br>• random_read - Read caches all metadata and randomly read user data blocks.<br>• random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.<br>• all_read - Read caches all metadata, randomly read and sequentially read user data blocks.<br>• all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data.<br>• all - Read caches all data blocks read and written. It does not do any write caching.<br>• noread-random_write - Write caches all randomly overwritten user data blocks. It does not do any read caching.<br>• meta-random_write - Same as meta and noread-random_write.<br>• random_read_write-random_write - Same as random_read_write and noread-random_write.<br>• all_read-random_write - Same as all_read and noread-random_write.<br>• all_read_random_write-random_write - Same as all_read_random_write and noread-random_write.<br>• all-random_write - Same as all and noread-random_write.<br><br>Default caching-policy is auto. |
| **cloud-retrieval-policy** | | string optional | This optional parameter specifies the cloud retrieval policy for the volume. This policy determines which tiered out blocks to retrieve from the capacity tier to the performance tier. The available cloud retrieval policies are:<br><br>• default - This policy retrieves tiered data based on the underlying tiering policy. If the tiering policy is 'auto', tiered data is retrieved only for random client driven data reads. If the tiering policy is 'none' or 'snapshot-only', tiered data is retrieved for random and sequential client driven data reads. If the tiering policy is 'all', tiered data is not retrieved.<br>• on-read - This policy retrieves tiered data for all client driven data reads.<br>• never - This policy never retrieves tiered data.<br>• promote - This policy retrieves all eligible tiered data automatically during the next scheduled scan. It is only supported when the tiering policy is 'none' or 'snapshot-only'. If the tiering policy is 'snapshot-only', the only data brought back is the data in the AFS. Data that is only in a snapshot copy stays in the cloud. |
| **constituent-role** | | string optional | This parameter is not supported. |
| **containing-aggr-name** | | string optional | **Flexible** volumes only. The name of the aggregate in which to create the new flexible volume. If provided, this argument must be accompanied by the "size" parameter described below. |

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|---|---|---|---|
| | | | This input is required for creating a Cluster-Mode volume. |
| **disk-count** | | integer optional | **Traditional** volumes only. Number of disks to place into the new traditional volume, including the parity disks. The disks in this newly-created traditional volume come from the spare disk pool. The smallest disks in this pool join the traditional volume first, unless the "disk-size" argument is specified. Either "disk-count" or "disks" must be supplied for traditional volumes. Range [0..2^31-1]. |
| **disk-size** | | integer optional | **Traditional** volumes only. Disk size in 4KB blocks. Disks that are within 20% of the specified size will be selected for use in the traditional volume. If neither "disk-size" nor "disk-size-with-unit" is specified, existing groups are appended with disks that are the best match for the largest disk in the group. When starting new groups, the smallest disks are selected first. This option is ignored if a specific list of disks to use is specified through the "disks" parameter. Range [0..2^63-1]. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned. |
| **disk-size-with-unit** | | string optional | **Traditional** volumes only. Disk size in the specified unit. It is a positive integer number followed by unit of "T", "G", "M" or "K". This option is ignored if a specific list of disks to use is specified through the "disks" parameter. You must only use one of either "disk-size" or "disk-size-with-unit" parameters. If both appear, an error message will be returned. |
| **disks** | | disk-info[] optional | **Traditional** volumes only. Specific list of disks to use for the new volume. If "mirrored" is set to true and a specific list of disks is supplied, the "mirror-disks" list with the same number of disks must also be supplied. Either "disk-count" or "disks" must be supplied when creating traditional volumes. |
| **efficiency-policy** | | string optional | Efficiency policy name. This attribute selects the efficiency policy to use for this volume. Each efficiency policy controls how volume efficiency (deduplication and/or compression) will operate.<br><br>This policy can be created using the 'sis-policy-create' API. |
| **encrypt** | | boolean optional | Specifies whether a volume is encrypted or not. |
| **excluded-from-autobalance** | | boolean optional | When set to 'true', the volume is excluded from Auto Balance aggregate processing. The default value is false, meaning that the volume is included in Auto Balance Aggregate processing. |
| **export-policy** | | string optional | The name of the Export Policy to be used by NFS/CIFS protocols. The default policy name is 'default'. |
| **extent-size** | | string optional | This field specifies the default extent size for the volume. In case of WAFL volumes, this option would always be set to 4K. For MetaWAFL volumes, the possible values are as follows.<br><br>Possible values:<br>• '4K' ... 4K,<br>• '8K' ... 8K,<br>• '16K' ... 16K,<br>• '32K' ... 32K |
| **flexcache-cache-policy** | | string optional | The name of the FlexCache policy.<br><br>The default policy name is 'default'.<br><br>This policy applies only to FlexCache volumes and can be created using the 'flexcache-cache-policy-create' API. |
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|---|---|---|---|
| **flexcache-fill-policy** | | string optional | The name of the FlexCache prefill policy.<br><br>The default policy name is 'default'.<br><br>This policy applies only to FlexCache volumes and can be created using the 'flexcache-fill-policy-create' API. |
| **flexcache-origin-volume-name** | | string optional | The name of the origin volume that contains the authoritative data. This field is valid only for a FlexCache volume. The origin volume must belong to the same Vserver that owns this volume. |
| **force** | | boolean optional | **Traditional** volumes only. Disks in a plex are not normally permitted to span spare pools. This behavior is overridden with this option when it is set to "true". |
| **group-id** | **[0..2^32-1]** | integer optional | The UNIX group ID for the volume. The default value is 0 ('root'). |
| **is-junction-active** | | boolean optional | This field indicates whether the mounted volume is accessible. The default is true. If the mounted junction path is not accessible, the volume does not appear in the owning Vserver's namespace. This field applies only to Cluster-Mode volumes. |
| **is-mirrored** | | boolean optional | **Traditional** volumes only. Specifies that the new traditional volume be mirrored (have two plexes). If set to "true", then the indicated disks will be split across the two plexes. By default, the new volume will not be mirrored. |
| **is-nvfail-enabled** | | string optional | If true, the controller performs additional work at boot and takeover times if it finds that there has been any potential data loss in this volume due to an NVRAM failure.<br><br>For 7-Mode volumes, it causes the invalidation of all NFS file handles on all volumes affected by the problem so that client-side users are forced to remount the affected file system (and thus not continue to use potentially incorrect data).<br><br>It is also possible to specify a set of files per volume that are to be renamed out of the way in these cases. The controller sends error messages to the console whenever such problems are found.<br><br>For Cluster-Mode volumes, the volume would be put in a special state called 'in-nvfailed-state' such that protocol access is blocked. This will cause the client applications to crash and thus prevent access to stale data on the volume.<br><br>To get out of this situation, the admin needs to manually clear the 'in-nvfailed-state' on the volume.<br><br>By default, this value is false. |
| **is-snaplock** | | boolean optional | Specifies the creation of a SnapLock volume. By default, is-snaplock is not specified. When is-snaplock is "true" the type of snaplock volume is determined in the following way - 1> If snaplock-type is set, create the type specified in snaplock-type (see snaplock-type for more details) 2> Otherwise, create a Snaplock enterprise volume if a Snaplock enterprise license has been installed. 3> Otherwise, create a Snaplock compliance volume. ESERVICENOTLICENSED is returned if the required Snaplock Compliance or Enterprise license is not installed. EONTAPI_EWORMNOCLOCK is returned if SnapLock Compliance Clock is not running. If you need to create a snaplock volume, the suggested method is to specify snaplock-type as "compliance" or "enterprise" and not specify is-snaplock at all. If you want to create a non-snaplock volume, the suggested method is to specify neither snaplock-type nor is-snaplock. |

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| **is-space-enforcement-logical** | | boolean optional | This parameter specifies whether to perform logical space accounting on the volume. When space is enforced logically, ONTAP enforces volume settings such that all the physical space saved by the storage efficiency features will be calculated as used. This parameter is not supported on FlexGroups in versions earlier than 9.9.0. The default setting is false. |
| **is-space-reporting-logical** | | boolean optional | This parameter specifies whether to report space logically on the volume. When space is reported logically, ONTAP reports the volume space such that all the physical space saved by the storage efficiency features are also reported as used. This parameter is not supported on FlexGroups in versions earlier than 9.9.0. The default setting is false. |
| **is-vserver-root** | | boolean optional | If true, this volume is the namespace root volume of the Vserver which owns this volume. The default value is false.<br><br>When creating a volume, if this field is set to true, the new volume is to become the new namespace root volume of the Vserver. This field can be used in a recovery scenario in which the namespace root volume of the Vserver becomes unrecoverable. |
| **junction-path** | | string optional | The Junction Path at which this volume is to be mounted.<br><br>The fully-qualified pathname in the owning Vserver's namespace at which a volume is mounted. The pathname is case insensitive and must be unique within a Vserver's namespace. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'.<br><br>An example of a valid junction path is: '/user/my_volume'.<br><br>Only one volume can be mounted at any given junction path. If an incorrect junction path is specified, EINVALIDINPUTERROR is returned. If another volume is mounted at the specified junction path, EVOLALREADYMOUNTED is returned. |
| **language-code** | | string optional | Specifies the language to use for the new volume via a language code. The default language is the one used by the filer's root volume. Available language codes are:<br><br>• 'C' ... POSIX,<br>• 'ar' ... Arabic,<br>• 'cs' ... Czech,<br>• 'da' ... Danish,<br>• 'de' ... German,<br>• 'en' ... English,<br>• 'en_US' ... English (US),<br>• 'es' ... Spanish,<br>• 'fi' ... Finnish,<br>• 'fr' ... French,<br>• 'he' ... Hebrew,<br>• 'hr' ... Croatian,<br>• 'hu' ... Hungarian,<br>• 'it' ... Italian,<br>• 'ja' ... Japanese euc-j,<br>• 'ja_v1' ... Japanese euc-j,<br>• 'ja_JP.PCK' ... Japanese PCK (sjis),<br>• 'ja_JP.932' ... Japanese cp932,<br>• 'ja_JP.PCK_v2' ... Japanese PCK (sjis),<br>• 'ko' ... Korean,<br>• 'no' ... Norwegian, |

| | | | |
|---|---|---|---|
| | | | • 'nl' ... Dutch,<br>• 'pl' ... Polish,<br>• 'pt' ... Portuguese,<br>• 'ro' ... Romanian,<br>• 'ru' ... Russian,<br>• 'sk' ... Slovak,<br>• 'sl' ... Slovenian,<br>• 'sv' ... Swedish,<br>• 'tr' ... Turkish,<br>• 'zh' ... Simplified Chinese,<br>• 'zh.GBK' ... Simplified Chinese (GBK),<br>• 'zh_TW' ... Traditional Chinese euc-tw,<br>• 'zh_TW.BIG5' ... Traditional Chinese Big 5<br><br>To use UTF-8 as the NFS character set, append '.UTF-8' to the language code. |
| **max-dir-size** | **[0..2^63-1]** | integer<br>optional | The maximum size (in bytes) to which any directory in this volume can grow.<br><br>For 7-Mode volumes, the default setting of 10240 limits directory size to 10 MBytes and allows it to hold up to approximately 300,000 files. For Cluster-Mode volumes, the default setting is 100 MBytes and it allows the directory to hold up to approximately 3,000,000 files. The number of files that the directory actually can hold varies depending on such things as the length of the names and whether it needs to use double-byte UNICODE characters.<br><br>Most users should not need to change this field's default setting. It is useful for environments where system users may grow a directory to a size that starts impacting system performance. When a user tries to create a file in a directory that is at the limit, the system returns a ENOSPC error and fails the create. |
| **max-write-alloc-blocks** | **[0..2048]** | integer<br>optional | The maximum number of blocks used for write allocation.<br><br>This feature is deprecated. |
| **mirror-disks** | | disk-info[]<br>optional | **Traditional** volumes only. List of mirror disks to use. It must contain the same number of disks specified in "disks". |
| **percentage-snapshot-reserve** | | integer<br>optional | The percentage of disk space that has to be set aside as reserve for snapshot usage. The default value is 5. Range : [0..90] |
| **qos-adaptive-policy-group-name** | | string<br>optional | The QoS Adaptive Policy Group Name that is to be associated with this volume in order to enforce Service Level Objectives (SLO) that adjust based on the volume allocated space or used space. NOTE: "none" is a reserved keyword for deleting the association of the volume with a QoS adaptive policy group. Specifying "none" as a the QoS adaptive policy group during volume creation will have no effect. This parameter is not supported on FlexGroups. |
| **qos-policy-group-name** | | string<br>optional | The QoS Policy Group Name that is to be associated with this volume in order to enforce Service Level Objectives (SLO). If you do not assign a QoS policy group to a volume, the system will not monitor and control the traffic to it. NOTE: "none" is a reserved keyword for deleting the association of the volume with a QoS policy group. Specifying "none" as a the QoS policy group during volume creation will have no effect. |
| **raid-size** | | integer<br>optional | **Traditional** volumes only. Specifies the maximum number of disks in each RAID group in the traditional volume. The maximum value for this parameter is of raidsize is 28. The default value is platform-dependent. The valid range of values is also platform-dependent, |

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|---|---|---|---|
| | | | but never wider than [2..28]. |
| **remote-location** | | string optional | Specifies the remote host and volume name for the origin of the FlexCache. A FlexCache license is necessary for this option to be utilized. The default action is not to create a FlexCache Volume. Format: : Create a sparse volume as a FlexCache for the given remote host and remote volume name. Remote Host: Should be formatted as either the DNS hostname or as an IP address. Remote Volume: Should be formatted the same as a volume name. ESERVICENOTLICENSED is returned if the FlexCache service is not licensed. EINVALIDINPUT is returned if the host, or source volume is found to be invalid. |
| **size** | | string optional | **Flexible** volumes only. The initial size of the new flexible volume. The format to use is: < number > k\|m\|g\|t where "k" means kilobytes, "m" means megabytes, "g" means gigabytes, and "t" means terabytes. If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. If provided, this argument must be accompanied by the "containing-aggr-name" parameter described above. |
| **snaplock-type** | | string optional | Specifies the type of Snaplock volume to be created. Possible values - "compliance" or "enterprise" ESERVICENOTLICENSED is returned if the necessary Snaplock compliance or enterprise license has not been installed. EINVALIDINPUT is returned if snaplock-type has an illegal value or if is-snaplock has been set to "false". EONTAPI_EWORMNOCLOCK is returned if SnapLock Compliance Clock is not running. |
| **snapshot-policy** | | string optional | The name of the snapshot policy.<br><br>The default policy name is 'default'.<br><br>This policy can be created using the 'snapshot-policy-create' API. It can be managed using the 'snapshot-policy-*' APIs. |
| **space-reserve** | | string optional | Specifies the type of volume guarantee the new volume will use. Possible values: none, file, volume. If this argument is not provided, the default volume guarantee type is volume. |
| | | | Specifies the space SLO type for the volume. The space SLO type is the Service Level Objective for space management for the volume. The space SLO value is used to enforce existing volume settings so that sufficient space is set aside on the aggregate to meet the space SLO. The default setting is **none**. There are three supported values: **none**, **thick** and **semi-thick**.<br><br>**none**: The value of **none** does not provide any guarantee for overwrites or enforce any restrictions. It should be used if the admin plans to manually manage space consumption in the volume and aggregate, and out of space errors.<br><br>**thick**: The value of **thick** guarantees that the hole fills and overwrites to space-reserved files in this volume will always succeed by reserving space. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified:<br><br>• Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's **space-guarantee** type is not supported.<br>• Fractional Reserve: 100 - 100% of the space required for overwrites is reserved. Changing the volume's **fractional-reserve** setting is not supported.<br><br>**semi-thick**: The value of **semi-thick** is a best-effort attempt to ensure that overwrites succeed by restricting the use of features |

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| **space-slo** | | string optional | that share blocks and auto-deleting backups and Snapshot copies in the volume. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified:<br><br>• Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's **space-guarantee** type is not supported.<br>• Fractional Reserve: 0 - No space will be reserved for overwrites by default. However, changing the volume's **fractional-reserve** setting is supported. Changing the setting to 100 means that 100% of the space required for overwrites is reserved.<br>• Snapshot Autodelete: enabled - Automatic deletion of Snapshot copies is enabled to reclaim space. To ensure that the overwrites can be accommodated when the volume reaches threshold capacity, the following volume snapshot autodelete parameters are set automatically to the specified values and cannot be modified:<br>◦ enabled: true<br>◦ commitment: destroy<br>◦ trigger: volume<br>◦ defer-delete: none<br>◦ destroy-list: vol_clone, lun_clone, file_clone, cifs_share<br><br>In addition, with a value of semi-thick, the following technologies are not supported for the volume:<br><br>• File Clones with autodelete disabled: Only full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of **autodelete** for file clone create is required.<br>• Partial File Clones: Only the full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of **range** for file clone create is not allowed.<br>• Volume Efficiency: Enabling **volume efficiency** is not supported to allow autodeletion of Snapshot copies. |
| **storage-efficiency-mode** | | string optional | This field specifies the storage efficiency mode for the volume. The 'default' mode will set 8k adaptive compression on the volume. The 'efficient' mode will set auto adaptive compression on the volume. The default setting is 'default'. This field is valid only on AFF platforms.<br><br>Possible values:<br><br>• 'default' ... default,<br>• 'efficient' ... efficient |
| **storage-service** | | string optional | This parameter is not supported. |
| **tiering-minimum-cooling-days** | **[2..183]** | integer optional | This parameter specifies the minimum number of days that user data blocks of the volume must be cooled before they can be considered cold and tiered out to the capacity tier. For volumes hosted on FabricPools, this parameter is used for tiering purposes and does not affect the reporting of inactive data. For volumes hosted on non-FabricPools, this parameter affects the cooling window used for reporting inactive data. The value specfied should be greater than the frequency that applications in the volume shift between different sets of data. |
| | | | The tiering policy that is to be associated with the volume. This policy decides whether the blocks of a volume will be tiered to the |

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| **tiering-policy** | | string optional | capacity tier. The possible values for this field are:<br><br>• snapshot-only - This policy allows tiering of only the volume snapshot copies not associated with the active file system.<br>• 'auto' - This policy allows tiering of both snapshot and active file system user data to the capacity tier.<br>• none - Volume blocks will not be tiered to the capacity tier.<br>• backup - On DP volumes this policy allows all transferred user data blocks to start in the capacity tier.<br><br>Default tiering policy is snapshot-only. |
| **unix-permissions** | | string optional | Unix permission bits in octal string format.<br><br>It's similar to Unix style permission bits:<br><br>In Data ONTAP 7-mode, the default setting of '0755' gives read/write/execute permissions to owner and read/execute to group and other users.<br><br>In Data ONTAP Cluster-Mode, for security style "mixed" or "unix", the default setting of '0755' gives read/write/execute permissions to owner and read/execute permissions to group and other users. For security style "ntfs", the default setting of '0000' gives no permissions to owner, group and other users.<br><br>It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. |
| **user-id** | **[0..2^32-1]** | integer optional | The UNIX user ID for the volume. The default value is 0 ('root'). |
| **vm-align-sector** | **[1..7]** | integer optional | The Virtual Machine alignment 512 byte sector number. All files created with the suffix specified in the 'vm-align-suffix' input parameter will have zero-filled <512 * 'vm-align-sector'> bytes data at the beginning so that it's actual data starts at a different offset instead of zero. This is done so that the read & writes to such files are aligned to WAFL's 4k block boundary. |
| **vm-align-suffix** | | string optional | The Virtual Machine alignment suffix. The suffix such as '.xyz' is used to identify the files which needs to be aligned. This element can only be specified if the vm-align-sector input element is also specified. See the description for 'vm-align-sector' above for more information on this. |
| **volume** | | string optional | Name of the volume to create. The volume name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. In Data ONTAP Cluster-Mode, the volume names must be unique within a Vserver. In Data ONTAP 7-mode, the volume names must be unique on a controller. |
| **volume-comment** | | string optional | A description for the volume being created. Range:[0..1023] |
| **volume-raid-type** | | string optional | **Traditional** volumes only. Specifies the type of RAID groups to use in the new traditional volume. The default is "raid4" on most platforms. Possible values: raid4, raid_dp, raid_tec. |
| **volume-security-** | | string optional | The security style associated with this volume.<br><br>Possible values:<br><br>• 'mixed' ... Mixed-style security,<br>• 'ntfs' ... NTFS/Windows-style security, |

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| **style** | | | • 'unix' ... Unix-style security (default for Flexible Volume)<br><br>Security styles don't apply to GX-striped data volumes. |
| **volume-state** | | string<br>optional | Desired state of the volume after it is created.<br><br>Possible values:<br><br>• 'online',<br>• 'restricted',<br>• 'offline' |
| **volume-type** | | string<br>optional | The type of the volume to be created. Possible values:<br><br>• "rw" - read-write volume (default setting),<br>• "ls" - load-sharing volume,<br>• "dp" - data-protection volume,<br>• "dc" - data-cache volume (FlexCache) |
| **vserver-dr-protection** | | string<br>optional | Specifies the protection type for the volume in a Vserver DR setup.<br><br>Possible values:<br><br>• 'protected' ... Volume will be replicated to the destination,<br>• 'unprotected' ... Volume will not be replicated to the destination. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **bad-disks** | | disk-info[]<br>optional | **Traditional** volumes only. List of disks that were not added. This is only returned if there are bad disks. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMERGSIZEINVALID** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMELANGUAGEINVALID** | |
| **EVOLUMEDISKSIZEINVALID** | |
| **EVOLUMEDISKDUP** | |
| **ESERVICENOTLICENSED** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EVOLALREADYMOUNTED** | |
| **EONTAPI_EWORMNOCLOCK** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_QOS_OBJECT_OVERLAP_ERROR** | |
| **E_QOS_NO_SUCH_PG** | |
| **E_QOS_TOO_MANY_USER_WIDS** | |
| **E_QOS_GENERAP_OP_ERROR** | |
| **E_QOS_VSERVERIZATION_VIOLATION** | |
| **E_QOS_DC_VOL_TYPE_UNSUPPORTED** | |
| **E_QOS_LS_VOL_TYPE_UNSUPPORTED** | |

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|---|---|
| **E_QOS_VOL_TYPE_UNSUPPORTED** | |
| **E_PROTECTION_HANDLING_FAILED** | |
| **E_FAILED_TO_ADD_KEY_INFO_INTO_VLDB** | |
| **E_ENCRYPTION_KEY_CREATE_ERR** | |
| **E_VV_CANT_CREATE_KEYS_FILE** | |
| **E_VV_CANT_ACCESS_KEYS_FILE** | |
| **E_ENCRYPTION_RESOURCES_UNAVAILABLE** | |

# volume-create-async

[top]

Create a volume. The ability to create Infinite Volumes has been removed as of Data ONTAP 9.4. When creating a FlexGroup, four constituents will be created on every aggregate specified in the aggr-list parameter. An aggregate may be specified multiple times to have extra constituents created on it. The default value of four constituents per aggregate can be overriden by specifying a different value for the aggr-list-multiplier parameter. This API is not supported for FlexGroup constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] optional | Specifies an array of names of aggregates to be used for FlexGroup constituents. Each entry in the array will create a constituent on the specified aggregate. An aggregate may be specified multiple times to have multiple constituents created on it. This parameter is only supported for FlexGroups. |
| **aggr-list-multiplier** | **[1..1000]** | integer optional | Specifies the number of times to iterate over the aggregates listed with the -aggr-list parameter when creating a FlexGroup. The aggregate list will be repeated the specified number of times. For example, if the aggr-list is "aggr1,aggr2" and the aggr-list-multiplier is 2 four constituents to be created in the order aggr1, aggr2, aggr1, aggr2. The number of constituents created on a node contributes to the maximum volume limit per node, which cannot be exceeded. Default aggr-list-multiplier is 4. This parameter is only supported for FlexGroups. |
| **application-io-size** | | string optional | This field specifies the block size used for volume efficiency compression for the volume.<br><br>Possible values:<br><br>• '8K' ... 8K,<br>• 'auto' ... auto |
| **auto-provision-as** | | string optional | |
| **cache-retention-priority** | | string optional | The cache retention priority that is to be associated with the volume. This policy decides how long blocks of a volume will be cached in flash pool once they become cold. The possible values for this field are:<br><br>• low - Cache the cold blocks for the lowest time.<br>• normal - Cache the cold blocks for the default time.<br>• high - Cache the cold blocks for the highest time.<br><br>Default cache retention priority is normal. |
| | | | The caching policy that is to be associated with this volume. This policy is used to make caching decisions for this volume. The possible options for this value are: |

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|---|---|---|---|
| **caching-policy** | | string optional | • none - Does not cache any user data or metadata blocks.<br>• auto - Read caches all metadata blocks and randomly read user data blocks and write caches all randomly overwritten user data blocks.<br>• meta - Read caches only metadata blocks.<br>• random_read - Read caches all metadata and randomly read user data blocks.<br>• random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.<br>• all_read - Read caches all metadata, randomly read and sequentially read user data blocks.<br>• all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data.<br>• all - Read caches all data blocks read and written. It does not do any write caching.<br>• noread-random_write - Write caches all randomly overwritten user data blocks. It does not do any read caching.<br>• meta-random_write - Same as meta and noread-random_write.<br>• random_read_write-random_write - Same as random_read_write and noread-random_write.<br>• all_read-random_write - Same as all_read and noread-random_write.<br>• all_read_random_write-random_write - Same as all_read_random_write and noread-random_write.<br>• all-random_write - Same as all and noread-random_write.<br><br>Default caching-policy is auto. This parameter is only supported for FlexGroups. |
| **cloud-retrieval-policy** | | string optional | This optional parameter specifies the cloud retrieval policy for the volume. This policy determines which tiered out blocks to retrieve from the capacity tier to the performance tier. The available cloud retrieval policies are:<br><br>• default - This policy retrieves tiered data based on the underlying tiering policy. If the tiering policy is 'auto', tiered data is retrieved only for random client driven data reads. If the tiering policy is 'none' or 'snapshot-only', tiered data is retrieved for random and sequential client driven data reads. If the tiering policy is 'all', tiered data is not retrieved.<br>• on-read - This policy retrieves tiered data for all client driven data reads.<br>• never - This policy never retrieves tiered data.<br>• promote - This policy retrieves all eligible tiered data automatically during the next scheduled scan. It is only supported when the tiering policy is 'none' or 'snapshot-only'. If the tiering policy is 'snapshot-only', the only data brought back is the data in the AFS. Data that is only in a snapshot copy stays in the cloud. |
| **containing-aggr-name** | | string optional | **Flexible** volumes only. The name of the aggregate in which to create the new flexible volume. If provided, this argument must be accompanied by the "size" parameter described below. |
| **efficiency-policy** | | string optional | Efficiency policy name. This attribute selects the efficiency policy to use for this volume. Each efficiency policy controls how volume efficiency (deduplication and/or compression) will operate.<br><br>This policy can be created using the 'sis-policy-create' API. This parameter is not supported for FlexGroups. |
| | | boolean | |

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|---|---|---|---|
| **encrypt** | | optional | Specifies whether a volume is encrypted or not. |
| **encryption-type** | | integer optional | This parameter specifies the encryption-type of the FlexGroup created where the system automatically selects aggregates. If the value is 1, the FlexGroup will be unencrypted. If the value is 2, the FlexGroup will be of type NVE (NetApp Volume Encryption). If the value is 3, the FlexGroup will be of type NAE (NetApp Aggregate Encryption). The default value is none. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **excluded-from-autobalance** | | boolean optional | When set to 'true', the volume is excluded from Auto Balance aggregate processing. The default value is false, meaning that the volume is included in Auto Balance Aggregate processing. This parameter is not supported for FlexGroups. |
| **export-policy** | | string optional | The name of the Export Policy to be used by the NFS protocol. The default policy name for FlexGroups is 'default'. |
| **flexcache-cache-policy** | | string optional | The name of the FlexCache policy.<br><br>The default policy name is 'default'.<br><br>This policy applies only to FlexCache volumes and can be created using the 'flexcache-cache-policy-create' API. This parameter is not supported for FlexGroups. |
| **flexcache-fill-policy** | | string optional | The name of the FlexCache prefill policy.<br><br>The default policy name is 'default'.<br><br>This policy applies only to FlexCache volumes and can be created using the 'flexcache-fill-policy-create' API. This parameter is not supported for FlexGroups. |
| **flexcache-origin-volume-name** | | string optional | The name of the origin volume that contains the authoritative data. This field is valid only for a FlexCache volume. The origin volume must belong to the same Vserver that owns this volume. This parameter is not supported for FlexGroups. |
| **group-id** | **[0..2^32-1]** | integer optional | The UNIX group ID for the volume. The default value for FlexGroups is 0. |
| **is-junction-active** | | boolean optional | This field indicates whether the mounted volume is accessible. The default is true. If the mounted junction path is not accessible, the volume does not appear in the owning Vserver's namespace. This field applies only to Cluster-Mode volumes. |
| **is-nvfail-enabled** | | boolean optional | If true, the controller performs additional work at boot and takeover times if it finds that there has been any potential data loss in the volume's constituents due to an NVRAM failure.<br><br>The volume's constituents would be put in a special state called 'in-nvfailed-state' such that protocol access is blocked. This will cause the client applications to crash and thus prevent access to stale data.<br><br>To get out of this situation, the admin needs to manually clear the 'in-nvfailed-state' on the volume's constituents.<br><br>By default, this value is true. |
| **is-space-enforcement-logical** | | boolean optional | This parameter specifies whether to perform logical space accounting on the volume. When space is enforced logically, ONTAP enforces volume settings such that all the physical space saved by the storage efficiency features will be calculated as used. This parameter is not supported on FlexGroups or Infinite Volumes. The default setting is false. |

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|---|---|---|---|
| **is-space-reporting-logical** | | boolean optional | This parameter specifies whether to report space logically on the volume. When space is reported logically, ONTAP reports the volume space such that all the physical space saved by the storage efficiency features are also reported as used. This parameter is not supported on FlexGroups or Infinite Volumes. The default setting is false. |
| **is-vserver-root** | | boolean optional | If true, this volume is the namespace root volume of the Vserver which owns this volume. The default value is false.<br><br>When creating a volume, if this field is set to true, the new volume is to become the new namespace root volume of the Vserver. This field can be used in a recovery scenario in which the namespace root volume of the Vserver becomes unrecoverable. This parameter is not supported for FlexGroups. |
| **junction-path** | | string optional | The Junction Path at which the volume is to be mounted.<br><br>The fully-qualified pathname in the owning Vserver's namespace at which the volume is mounted. The pathname is case insensitive. This string must begin with '/'. In addition, it must not end with '/'. The pathname must be unique within a Vserver's namespace.<br><br>Only one volume can be mounted at any given junction path. If an incorrect junction path is specified, EINVALIDINPUTERROR is returned. If another volume is mounted at the specified junction path, EVOLALREADYMOUNTED is returned. For FlexGroups the following rules apply:<br><br>The pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length.<br><br>An example of a valid junction path is: '/user/my_volume'. If the junction-path is not specified, the FlexGroup is not mounted. |
| **language-code** | | string optional | Specifies the language to use for the new volume via a language code. The default language is the one used by the filer's root volume. Available language codes are:<br><br>• 'C' ... POSIX,<br>• 'ar' ... Arabic,<br>• 'cs' ... Czech,<br>• 'da' ... Danish,<br>• 'de' ... German,<br>• 'en' ... English,<br>• 'en_US' ... English (US),<br>• 'es' ... Spanish,<br>• 'fi' ... Finnish,<br>• 'fr' ... French,<br>• 'he' ... Hebrew,<br>• 'hr' ... Croatian,<br>• 'hu' ... Hungarian,<br>• 'it' ... Italian,<br>• 'ja' ... Japanese euc-j,<br>• 'ja_v1' ... Japanese euc-j,<br>• 'ja_JP.PCK' ... Japanese PCK (sjis),<br>• 'ja_JP.932' ... Japanese cp932,<br>• 'ja_JP.PCK_v2' ... Japanese PCK (sjis),<br>• 'ko' ... Korean,<br>• 'no' ... Norwegian,<br>• 'nl' ... Dutch,<br>• 'pl' ... Polish, |

| | | | |
|---|---|---|---|
| | | | 'pt' ... Portuguese,<br>• 'ro' ... Romanian,<br>• 'ru' ... Russian,<br>• 'sk' ... Slovak,<br>• 'sl' ... Slovenian,<br>• 'sv' ... Swedish,<br>• 'tr' ... Turkish,<br>• 'zh' ... Simplified Chinese,<br>• 'zh.GBK' ... Simplified Chinese (GBK),<br>• 'zh_TW' ... Traditional Chinese euc-tw,<br>• 'zh_TW.BIG5' ... Traditional Chinese Big 5<br><br>To use UTF-8 as the NFS character set, append '.UTF-8' to the language code. This parameter is only supported for FlexGroups. |
| **max-constituent-size** | **[0..2^63-1]** | integer optional | The maximum size of each constituent in bytes. The default value is determined by checking the maximum FlexVol size setting on all nodes used by the volume. The smallest value found is chosen as the default for the max-constituent-size for the volume. This parameter is only supported on FlexGroups. |
| **max-dir-size** | **[0..2^63-1]** | integer optional | The maximum size (in bytes) to which any directory in the volume's namespace can grow.<br><br>Most users should not need to change this field's default setting. It is useful for environments where system users may grow a directory to a size that starts impacting system performance. When a user tries to create a file in a directory that is at the limit, the system returns a ENOSPC error and fails the create. |
| **nodes** | | node-name[] optional | Specifies an array of node names to be used for provisioning the FlexGroup. If an array of node names is specified, only aggregates from the specified nodes will be considered for provisioning. If no value is specified, all nodes in the cluster will be used. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **percentage-snapshot-reserve** | | integer optional | The percentage of disk space that has to be set aside as reserve for snapshot usage. The default value is 5. Range : [0..90] |
| **qos-adaptive-policy-group-name** | | string optional | The QoS Adaptive Policy Group Name that is to be associated with this volume in order to enforce Service Level Objectives (SLO) that adjust based on the volume allocated space or used space. NOTE: "none" is a reserved keyword for deleting the association of the volume with a QoS adaptive policy group. Specifying "none" as a the QoS adaptive policy group during volume creation will have no effect. This parameter is not supported on FlexGroups. |
| **qos-policy-group-name** | | string optional | The QoS Policy Group Name that is to be associated with this volume in order to enforce Service Level Objectives (SLO). If you do not assign a QoS policy group to a volume, the system will not monitor and control the traffic to it. NOTE: "none" is a reserved keyword for deleting the association of the volume with a QoS policy group. Specifying "none" as a the QoS policy group during volume creation will have no effect. |
| **size** | **[0..2^64-1]** | integer optional | The initial size of the volume in bytes. If size is not specified, then it will use the system default which is 20MB for FlexVol volumes and 100GB per constituent for FlexGroups. For FlexGroups, constituents must be a minimum of 100GB. If the constituents are smaller than this, the FlexGroup will perform less than optimally. |
| **snaplock-** | | string | Specifies the type of Snaplock volume to be created. Possible values - "compliance" or "enterprise" ESERVICENOTLICENSED is returned if the necessary Snaplock license has not been installed. |

| | | | |
|---|---|---|---|
| **type** | | optional | EINVALIDINPUT is returned if snaplock-type has an illegal value. EONTAPI_EWORMNOCLOCK is returned if SnapLock Compliance Clock is not running. |
| **snapshot-policy** | | string optional | The name of the snapshot policy.<br><br>This policy can be created using the 'snapshot-policy-create' API. It can be managed using the 'snapshot-policy-*' APIs.<br><br>The default policy name for FlexGroups is 'default'. |
| **space-guarantee** | | string optional | Specifies the type of space guarantee the new volume will use. Possible values: none, file, volume. If this argument is not provided, the default guarantee is "volume". |
| **space-reserve** | | string optional | Specifies the type of volume guarantee the new volume will use. Possible values: none, file, volume. If this argument is not provided, the default volume guarantee type is volume. This field is mutually exclusive with 'space-guarantee'. |
| **space-slo** | | string optional | Specifies the space SLO type for the volume. The space SLO type is the Service Level Objective for space management for the volume. The space SLO value is used to enforce existing volume settings so that sufficient space is set aside on the aggregate to meet the space SLO. The default setting is **none**. There are three supported values: **none**, **thick** and **semi-thick**.<br><br>**none**: The value of **none** does not provide any guarantee for overwrites or enforce any restrictions. It should be used if the admin plans to manually manage space consumption in the volume and aggregate, and out of space errors.<br><br>**thick**: The value of **thick** guarantees that the hole fills and overwrites to space-reserved files in this volume will always succeed by reserving space. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified:<br><br>• Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's **space-guarantee** type is not supported.<br>• Fractional Reserve: 100 - 100% of the space required for overwrites is reserved. Changing the volume's **fractional-reserve** setting is not supported.<br><br>**semi-thick**: The value of **semi-thick** is a best-effort attempt to ensure that overwrites succeed by restricting the use of features that share blocks and auto-deleting backups and Snapshot copies in the volume. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified:<br><br>• Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's **space-guarantee** type is not supported.<br>• Fractional Reserve: 0 - No space will be reserved for overwrites by default. However, changing the volume's **fractional-reserve** setting is supported. Changing the setting to 100 means that 100% of the space required for overwrites is reserved.<br>• Snapshot Autodelete: enabled - Automatic deletion of Snapshot copies is enabled to reclaim space. To ensure that the overwrites can be accommodated when the volume reaches threshold capacity, the following volume snapshot autodelete parameters are set automatically to the specified values and cannot be modified: |

| | | | |
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| | | | enabled: true<br>◦ commitment: destroy<br>◦ trigger: volume<br>◦ defer-delete: none<br>◦ destroy-list: vol_clone, lun_clone, file_clone, cifs_share<br><br>In addition, with a value of semi-thick, the following technologies are not supported for the volume:<br><br>• File Clones with autodelete disabled: Only full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of **autodelete** for file clone create is required.<br>• Partial File Clones: Only the full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of **range** for file clone create is not allowed.<br>• Volume Efficiency: Enabling **volume efficiency** is not supported to allow autodeletion of Snapshot copies. |
| **storage-efficiency-mode** | | string<br>optional | This field specifies the storage efficiency mode for the volume. The 'default' mode will set 8k adaptive compression on the volume. The 'efficient' mode will set auto adaptive compression on the volume. The default setting is 'default'. This field is valid only on AFF platforms.<br><br>Possible values:<br><br>• 'default' ... default,<br>• 'efficient' ... efficient |
| **support-tiering** | | boolean<br>optional | This parameter specifies whether or not FabricPools are selected when provisioning a FlexGroup where the system automatically selects aggregates. Only FabricPools are used if this parameter is set to true and only non FabricPools are used if this parameter is set to false. The default value is false. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **tiering-minimum-cooling-days** | **[2..183]** | integer<br>optional | This parameter specifies the minimum number of days that user data blocks of the volume must be cooled before they can be considered cold and tiered out to the capacity tier. For volumes hosted on FabricPools, this parameter is used for tiering purposes and does not affect the reporting of inactive data. For volumes hosted on non-FabricPools, this parameter affects the cooling window used for reporting inactive data. The value specfied should be greater than the frequency that applications in the volume shift between different sets of data. |
| **tiering-policy** | | string<br>optional | The tiering policy that is to be associated with the volume. This policy decides whether the blocks of a volume will be tiered to the capacity tier. The possible values for this field are:<br><br>• snapshot-only - This policy allows tiering of only the volume snapshot copies not associated with the active file system.<br>• 'auto' - This policy allows tiering of both snapshot and active file system user data to the capacity tier.<br>• none - Volume blocks will not be tiered to the capacity tier.<br>• backup - On DP volumes this policy allows all transferred user data blocks to start in the capacity tier.<br><br>Default tiering policy is snapshot-only. |
| | | | Unix permission bits in octal string format. |

| | | | |
|---|---|---|---|
| **unix-permissions** | | string optional | It's similar to Unix style permission bits:<br><br>The default setting of '0755' gives read/write/execute permissions to owner and read/execute permissions to group and other users.<br><br>It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group. |
| **use-mirrored-aggregates** | | boolean optional | This parameter specifies whether or not mirrored aggregates are selected when provisioning a FlexGroup where the system automatically selects aggregates. Only mirrored aggregates are used if this parameter is set to true and only unmirrored aggregates are used if this parameter is set to false. Aggregate level mirroring for a FlexGroup can be changed by moving all of the constituents to the required aggregates. The default value is true for a MetroCluster configuration and is false for a non-MetroCluster configuration. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **user-id** | **[0..2^32-1]** | integer optional | The UNIX user ID for the volume. The default value is 0. |
| **vm-align-sector** | **[1..7]** | integer optional | The Virtual Machine alignment 512 byte sector number. All files created with the suffix specified in the 'vm-align-suffix' input parameter will have zero-filled <512 * 'vm-align-sector'> bytes data at the beginning so that it's actual data starts at a different offset instead of zero. This is done so that the read & writes to such files are aligned to WAFL's 4k block boundary. This parameter is not supported for FlexGroups. |
| **vm-align-suffix** | | string optional | The Virtual Machine alignment suffix. The suffix such as '.xyz' is used to identify the files which needs to be aligned. This element can only be specified if the vm-align-sector input element is also specified. See the description for 'vm-align-sector' above for more information on this. This parameter is not supported for FlexGroups. |
| **volume-comment** | | string optional | A description for the volume being created. The maximum length of the description is 1023 characters. |
| **volume-name** | | string | Name of the volume to create. The name can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an underscore. |
| **volume-security-style** | | string optional | The security style associated with this volume.<br><br>Possible values:<br><br>• 'mixed' ... Mixed-style security,<br>• 'ntfs' ... NTFS/Windows-style security,<br>• 'unix' ... Unix-style security (default for FlexGroups)<br><br>Security styles don't apply to GX-striped data volumes. |
| **volume-state** | | string optional | Desired state of the volume after it is created.<br><br>Possible values:<br><br>• 'online' (default),<br>• 'restricted',<br>• 'offline' |
| | | | The type of the volume to be created. Possible values: |

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| **volume-type** | | string optional | 'rw' - read-write volume (default),<br>• 'ls' - load-sharing volume,<br>• 'dp' - data-protection volume,<br>• 'dc' - data-cache volume (FlexCache) |
| **vserver-dr-protection** | | string optional | Specifies the protection type for the volume in a Vserver DR setup.<br><br>Possible values:<br><br>• 'protected' ... Volume will be replicated to the destination,<br>• 'unprotected' ... Volume will not be replicated to the destination.<br><br>This parameter is not supported for FlexGroups. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMERGSIZEINVALID** | |
| **EINVALIDINPUTERROR** | |
| **ESERVICENOTLICENSED** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EVOLALREADYMOUNTED** | |
| **EINSUFFICIENTAGGREGATES** | |
| **EVOLUMEIMBALANCE** | |
| **E_OLV_FLEXGROUP_PROVISIONING_AGGR_NOT_ENOUGH_FREE_SPACE** | |
| **E_OLV_CANT_CALCULATE_MAX_CONSTITUENT_SIZE** | |
| **E_OLV_CONSTITUENT_SIZE_TOO_BIG** | |
| **E_OLV_CONSTITUENT_SIZE_TOO_SMALL** | |
| **E_OLV_PARAM_ONLY_SUPPORTED_FOR_FLEXGROUPS** | |
| **E_OLV_FLEXGROUP_NAME_TAKEN** | |
| **E_OLV_VOLUME_NAME_TAKEN_BY_FLEXGROUP** | |
| **E_OLV_AGGR_OFFLINE** | |
| **EOP_DISALLOWED_ON_PHANTOM_AGGR** | |
| **EOP_DISALLOWED_ON_SNAPLOCK_AGGR** | |
| **EOP_DISALLOWED_ON_UNKNOWN_STATE_AGGR** | |
| **E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE** | |
| **E_OLV_FG_MCC_UNSUPPORTED** | |
| **E_OLV_FG_EXPORT_POLICY_NOT_SUPPORTED** | |
| **E_OLV_FG_VSERVERDR_UNSUPPORTED** | |

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|---|---|
| **E_OLV_FG_TOO_MANY_CONSTITUENTS** | |
| **E_OLV_OPERATIONS_CONFLICT** | |
| **E_OLV_FG_MAX_CONSTITUENT_SIZE_TOO_SMALL** | |
| **E_OLV_FLEXGROUP_CREATE_SIZE_UNDER_MINIMUM** | |
| **E_OLV_FLEXGROUP_CREATE_SIZE_OVER_MINIMUM** | |
| **E_OLV_FG_CREATE_AUTO_AGGRS_FALSE** | |

# volume-destroy

[top]

Destroy the specified volume or plex. If a flexible volume is specified, all of its blocks are freed and returned to its containing aggregate; no other flexible volumes in the same containing aggregate (if any) are affected. If a traditional volume is specified, all of its plexes are destroyed, and its disks are returned to the appropriate spare pool(s). If a plex is specified, it must be for a mirrored aggregate (which could potentially be embedded in a traditional volume), leaving it unmirrored. Only offline volumes and plexes can be destroyed. Plexes are not supported for Cluster-Mode volumes.

This API is not supported for FlexGroups or Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of an existing volume or plex. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEPLEXINVALID** | |
| **EVOLUME_HAS_VFILER_STORAGE** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |
| **EOP_DISALLOWED_ON_CLONE_PARENT** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVOL_IS_SNAPMIRROR_SOURCE** | |
| **EVOL_IS_SNAPMIRROR_SOURCE_DEST** | |
| **EVOL_IS_SNAPMIRROR_DEST** | |
| **EAUTO_BALANCE_VOLUME_RUNNING** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-destroy-async

[top]

Destroy a volume. The volume must be unmounted and must be offline before it can be destroyed.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **volume-name** | | string | Name of an existing volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EAUTO_BALANCE_VOLUME_RUNNING** | |

# volume-encryption-conversion-get-iter

[top]

Display the encryption status of all volumes undergoing encryption

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | volume-encryption-conversion-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 10 |
| **query** | | volume-encryption-conversion-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | volume-encryption-conversion-info[] optional | The list of attributes of volume objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more volume objects to return. |
| **num-records** | **[0..2^32-** | integer | The number of records returned in this call. |

| | | | |
|---|---|---|---|
| | 1] | | |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

## volume-encryption-conversion-pause

[top]

Pause Volume Encryption Conversion

| Input Name | Range | Type | Description |
|---|---|---|---|
| volume | | string | Volume Name |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EVOLUMENOTFOUND | |

## volume-encryption-conversion-resume

[top]

Resume Paused Volume Encryption Conversion

| Input Name | Range | Type | Description |
|---|---|---|---|
| volume | | string | Volume Name |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EVOLUMENOTFOUND | |

## volume-encryption-conversion-start

[top]

Start Encryption Conversion of a Volume

| Input Name | Range | Type | Description |
|---|---|---|---|
| volume | | string | Volume Name |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EVOLUMENOTFOUND | |
| ESERVICENOTLICENSED | |
| EKEYMANAGERSETUPNOTFOUND | |
| | |

| Errno | Description |
| --- | --- |
| EREKEYINPROGRESS | |

# volume-encryption-rekey-get-iter

[top]

Display the encryption status of all volumes undergoing encryption rekey

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| desired-attributes | | volume-encryption-rekey-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 10 |
| query | | volume-encryption-rekey-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| attributes-list | | volume-encryption-rekey-info[] optional | The list of attributes of volume objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more volume objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |

# volume-encryption-rekey-pause

[top]

Pause Volume Encryption Rekey

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| volume | | string | Volume Name |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EVOLUMENOTFOUND | |

# volume-encryption-rekey-resume

[top]

Resume Paused Volume Encryption Rekey

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Volume Name |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMENOTFOUND** | |

# volume-encryption-rekey-start

[top]

Rekey a Volume

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Volume Name |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMENOTFOUND** | |
| **ESERVICENOTLICENSED** | |
| **EKEYMANAGERSETUPNOTFOUND** | |
| **EREKEYINPROGRESS** | |

# volume-expand-async

[top]

Allows the user to increase the size of a FlexGroup by adding constituents. The size of the new constituents is determined by the size of the smallest existing constituent.

This API is not supported for Flexible Volumes, FlexGroup constituents, Infinite Volumes or Infinite Volume constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] | Specifies an array of names of aggregates to be used for FlexGroup constituents. Each entry in the array will create a constituent on the specified aggregate. An aggregate may be specified multiple times to have multiple constituents created on it. |
| **aggr-list-multiplier** | **[1..1000]** | integer optional | Specifies the number of times to iterate over the aggregates listed with the -aggr-list parameter when creating a FlexGroup. The aggregate list will be repeated the specified number of times. For example, if the aggr-list is "aggr1,aggr2" and the aggr-list-multiplier is 2 four constituents to be created in the order aggr1, aggr2, aggr1, |

| | | | |
|---|---|---|---|
| | | | aggr2. The number of constituents created on a node contributes to the maximum volume limit per node, which cannot be exceeded. Default aggr-list-multiplier is 1. |
| **volume-name** | | string | The name of the FlexGroup to expand. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_OLV_FLEXGROUP_PROVISIONING_AGGR_NOT_ENOUGH_FREE_SPACE** | |
| **E_OLV_CANT_CALCULATE_MAX_CONSTITUENT_SIZE** | |
| **E_OLV_AGGR_OFFLINE** | |
| **EOP_DISALLOWED_ON_PHANTOM_AGGR** | |
| **EOP_DISALLOWED_ON_SNAPLOCK_AGGR** | |
| **EOP_DISALLOWED_ON_UNKNOWN_STATE_AGGR** | |
| **E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE** | |
| **E_OLV_FG_DOESNT_EXIST** | |
| **E_OLV_FG_TOO_MANY_CONSTITUENTS** | |
| **E_OLV_OPERATIONS_CONFLICT** | |
| **E_OLV_FG_EXPAND_NO_QUOTA** | |
| **E_OLV_FG_EXPAND_NO_SNAPMIRROR** | |
| **E_OLV_FG_EXPAND_NO_DP** | |

# volume-flexgroup-capacity-tier-footprint-get-iter

[top]

Get the current footprint in the capacity tier for FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | volume-flexgroup-capacity-tier-footprint-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | volume-flexgroup-capacity-tier-footprint-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | volume-flexgroup-capacity-tier-footprint-info[] optional | The list of attributes of volume objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more volume objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |

# volume-flexgroup-deploy-async

[top]

This API is no longer supported as of ONTAP 9.6.0. Use the volume-create-async API without either the 'containing-aggregate' or 'aggr-list' parameters instead.

Deploys a FlexGroup on the cluster.

The FlexGroup is created with 8 constituents on each node in the cluster. The constituents are split equally between the two largest aggregates on each node. If using two aggregrates per node is not possible, all of the constituents are created on the largest aggregate on each node.

This API is only supported on clusters with 4 nodes or less. On clusters with more than 4 nodes, use the volume-create-async API to create FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **size** | | integer | The initial size of the new FlexGroup, in bytes. The maximum size of the FlexGroup is limited by the platform maximum FlexVol size multiplied by 8 and multiplied by the number of nodes in the cluster. The size of the FlexGroup is also limited by the available space in the hosting aggregates. |
| **space-reserve** | | string optional | Specifies the type of volume guarantee the new volume will use. Possible values: none, volume. The default setting on All Flash FAS systems is none, otherwise the default setting is volume. .* |
| **volume-** | | string | This specifies the name of the FlexGroup. The name of the The FlexGroup can contain letters, numbers, and the underscore character (_), but the first character must be a letter or an |

| | | | |
|---|---|---|---|
| **name** | | optional | underscore. In Data ONTAP Cluster-Mode, the volume names must be unique within a Vserver. The default value for the FlexGroup name is 'fg'. |
| **volume-type** | | string optional | The type of the volume to be created. Possible values:<br>• 'rw' - read-write volume (default),<br>• 'dp' - data-protection volume, |
| **vserver** | | string optional | This specifies the Vserver on which the FlexGroup will be located. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **E_OLV_FLEXGROUP_PROVISIONING_AGGR_NOT_ENOUGH_FREE_SPACE** | |
| **E_OLV_CANT_CALCULATE_MAX_CONSTITUENT_SIZE** | |
| **E_OLV_CONSTITUENT_SIZE_TOO_BIG** | |
| **E_OLV_CONSTITUENT_SIZE_TOO_SMALL** | |
| **E_OLV_PARAM_ONLY_SUPPORTED_FOR_FLEXGROUPS** | |
| **E_OLV_FLEXGROUP_NAME_TAKEN** | |
| **E_OLV_VOLUME_NAME_TAKEN_BY_FLEXGROUP** | |
| **E_OLV_AGGR_OFFLINE** | |
| **EOP_DISALLOWED_ON_PHANTOM_AGGR** | |
| **EOP_DISALLOWED_ON_SNAPLOCK_AGGR** | |
| **EOP_DISALLOWED_ON_UNKNOWN_STATE_AGGR** | |
| **E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE** | |
| **E_OLV_FG_MCC_UNSUPPORTED** | |
| **E_OLV_FG_EXPORT_POLICY_NOT_SUPPORTED** | |
| **E_OLV_FG_VSERVERDR_UNSUPPORTED** | |
| **E_OLV_FG_TOO_MANY_CONSTITUENTS** | |
| **E_OLV_OPERATIONS_CONFLICT** | |
| **E_OLV_FG_MAX_CONSTITUENT_SIZE_TOO_SMALL** | |
| **E_OLV_FG_DEPLOY_TOO_MANY_FLEXGROUPS** | |
| **E_OLV_FG_DEPLOY_NOT_ENOUGH_DISKS** | |
| **E_OLV_FG_DEPLOY_FLEXGROUP_CREATE_FAILED** | |
| **E_OLV_FG_DEPLOY_FLEXGROUP_CREATE_AND_ROLLBACK_FAILED** | |
| **E_OLV_FG_DEPLOY_AGGREGATE_CREATE_FAILED** | |
| **E_OLV_FG_DEPLOY_AGGREGATE_CREATE_AND_ROLLBACK_FAILED** | |
| **E_OLV_FG_DEPLOY_NOT_ENOUGH_AGGREGATES** | |

| | |
|---|---|
| **E_OLV_FG_DEPLOY_NOT_ENOUGH_VALID_AGGREGATES** | |
| **E_OLV_FG_DEPLOY_VSERVER_CREATE_FAILED** | |
| **E_OLV_FG_DEPLOY_VSERVER_CREATE_AND_ROLLBACK_FAILED** | |

# volume-flexgroup-deploy-simulate-aggr-layout

[top]

This API is no longer supported as of ONTAP 9.6.0. Use the volume-flexgroup-get-create-limits API instead.

Get the aggregate layout that will be created when deploying a FlexGroup.

Return calculated number of aggregates, estimated aggregate capacity, disk count and disk type.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **aggr-count** | | integer | The number of aggregates that will be created. |
| **aggr-size** | | integer | The expected size of each aggregate. |
| **disk-count** | | integer | Total number of disks used for each aggregate. |
| **disk-type** | | string | Name of the Disk type present on this controller. Possible values include FCAL, ATA, LUN, SAS, SSD, BSAS, FSAS, MSATA and VMDISK. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EAGGREXISTS** | |
| **E_OLV_FG_DEPLOY_NOT_ENOUGH_DISKS** | |

# volume-flexgroup-get-create-limits

[top]

Get a preivew of FlexGroup creation. If manually selecting the aggregates to create the FlexGroup, this API will return the minimum and maximum size allowable for the FlexGroup. If using auto provisioinig, this API will return the minimum and maximum size allowable, along with the type of disks that can support the maximum allowable size. If a size is specified, the API will also return the list of aggregates that will be used to create a FlexGroup of the requested size, along with the type of disks that would be used. If a size is specified and a FlexGroup cannot be provisioned for the specified size, the API will not return an error when using auto provisioning. An error is only returned for auto provisioning if no FlexGroup of any size can be created on any aggregates.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] optional | Specifies an array of names of aggregates to be used for FlexGroup constituents. Each entry in the array will create a constituent on the specified aggregate. An aggregate may be specified multiple times to have multiple constituents created on it. |
| **aggr-list-multiplier** | **[1..1000]** | integer optional | Specifies the number of times to iterate over the aggregates listed with the -aggr-list parameter when creating a FlexGroup. The aggregate list will be repeated the specified number of times. For example, if the aggr-list is "aggr1,aggr2" and the aggr-list-multiplier is 2 four constituents to be created in the order aggr1, aggr2, aggr1, aggr2. The number of constituents created on a node contributes to the maximum volume limit per node, which |

| | | | |
|---|---|---|---|
| | | | cannot be exceeded. This parameter is only supported when getting the create limits of a FlexGroup using the aggr-list parameter. Default aggr-list-multiplier is 4. |
| **auto-provision-as** | | string optional | |
| **encryption-type** | | integer optional | This parameter specifies the encryption-type of the FlexGroup created where the system automatically creates aggregates. If the value is 1, the FlexGroup will be unencrypted. If the value is 2, the FlexGroup will be of type NVE (NetApp Volume Encryption). If the value is 3, the FlexGroup will be of type NAE (NetApp Aggregate Encryption). The default value is none. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **nodes** | | node-name[] optional | Specifies an array of node names to be used for provisioning the FlexGroup. If an array of node names is specified, only aggregates from the specified nodes will be considered for provisioning. If no value is specified, all nodes in the cluster will be used . This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **size** | **[0..2^64-1]** | integer optional | The initial size of the volume in bytes. If size is not specified, then it will use the system default which is the number of constituents times 200MB for FlexGroups. |
| **space-guarantee** | | string optional | Specifies the type of space guarantee the new volume will use. Possible values: none, volume. |
| **support-tiering** | | boolean optional | Use this parameter to specify whether FabricPools are selected when creating a FlexGroup where the system automatically selects aggregates. Only FabricPools are used if this parameter is set to true and only non FabricPools are used if this parameter is set to false. The default value is false. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **use-mirrored-aggregates** | | boolean optional | This parameter specifies whether or not mirrored aggregates are selected when provisioning a FlexGroup where the system automatically selects aggregates. Only mirrored aggregates are used if this parameter is set to true and only unmirrored aggregates are used if this parameter is set to false. Aggregate level mirroring for a FlexGroup can be changed by moving all of the constituents to the required aggregates. The default value is true for a MetroCluster configuration and is false for a non-MetroCluster configuration. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **volume-type** | | string optional | The type of the volume to be created. Possible values:<br>• "rw" - read-write volume (default setting),<br>• "ls" - load-sharing volume,<br>• "dp" - data-protection volume,<br>• "dc" - data-cache volume (FlexCache) |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **chosen-aggr-count** | | integer optional | The number of aggregates the FlexGroup will be created on. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **chosen-aggr-list** | | aggr-name[] optional | The aggregates the FlexGroup will be created on. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| | | | |

| | | | |
|---|---|---|---|
| **chosen-aggr-type** | | string optional | The disk type of the aggregates the FlexGroup will be created on. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **chosen-create-error** | | string optional | If the size parameter is specified, and creating a FlexGroup at that size is not possible, the error string indicating why will be returned via the chosen create-error parameter. |
| **chosen-provider-type** | | string optional | The object store provider type of the FabricPools the FlexGroup will be created on. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates and the support-tiering parameter is true. |
| **max-create-aggr-type** | | string optional | The disk type of the aggregates that supports the maximum sized FlexGroup that can be created. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **max-create-provider-type** | | string optional | The object store provider type of the FabricPools that support the maximum sized FlexGroup that can be created. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates and the support-tiering parameter is true. |
| **max-create-with-dedupe** | **[0..2^64-1]** | integer | The maximum sized FlexGroup that can be created with deduplication. |
| **max-create-without-dedupe** | **[0..2^64-1]** | integer | The maximum sized FlexGroup that can be created without deduplication. |
| **max-sizes** | | flexgroup-max-size-entry[] optional | An array of maximum FlexGroup sizes that can be created for each type of disks on the cluster. This parameter is only supported for FlexGroup creation where the system automatically selects aggregates. |
| **min-create** | **[0..2^64-1]** | integer | The minimum sized FlexGroup that can be created. This is based on a minimum constituents size of 100GB. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |

# volume-flexgroup-get-expand-limits

[top]

Get the minimum and maximum expand limits for a FlexGroup.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string | This specifies the name of the FlexGroup you want the the limits for. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **max-aggr-list-with-dedupe** | | aggr-name[] | Specifies the maximum array of names of aggregates that can be used to expand the specified FlexGroup, with deduplication. Each entry in the array corresponds to a constituent on the specified aggregate. The number of times an aggregate is specified is the number of constituents that can be created on it. |
| | | | |

| | | | |
|---|---|---|---|
| **max-aggr-list-without-dedupe** | | aggr-name[] | Specifies the maximum array of names of aggregates that can be used to expand the specified FlexGroup, without deduplication. Each entry in the array corresponds to a constituent on the specified aggregate. The number of times an aggregate is specified is the number of constituents that can be created on it. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |

# volume-flexgroup-get-resize-limits

[top]

Get the minimum and maximum resize limits for a FlexGroup.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string | This specifies the name of the FlexGroup you want the the limits for. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **max-resize-with-dedupe** | | integer | The maximum a FlexGroup can be resized to with deduplication. |
| **max-resize-without-dedupe** | | integer | The maximum a FlexGroup can be resized to without deduplication. |
| **min-resize** | | integer | The minimum a FlexGroup can be resized to. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |

# volume-footprint-get-iter

[top]

Display a list of volumes and their data and metadata footprints in their parent aggregate. The term footprint is used to refer to space that is considered used in an aggregate due to data in a specific volume. Some fields are expensive to compute, if the system is under load, the information may not be returned. Best practise would be to only request the fields needed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | footprint-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |

| | | | |
|---|---|---|---|
| **query** | | footprint-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the volume-footprint object. All volume-footprint objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | footprint-info[] optional | The list of attributes of volume-footprint objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more volume-footprint objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-get-filer-info

[top]

Get information on what possibilities and parameters exist for volumes on a given filer.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **allowed-raidtypes** | | raidtype-info[] | List of RAID types allowed for aggregates on this filer. |
| **checksum-types** | | string | Checksum types supported by this filer. The possible values:<br>• "zoned" - if all aggregates are Fixed VBN,<br>• "block" - if all aggregates are Block Appended,<br>• "mixed" - if aggregates are mixed (Fixed VBN and Block Appended and Advanced Zoned),<br>• "none" - if no aggregates have zoned or block checksums or advanced_zoned checksum (azcs) or mixed,<br>• "advanced_zoned" - if all aggregates have Advanced Zoned Checksum scheme. |
| **default-raidtype** | | string | Default type of RAID used to protect against disk failure in aggregates on this filer. Possible values: raid0, raid4, raid_dp, raid_tec. |
| **disk-types** | | string | Type of disks supported by this filer. Possible values: "512", "520", "4096", "mixed", "none". "512" if all disks are 512 BPS, "520" if all disks 520 BPS "4096" if all disks 4096 BPS, "mixed" if disks are mixed 512, 520 and 4096 BPS "none" if no disks have 512 or 520 or 4096 BPS. |
| **raidgroup-size** | | raidgroup-size-info[] | List of the RAID group sizing parameters for each RAID type supported on this filer. |
| **root-volume** | | string | Current root volume on the filer. |
| **snapshots-max** | | integer | Maximum number of snapshots available per aggregate on the filer. Range : [0..2^31-1]. |

| Errno | Description |
|---|---|

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# volume-get-iter

[top]

Iterate over a list of volume objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| desired-attributes | | volume-attributes optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| max-records | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| query | | volume-attributes optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned. |
| tag | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| attributes-list | | volume-attributes[] optional | The list of attributes of volume objects. |
| next-tag | | string optional | Tag for the next call. Not present when there are no more volume objects to return. |
| num-records | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# volume-get-language

[top]

Get the given volume's language mapping.

| Input Name | Range | Type | Description |
|---|---|---|---|
| volume | | string | Name of the volume for which we want the language mapping. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| language | | string | Set to the volume's language mapping, in the form "LanguageCode (Full Name)" (e.g. "en_US (English (US))"). For more information on these values, see 'volume-create'. |
| language-code | | string | Set to the volume's language code, suitable for use as an argument to other functions (e.g. "en_US"). For more information on these values, see 'volume-create'. |
| | | | |

| | | | |
|---|---|---|---|
| **nfs-character-set** | | string | The NFS language mapping character set that is currently in effect for the volume.<br><br>This field is of the following format: "<nfs-character-set>\|<display-name>\|<asctime>"<br>Note that "\|" is not an OR syntax.<br><br><asctime> is the timestamp in the language configuration file header and its format is based on the standard: "A la ISO/IEC 9945-1, ANSI/IEEE Std 1003.1, Second Edition, 1996-07-12."<br><br>It uses the C Programming Language Printf format: "%.3s %.3s%3d %02d:%02d:%02d %s %d"<br><br>This format takes the following parameters in order: <weekday name>, <month name>, <month day>, <hour>, <minute>, <second>, <timezone> OR <"">, <year><br><br>E.g., If the volume language code is set to "en_US", the default NFS character set is as follows:<br>"iso-8859-1\|iso-8859-1\|Thu Oct 1 15:00:53 PDT 1998" |
| **oem-character-set** | | string | The OEM language mapping character set that is currently in effect for the volume.<br><br>This field is of the following format: "<oem-code-page>\|<display-name>\|<asctime>"<br>Note that "\|" is not an OR syntax.<br><br><asctime> is the timestamp in the language configuration file header and its format is based on the standard: "A la ISO/IEC 9945-1, ANSI/IEEE Std 1003.1, Second Edition, 1996-07-12."<br><br>It uses the C Programming Language Printf format: "%.3s %.3s%3d %02d:%02d:%02d %s %d"<br><br>This format takes the following parameters in order: <weekday name>, <month name>, <month day>, <hour>, <minute>, <second>, <timezone> OR <"">, <year><br><br>E.g., If the volume language code is set to "en_US", the default NFS character set is as follows:<br>"cp437\|cp437\|Thu Oct 1 15:00:53 PDT 1998" |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-get-root-name

[top]

Return the name of the "root" volume on the filer. If this request is executed in the context of a vfiler, the "root" volume of the vfiler will be returned. If this request is executed in the context of a Vserver the "namespace root" volume of the Vserver will be returned. If the "namespace root" volume of the Admin Vserver is requested, EVSERVER_OP_NOT_ALLOWED will be returned.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the root volume for the filer. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-get-supported-guarantees

[top]

Returns the list of guarantee types that are supported on this volume. This just does semantic checks and so enabling supported guarantees can still fail because of space checks.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the volume. Ex: flex1, vol0 etc. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **guarantee-types** | | guarantee[] | List of guarantee types supported on this volume. |

| Errno | Description |
|---|---|
| **EVOLUMEDOESNOTEXIST** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-get-volume-path

[top]

Return the junction-path of the volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-style-cifs** | | boolean | CIFS-style-flag |
| **volume** | | string | Volume Name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **junction** | | string | Junction Path |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EVSERVERNOTFOUND** | |

# volume-list-info

[top]

Get volume status. Note that all RAID-related status items (e.g., 'raid-size', 'raid-status', 'checksum-style') reported for a flexible volume actually describe the state of its containing aggregate.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **verbose** | | boolean optional | If set to "true", more detailed volume information is returned. If not supplied or set to "false", this extra information is not returned. |
| **volume** | | string optional | The name of the volume for which we want status information. If not supplied, then we want status for all volumes on the filer. Note that if status information for more than 20 volumes is desired, the volume-list-info-iter-* zapis will be more efficient and should be used instead. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **volumes** | | volume-info[] | List of volumes and their status information. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVSERVERNOTFOUND** | |
| **EMISSINGVSERVERARGUMENT** | |
| **ENODENOTFOUND** | |
| **ESNAPMIRRORDESTINATIONBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-list-info-iter-end

[top]

Terminate a list iteration and clean up any saved info.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **tag** | | string | Tag from a previous volume-list-info-iter-start. |

| Vfiler-enabled |
| --- |
| Yes |

## volume-list-info-iter-next

[top]

Continues an iteration through the list of volumes.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| maximum | | integer | The maximum number of entries to retrieve. |
| tag | | string | Tag from a previous volume-list-info-iter-start. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| records | | integer | This tells you how many records are being returned from this particular call to volume-list-info-iter-next. When this value is 0, you have retrieved everything. |
| volumes | | volume-info[] | List of volumes and their status information. See volume-list-info for a description of type volume-info. |

| Vfiler-enabled |
| --- |
| Yes |

## volume-list-info-iter-start

[top]

Starts an iteration through the list of volumes.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| verbose | | boolean optional | If set to "true", more detailed volume information is returned. If not supplied or set to "false", this extra information is not returned. |
| volume | | string optional | The name of the volume for which we want status information. If not supplied, then we want status for all volumes on the filer. |

| Output Name | Range | Type | Description |
| --- | --- | --- | --- |
| records | | integer | This tells you the number of items that have been saved for future retrieval with volume-list-info-iter-next. |
| tag | | string | Tag to be used in subsequent iterations. |

| Errno | Description |
| --- | --- |
| EINTERNALERROR | |
| EVOLUMEDOESNOTEXIST | |

| Vfiler-enabled |
| --- |
| Yes |

# volume-mediascrub-list-info

[top]

Get the RAID media scrubbing status on the named traditional volume, plex, or RAID group. If no name is given, then status is provided for all RAID groups currently undergoing media scrubbing.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string optional | Name of traditional volume, plex or RAID group for which media scrub status is desired. If no name is given, then status is provided for all RAID groups currently undergoing media scrubbing. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **mediascrub-details** | | mediascrub-detail-info[] | List of RAID groups and their media scrub status. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-mirror

[top]

Turns an unmirrored traditional volume into a mirrored traditional volume by adding a plex to it. The plex is either newly formed from disks chosen from a spare pool or, if the "victim-volume" option is specified, is taken from another existing unmirrored volume. The volume must currently be unmirrored. Disks may be specified explicitly using the "mirror-disks" argument list option in the same way as with the 'volume-create' and 'volume-add' APIs. The number of disks specified must exactly match the number present in the existing traditional volume. If the disks to use are not explicitly specified, then the appropriate disks are automatically selected to match those already in the traditional volume's existing plex. It is not possible to directly mirror a flexible volume; if that is the goal, then consider using 'volume-container' to find the flexible volume's containing aggregate, then use 'aggr-mirror' to mirror that aggregate (which, of course, will case all other volumes contained in the given aggregate to become mirrored as well).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force the mirroring operation through, past the normal roadblocks that would otherwise cause it to be aborted. For example, disks in a plex are not normally permitted to span spare pools. This safety-drive behavior is overridden when the 'force' option is provided and set to 'true'. |
| **mirror-disks** | | disk-info[] optional | Specific list of mirror disks to use. It must have the same number of disks as are present in the given traditional volume. The specified disks are not permitted to span disk pools; this behavior can be overridden with the "force" argument. |
| **victim-volume** | | string optional | The "victim" traditional volume to cannibalize in order to mirror the given traditional volume. The result is a mirrored traditional volume that is otherwise identical to the original volume before the operation. The "victim-volume" is effectively destroyed. "victim-volume" must have been previously mirrored with this volume, then separated via the "volume-split" command. "victim-volume" must be offline. |
| **volume** | | string | Name of the traditional volume to be mirrored. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **bad-disks** | | disk-info[] | List of disks that were not added. This is only returned if there are bad disks. |

| | | | |
|---|---|---|---|
| | | optional | |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMEDISKDUP** | |

# volume-modify-iter

[top]

Modify the attributes of a volume or a group of volume objects.

This API is not supported for Infinite Volumes or FlexGroups.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | volume-attributes | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple volume objects match a given query. If set to true, the API will continue modifying the next matching volume even when modification of a previous volume fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching volume even when the modification of a previous matching volume fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | volume-attributes | If modifying a specific volume, this input element must specify all keys. If modifying volume objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of volume objects (just keys) that were not modified due to some error. If set to false, the list of volume objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of volume objects (just keys) that were successfully updated. If set to false, the list of volume objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | volume-modify-iter-info[] optional | Information about volume objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching volume objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of volume objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of volume objects that matched the query and were successfully updated. |
| **success-list** | | volume-modify-iter-info[] optional | The volume objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EOPNOTSUPPORTED** | |

# volume-modify-iter-async

[top]

Modify the attributes of an Infinite Volume, FlexGroup or a group of Infinite Volumes and FlexGroups.

Infinite Volume creation and expansion operations may involve creation and initialization of Namespace Mirrors. The initialization is started during the creation of expansion operation, but can continue after the Infinite Volume operation has completed. When this happens, the Infinite Volume will be in a 'mixed' state, until the Namespace Mirror initilization is complete. While in a 'mixed' state, further operations of the Infinite Volume are not possible.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents. This API does not require any license when operating on an Infinite Volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | volume-attributes | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple volume objects match a given query. If set to true, the API will continue modifying the next matching volume even when modification of a previous volume fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching volume even when the modification of a previous matching volume fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | volume-attributes | If modifying a specific volume, this input element must specify all keys. If modifying volume objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of volume objects (just keys) that were not modified due to some error. If set to false, the list of volume objects not modified will not be returned. Default: true |

| | | | |
|---|---|---|---|
| **return-success-list** | | boolean optional | If set to true, the API will return the list of volume objects (just keys) that were successfully updated or scheduled for update. If set to false, the list of volume objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | volume-modify-iter-async-info[] optional | Information about volume objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching volume objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of volume objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of volume objects that matched the query and were successfully updated or scheduled for update. |
| **success-list** | | volume-modify-iter-async-info[] optional | The volume objects that were successfully updated or scheduled for update. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-mount

[top]

Mount a volume on another volume (parent) with a junction-path. This API is not supported on Infinite Volume constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **activate-junction** | | boolean optional | This field optionally specifies whether the mounted volume is accessible. The default is true. If the mounted path is not accessible, it does not appear in the owning Vserver's namespace. |
| **export-policy-override** | | boolean optional | This field optionally specifies whether the parent volume's export policy overrides the mounted volume's Export Policy. The default is false. |
| **junction-** | | | The Junction Path.<br><br>The fully-qualified pathname in the owning Vserver's namespace at which a volume is mounted. The pathname is case insensitive and must be unique within a Vserver's context. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'. An Infinite Volume has the additional restriction of allowing only one element. |

| | | | |
|---|---|---|---|
| **path** | | string | An example of a valid FlexVol or FlexGroup junction path is: '/user/my_volume'. An example of a valid Infinite Volume junction path is: '/repository'.<br><br>Only one volume can be mounted at any given junction path. If an incorrect junction path is specified, EINVALIDINPUTERROR is returned. If this volume is mounted at a different junction path, or if another volume is mounted at the specified junction path, EVOLALREADYMOUNTED is returned. |
| **volume-name** | | string | The name of the volume. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOL_ALREADY_MOUNTED** | |
| **EVOL_MOUNT_FAILED** | |
| **EJUNCTION_CREATE_FAILED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# volume-move-get-iter

[top]

Get status of move operation

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | volume-move-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | volume-move-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | volume-move-info[] optional | The list of attributes of volume objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more volume objects to return. |

| num-records | [0..2^32-1] | integer | The number of records returned in this call. |
|---|---|---|---|

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# volume-move-pause

[top]

Pause running volume move operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| volume | | string | Volume Name |
| vserver | | string | Vserver Name |

| Errno | Description |
|---|---|
| EAPIERROR | |
| EVOLUMEDOESNOTEXIST | |
| EVOLUME_MOVE_COMPLETED | |

# volume-move-resume

[top]

Resume running volume move operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| volume | | string | Volume Name |
| vserver | | string | Vserver Name |

| Errno | Description |
|---|---|
| EAPIERROR | |
| EVOLUMEDOESNOTEXIST | |
| EVOLUME_MOVE_COMPLETED | |

# volume-move-start

[top]

Initially this API will run a series of checks to determine if the volume can be moved. If any of the checks results in an error or warning, the API will return with an error. The user has to take the necessary corrective action before restarting the move. If all the checks pass, the API will return a success. If "perform-validation-only" is set to true, all the errors and warnings encountered from the checks will be returned in the errors-warnings output element. The API will return successfully, and the move will not be initiated. By default "perform-validation-only" is false, which means that the destination volume will be created and the move will start. A flexvol can be moved to any aggregate in the cluster, but if the flexvol is a member of an infinite volume it can only be moved to any eligible aggregate within the same vserver. The list of eligible aggregates can be obtained using the "volume-move-target-aggr-get-iter" API. The Cluster-mode API, supports the actions of "cutover-window",

"cutover-attempts" and "cutover-action".The status of the move job can be obtained by using the "volume-move-get-iter" API and "job-get" or "job-get-iter" APIs. If the move fails an EMS message will be generated. The reason for the failure can be obtained from the volume-move-get-iter API.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allow-mixed-aggr-types** | | boolean optional | To allow FlexGroup volume constituents move from a FabricPool to a non-FabricPool, or vice versa. This option is not applicable for Flex Volume move. |
| **cutover-action** | | string optional | Specifies the action to be taken for cutover. Possible values are "abort_on_failure", "defer_on_failure", "force" and "wait". Default is "defer_on_failure". If "abort_on_failure" action is specified, the job will try cutover till the cutover-attempts are exhausted, and cleanup if it fails to cutover. If "defer_on_failure" action is specified, the job will try cutover till the cutover-attempts are exhausted and move into "cutover deferred" state if it fails to cutover. This is the default option. The volume move job waits for intervention to restart the cutover process again. If "force" action is specified, the job will try cutover till the cutover-attempts are exhausted and force the cutover at the expense of disrupting the clients. If "wait" action is specified, when the job hits the decision point, it will not go into cutover automatically, instead it will wait for the user to issue a "volume-move-trigger-cutover" command as the signal to try the cutover. |
| **cutover-attempts** | **[1..25]** | integer optional | Number of cutover attempts. Default value is 3 |
| **cutover-window** | **[30..300]** | integer optional | Time interval to complete cutover in seconds. Default value for Data ONTAP Cluster-Mode volume move is 30 seconds. Default value for Data ONTAP 7-mode volume move is 60 seconds. |
| **dest-aggr** | | string | Name of the destination aggregate |
| **encrypt-destination** | | boolean optional | To encrypt destination volume. |
| **encrypt-with-aggr-key** | | boolean optional | To encrypt destination volume as NAE (NetApp Aggregate Encryption). |
| **generate-destination-key** | | boolean optional | To generate new encryption key for destination volume. |
| **perform-validation-only** | | boolean optional | Run pre-checks for the move, return all the errors and warning messages encountered during the checks in the errors-warnings element and exit. The move will not be triggered. Default is false. |
| **source-volume** | | string | Name of the volume that must be moved |
| **tiering-policy** | | string optional | The tiering policy that is to be associated with the volume. This policy decides whether the blocks of a volume will be tiered to the capacity tier. The possible values for this field are:<br>• snapshot-only - This policy allows tiering of only the volume snapshot copies not associated with the active file system.<br>• 'auto' - This policy allows tiering of both snapshot and active file system user data to the capacity tier.<br>• none - Volume blocks will not be tiered to the capacity tier.<br>• backup - On DP volumes this policy allows all transferred user data blocks to start in the capacity tier.<br>Default tiering policy is snapshot-only. |
| **vserver** | | string optional | Name of the Vserver in which the volume to be moved resides. This value is required for C-Mode volumes. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded", "in_progress", "failed". |
| **volume-move-dedup-warnings** | | errors-warnings-info[] optional | Volume Move Dedup Warnings |
| **volume-move-error-codes** | | volume-move-error-code[] optional | Error codes |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMENOTONLINE** | |
| **EAGGRDOESNOTEXIST** | |
| **EAGGRNOTONLINE** | |
| **EALREADYSTARTED** | |
| **EAPIMISSINGARGUMENT** | |
| **EINVALIDINPUTERROR** | |
| **EINVALIDSTATE** | |
| **ENOTSTARTED** | |
| **EONTAPI_EALREADY** | |
| **EVFILEROPNOTALLOWED** | |
| **EVOLAGGRISIRONING** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **EVOL_CIFS_ENABLED** | |
| **EVOL_ONLINE_ERROR** | |
| **EVOL_TOO_MANY** | |
| **EVOLUME_ADMINOP_NOT_FENCED** | |
| **EVOL_NFS_ENABLED** | |
| **EOP_DISALLOWED_ON_BUSY_MIRROR** | |
| **EOP_DISALLOWED_ON_LOADSHARING_VOL** | |
| **EOP_DISALLOWED_ON_CLONE_PARENT** | |
| **EOP_DISALLOWED_ON_BACKUP_ACTIVE_VOL** | |
| **EOP_DISALLOWED_ON_STRIPED_VOL** | |
| **EOP_DISALLOWED_ON_COMPRESSED_VOL** | |
| **EOP_DISALLOWED_ON_7MODE_VOL** | |
| **EOP_DISALLOWED_ON_STRIPED_AGGR** | |
| **EOP_DISALLOWED_ON_VOL_ALREADY_ON_AGGR** | |
| **EOP_DISALLOWED_ON_ROOT_AGGR** | |

| | |
|---|---|
| **ESNAPMIRROR_NOT_INITIALIZED** | |
| **EONTAPI_ENOSPCAGGR** | |
| **ENDMPRUNNING** | |
| **EVOLISGRIDIRONING** | |
| **EVOLMOVE_NDMP_DUMPS_RUNNING** | |
| **EVOLMOVE_NDMP_RESTORE_RUNNING** | |
| **EVOLMOVE_SIS_UNDO_RUNNING** | |
| **E_VOL_MOVE_INCOMPATIBLE_VERSION** | |
| **E_VOL_MOVE_DC_NOT_ALLOWED** | |
| **ENODENOTFOUND** | |
| **E_OP_DISALLOWED_ON_AGGR_NOT_IN_VSERVER_LIST** | |
| **E_OP_UNSUPPORTED_NO_SPACE_ON_DESTINATION_AGGR** | |
| **EVOLUME_RELSTATUS_UNKNOWN** | |
| **EINTERNALERROR** | |
| **ESNAPMIRRORNOTSUPPORT** | |
| **ESNAPMIRRORVOLNOTFOUND** | |
| **ESNAPMIRRORINVALIDINPUT** | |
| **ESNAPMIRRORINVALIDUUID** | |
| **EAPIMISSINGARGUMENT** | |
| **ENOMEM** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **ECANNOT_MOVE_TRANSITION_VOLUME** | |
| **EVOL_CLONE_BEING_SPLIT** | |
| **EVOLMOVE_CANNOT_MOVE_TO_CFO** | |
| **EVOLMOVE_CANNOT_MOVE_FROM_CFO_AGGR_IN_TAKEOVER** | |
| **E_SAN_MISSING_REQUIRED_LIFS** | |
| **E_SAN_NOT_READY** | |
| **EVOLMOVE_RECALLING_LOCKS** | |
| **EOP_NOTICE_CLONE_PARENT_MOVE** | |
| **EOP_NOTICE_NVFAILED_STATE_MOVE** | |
| **EOP_NOTICE_CLONE_MOVE_WITH_AUTODELETE_DESTROY** | |
| **EOP_NOTICE_CLONE_CHILD_MOVE** | |
| **EOP_NOTICE_MOVE_TO_NON_HYBRID_AGGR** | |
| **EOP_NOTICE_MOVE_TO_ENCRYPTION** | |
| **EOP_NOTICE_MOVE_FROM_ENCRYPTION** | |
| **EOP_NOTICE_IDEDUP_MOVE_TO_HYA** | |
| **EOP_NOTICE_NO_IDEDUP** | |
| **EOP_NOTICE_CROSSVOL_SAVING_LOSS** | |
| **EOP_NOTICE_NO_CROSSVOL_IDEDUP_ON_ENCRYPTED** | |
| **EOP_NOTICE_CROSSVOL_IDEDUP_MOVE_TO_NON_AFF** | |
| **EOP_NOTICE_CROSSVOL_RESUME** | |
| **EOP_NOTICE_AUTO_POLICY_MOVE_TO_NON_AFF** | |
| **EOP_MOVE_NOTICE_MOVE_DST_MIRROR** | |
| **E_FG_CONSTITUENT_MOVE_TIERING_POLICY_NOT_NONE** | |
| **EFULL_SYNC_WARNING** | |
| **EOP_NOTICE_MOVE_WITH_REKEY** | |
| **E_NVMF_LIF_REQUIRED** | |
| **E_VOL_MOVE_NVMF_NAMESPACE_NOT_SUPPORTED** | |
| | |

| | |
|---|---|
| **EOP_NOTICE_FC_ORIGIN_STATUS_CHANGE** | |
| **EOP_NOTICE_FC_TO_PLAIN_TEXT** | |

# volume-move-target-aggr-get-iter

[top]

Scans aggregates and returns a list of compatible target aggregates for the given volume move operation.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **allow-mixed-aggr-types** | | boolean optional | Allow Mixing FabricPool and non-FabricPool |
| **desired-attributes** | | volume-move-target-aggr-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination-tiering-policy** | | string optional | Volume Tiering Policy |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | volume-move-target-aggr-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the volume object. All volume objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |
| **volume-name** | | string | Volume Name (Required field) |
| **vserver** | | string | Vserver Name (Required field) |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | volume-move-target-aggr-info[] optional | The list of attributes of volume objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more volume objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EOP_DISALLOWED_ON_7MODE_VOL** | |
| **EVOLUMENOTONLINE** | |

# volume-move-trigger-abort

[top]

Stop a running volume move operation.

This is an asynchrous API call and it does not wait for the abort to finish before returning. volume-move-get-iter can be used to monitor the progress of the abort and get the status. Unlike 'job stop', this API makes it possible to stop a move job by the vserver and volume name. If the specified volume has completed the volume move operation, an error is returned.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **source-volume** | | string | The volume that is part of a completed or running volume move operation. |
| **vserver** | | string | Vserver Name |

| Errno | Description |
|---|---|
| **EAPIERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUME_MOVE_COMPLETED** | |

# volume-move-trigger-cutover

[top]

Trigger cutover of a move job

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force cutover |
| **source-volume** | | string | The name of the volume. |
| **vserver** | | string optional | Name of the Vserver in which the volume to be moved resides. This value is required for C-Mode volumes. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EJOBNOTINCUTOVERDEFERRED** | |
| **EVSERVER_OP_NOT_ALLOWED** | |

# volume-offline

[top]

Take the specified volume or plex offline, making it unavailable for both user-level data access and RAID-level access (unless it's a flexible volume, at which time its containing aggregate is not affected in any way, and will remain fully online). The operation takes effect before the API returns except in maintenance mode, when the current root volume may not be taken offline. A volume marked to become the root cannot be taken offline. Taking a flexible volume offline does not affect its containing aggregate in any way. A number of operations being performed on the given volume (or its containing aggregate) can prevent this operation from succeeding, either at all or for various lengths of time. If such operations are found, the system waits up to one second for them to finish. If they don't, the

command is aborted. A check is also made for files on the volume opened by internal ONTAP processes. The command is aborted if any are found. Plexes are not supported for Cluster-Mode volumes.

This API is not supported for Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cifs-delay** | | integer optional | If a volume contains CIFS shares, users should be warned before taking the volume offline. This argument specifies the number of minutes to delay before taking the volume offline, during which time CIFS users are warned of the pending loss of service. A 'cifs-delay' time of 0 means that the volume is to be taken offline immediately without issuing any warnings. CIFS users can lose data if they are not given a chance to terminate applications gracefully. By default, the value of 'cifs-delay' is 0. |
| **name** | | string | Name of an existing volume or plex. If a volume contains CIFS shares, users should be warned before taking the volume offline. Use "cifs-delay" to specify number of seconds to wait. If a plex is specified, the plex must be part of a mirrored volume, and both plexes must be online. Prior to offlining a plex, the system will flush all internally-buffered data associated with the plex and create a snapshot that is written out to both plexes. The snapshot allows for efficient resynchronization when the plex is subsequently brought back online. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMECIFSTERMINATE** | |
| **EVOLUMEBUSY** | |
| **EVOLUMEOFFLINE** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOLUME_IS_ONDEMAND_SOURCE** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-offline-async

[top]

Take the specified volume offline, thereby making it unavailable for data access. The volume must be unmounted before it can be made offline.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string | Name of an existing volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |

| | | | |
|---|---|---|---|
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# volume-online

[top]

Bring the specified volume or the plex online. This command takes effect immediately. If there are CIFS shares associated with the volume, they are enabled. Plexes are not supported for Cluster-Mode volumes.

This API is not supported for Infinite Volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of an existing volume or plex. If a volume is specified, it must be currently offline, restricted, or foreign. If the volume is foreign, it will be made native before being brought online. A ``foreign'' volume is a traditional volume that consists of disks moved from another filer and that has never been brought online on the current filer. Traditional volumes that are not foreign are considered ``native.'' If the volume is inconsistent, but has not lost data, it is advisable to run WAFL_check or wafliron (or do a 'snapmirror initialize' in case of a replica volume) prior to bringing an inconsistent volume online. Bringing an inconsistent volume online increases the risk of further file system corruption. If the volume is inconsistent and has experienced possible loss of data, it cannot be brought online unless WAFL_check or wafliron (or 'snapmirror initialize') has been run on the volume. If a plex is specified, the plex must be part of an online mirrored traditional volume or aggregate. The system will initiate resynchronization of the plex as part of online processing. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEPLEXINVALID** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOLUME_UNSUPPORTED_OPTION_VMALIGN** | |
| **EAGGR_UNSUPPORTED_OPTION_CONTROLLER_REPLACEMENT_TRANSITION** | |
| **EVOLUME_UNSUPPORTED_OPTION_SIDL** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-online-async

[top]

Bring the specified volume online.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string | Name of an existing volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEPLEXINVALID** | |
| **EVOLUME_HAS_VFILER_STORAGE** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# volume-options-list-info

[top]

Get the options that have been set for the specified volume.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string | Name of the existing volume for which we want option information. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **options** | | volume-option-info[] | List of options set for this volume. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |

| Vfiler-enabled |
| --- |
| Yes |

# volume-rehost

[top]

Rehosts a volume from one Vserver into another Vserver. Since volume rehost is a disruptive operation, administrators must stop all data access on target volume before rehosting. On success, target volume is available for data access under destination Vserver. Upon failure the rehost operation is reverted and target volume is available under source Vserver.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |
| **auto-remap-luns** | | boolean optional | Flag to control automatic map of LUNs. Default value for this flag is 'false' which means LUNs will not be mapped. Administrators may choose to either manually map LUNs or set this flag to 'true' for automatic map of LUNs. |
| **destination-vserver** | | string | Destination Vserver name where target volume must reside after successful volume rehost operation |
| **force-unmap-luns** | | boolean optional | Flag to control automatic unmap of LUNs. Default value for this flag is 'false' which means LUNs will not be unmapped. Administrators may choose to either manually unmap LUNs or set this flag to 'true' for automatic unmap of LUNs. |
| **volume** | | string | Target volume name |
| **vserver** | | string | Source Vserver name to which target volume belongs |

| Errno | Description |
| --- | --- |
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVOLUMEBUSY** | |
| **EVRH_PRECHECK** | |
| **EVRH_MAX_VOL** | |
| **EVRH_MAP_LUN** | |
| **EVRH_IN_RELATION** | |
| **EVRH_VOL_MOVE_IN_PROGRESS** | |
| **EVRH_VOL_NAME_COLLISION** | |
| **EVRH_VOL_JUNC_PRESENT** | |

# volume-rename

[top]

Renames the specified volume to a new name specified by "new-volume-name". If the volume is referenced in the /etc/exports file, remember to make the name change in /etc/exports also so that the affected file system can be exported by the filer after the filer reboots. The "volume-rename" command does not automatically update the /etc/exports file.

This API is not supported for Infinite Volumes or FlexGroups. This API is supported for FlexGroup constituents, but must be of the format __, where N is the FlexGroup-index of the constituent with leading 0's.

| Input Name | Range | Type | Description |
| --- | --- | --- | --- |

| | | | |
|---|---|---|---|
| **new-volume-name** | | string | New volume name. |
| **volume** | | string | Name of an existing volume. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-rename-async

[top]

Renames the specified volume to a new name specified by "new-volume-name".

This API is not supported for Flexible Volumes or Infinite Volume constituents. This API is supported for FlexGroup constituents, but must be of the format __, where N is the FlexGroup-index of the constituent with leading 0's.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-volume-name** | | string | New name of the volume. |
| **volume-name** | | string | Name of an existing volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMENAMEINVALID** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# volume-restrict

[top]

Restrict the specified volume, making it unavailable for user-level data access but leaving it (or its containing aggregate, if it's a flexible volume) available to internal OnTAP RAID-level access.

This API is not supported for Infinite Volumes. This API is not supported on Infinite Volume constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cifs-delay** | | integer optional | If a volume contains CIFS shares, users should be warned before restricting the volume . This argument specifies the number of minutes to delay before restricting the volume, during which time CIFS users are warned of the pending loss of service. A 'cifs-delay' time of 0 means that the volume is to be restricted immediately without issuing any warnings. CIFS users can lose data if they are not given a chance to terminate applications gracefully. By default, the value of 'cifs-delay' is 0. |
| **name** | | string | Name of the volume to restrict. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMECIFSTERMINATE** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-restrict-async

[top]

Restrict the specified volume making it unavailable for data access.

This API is not supported for Flexible Volumes, Infinite Volume constituents or FlexGroup constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-name** | | string | Name of an existing volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EVOLUMEPLEXINVALID | |
| EVOLUME_HAS_VFILER_STORAGE | |
| EVSERVERNOTFOUND | |
| EVSERVER_OP_NOT_ALLOWED | |
| EOBJECTNOTFOUND | |
| EVOLUME_TYPE_NOT_SUPPORTED | |

# volume-scrub-list-info

[top]

Get the status of RAID parity scrubbing on the named traditional volume, plex, or RAID group. If no name is given, then status is provided for all RAID groups currently undergoing scrubbing. Scrubbing status includes a percent-complete value and its suspended status (if any).

| Input Name | Range | Type | Description |
|---|---|---|---|
| name | | string optional | Name of an existing traditional volume, plex, or RAID group. If no name is given, then status is generated for all RAID groups currently being scrubbed. |
| verbose | | boolean optional | If set to "true", this operation will be verbose. If not supplied or set to 'false', normal output levels will be used. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| scrub-details | | scrub-detail-info[] | List of RAID groups and their scrub status. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# volume-scrub-resume

[top]

Resume RAID parity scrubbing on the named traditional volume, plex, or RAID group. If no name is given, then resume scrubbing on all RAID groups for which it is suspended.

| Input Name | Range | Type | Description |
|---|---|---|---|
| name | | string optional | Name of the existing traditional volume, plex, or RAID group for which the scrubbing is to resume. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |

# volume-scrub-start

[top]

Start RAID parity scrubbing on the named traditional volume, plex, or RAID group. RAID parity scrubbing compares the data disks to the parity disk in a RAID group, correcting the parity disk's contents as necessary. If a plex name is given, then scrubbing is started on all RAID groups contained in the plex. If a RAID group name is given, then scrubbing is started only in that RAID group. If no name is given, then scrubbing is started on the RAID groups within all online traditional volumes and aggregates. Use 'volume-scrub-list-info' to check scrub status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | Name of an existing traditional volume, plex, or RAID group. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-scrub-stop

[top]

Stop RAID parity scrubbing on the named volume, plex, or group; if no name is given, on all RAID groups currently undergoing parity scrubbing.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | Name of an existing volume, plex, or raid-group. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-scrub-suspend

[top]

Suspend RAID parity scrubbing on the named traditional volume, plex, or RAID group. If no name is given, suspend scrubbing on all RAID groups currently being scrubbed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string optional | Name of an existing traditional volume, plex, or RAID group. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-set-language

[top]

Set the given volume's language mapping.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **language-code** | | string | The new language mapping for the volume. For a list of legal language mapping values, see 'volume-create'. |

| | | | |
|---|---|---|---|
| **volume** | | string | Name of the volume that is to have its language mapping changed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEDOESNOTEXIST** | |
| **EVOLUMENOTONLINE** | |
| **EVOLUMEBUSY** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-set-option

[top]

Set the option named 'option-name' to the value specified by 'option-value' in the specified volume. The change remains effective even after the filer is rebooted. Some options have values that are numbers or strings, and others have values that are 'on' (also expressible as 'yes', 'true', or '1' ) or "off" (also expressible as 'no', 'false', or '0'). A mixture of uppercase and lowercase characters may be used for an option's value. Note that the 'root' option is special in that it does not have an associated value. Also, note that some of these options can NOT be set for a flexible volume, as they relate only to aggregates (either free-standing ones or those embedded in traditional volumes). Other options may only apply for flexible volumes.

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Name of the option to be set. Possible values:<br><br>"convert_ucode" (value: "on" \| "off")<br>Setting this option to "on" forces conversion of all directories to UNICODE format when accessed from both NFS and CIFS. By default, it is set to "off", in which case access from CIFS causes conversion of pre-4.0 and 4.0- format directories. Access from NFS causes conversion of 4.0 format directories. This option cannot be set on a Cluster-Mode volume unless it was transitioned from 7-Mode.<br><br>"snapshot_clone_dependency" (value: "on" \| "off")<br>Setting this option "on" will unlock all initial and intermediate backing snapshots for all inactive LUN clones. For active LUN clones, only the backing snapshot will be locked. If the option is "off" the backing snapshot will remain locked until all intermediate backing snapshots are deleted. This option is not valid for a Cluster-Mode volume.<br><br>"create_reserved"<br>This option is no longer supported.<br><br>"create_ucode" (value: "on" \| "off")<br>Setting this option to "on" forces UNICODE format directories to be created by default, both from NFS and CIFS. The default value is "off", in which case all directories are created in pre-4.0 format and only converted to UNICODE format upon the first CIFS access. This option cannot be set on a Cluster-Mode volume.<br><br>"extent" (value: "on" \| "space_optimized" \| "off")<br>Setting this option to "on" enables extents in the volume. This causes application writes to be written in the volume as a write of a larger group of related data blocks called an extent. Using extents may help |

workloads that perform many small random writes followed by large sequential reads. However, using extents may increase the amount of disk operations performed on the filer, so this option should only be used where applicable. The default value is "off", in which case extents are not used. The value "space_optimized" indicates extent updates will not duplicate snapshot blocks into the active file system, thereby using space conservatively. The "space_optimized" value may result in degraded snapshot read performance; and may only be used for **flexible** volumes.

"fractional_reserve" (value: < number >)
This option decreases the amount of space reserved for overwrites of reserved objects (LUNs, files) in a volume. The option is set to 100 by default and indicates that 100% of the required reserved space will actually be reserved so the objects are fully protected for overwrites. The value can vary from 0 to 100. Using a value of less than 100 indicates what percentage of the required reserved space should actually be reserved. This returns the extra space to the available space for the volume, decreasing the total amount of space used. However, this does leave the protected objects in the volume vulnerable to out of space errors since less than 100% of the required reserved space is actually reserved. If reserved space becomes exhausted this will cause disruptions on the hosts using the objects. If the percentage is decreased below 100%, it is highly recommended that the administrator actively monitor the space usage on the volume and take corrective action if the reserved space nears exhaustion.

"fs_size_fixed" (value: "on" | "off")
Setting this option to "on" causes the file system to remain the same size (and not grow) when a SnapMirror relationship is broken, or when a "vol/aggr add" is performed on it. This option is automatically set to be "on" when a volume becomes a SnapMirrored. It remains "on" after the "snapmirror break" command is issued for the volume. This option allows a volume to be SnapMirrored back to the source without needing grow the source volume. If the volume size is larger than the file system size, turning off this option forces the file system to grow to the size of the volume.

"guarantee" (value: "none" | "file" | "volume")
**Flexible** volumes only. Setting this option controls the type of space reservation for the named flexible volume. There are three possible settings. The first, "none", provides no guarantee that there will be enough blocks in the containing aggregate to meet the flexible volume's needs. The second, "file", guarantees there will be enough blocks in the containing aggregate to meet the needs of the specified files in the flexible volume. The third, "volume", is the default setting and guarantees there will be enough blocks available in the containing aggregate to meet the entire flexible volume's needs. An error will be returned if an attempt is made to set this option on a traditional volume.

"ignore_inconsistent" (value: "on" | "off")
This option can only be set in maintenance mode. If set to "on", then the root volume may be brought online when booting even if it is marked as inconsistent. The user is cautioned that bringing it online prior to running WAFL_check or wafliron may result in further file system inconsistency.

"maxdirsize" (value: < number >)

Set the maximum size (in KBytes) to which any directory can grow. The default setting of 10240 limits directory size to 10 MBytes and allows it to hold up to approximately 300,000 files. The number of files that the directory actually can hold varies depending on such things as the length of the names and whether it needs to use double-byte UNICODE characters. Most users should not need to change this option's setting. This option is useful for environments where system users may grow a directory to a size that starts impacting system performance. When a user tries to create a file in a directory that is at the limit, the system returns a ENOSPC error and fails the create.

"max_write_alloc_blocks" (value: < number >)
Set the maximum number of blocks used for write allocation. The default setting, 0, uses the system-wide default number of blocks, which should be optimal for most users. Some sequential read workloads may benefit from increasing this value. On rare occasions, some multi-stream sequential write workloads may benefit from decreasing this value. Range: [0..2048].

"minra" (value: "on" | "off")
Setting this option to "on" causes the filer to perform minimal read-ahead on this volume. By default, this option is "off", causing the filer to perform very aggressive read-ahead on the volume.

"no_atime_update" (value: "on" | "off")
Setting this option to "on" prevents the update of inode access times when a file is read. This option is useful for volumes with extremely high read traffic, since it prevents writes to the inode file for the volume from contending with reads from other files. It should be used carefully. That is, use this option when you know in advance that the correct access time for inodes will not be needed for files on that volume.

"no_i2p" (value: "on" | "off")
Setting this option to "on" disables inode to parent pathname translations on the volume. The default setting is off.

"nosnap" (value: "on" | "off")
Setting this option to "on" disables automatic snapshots on the volume. This option is not supported for Cluster-Mode volumes.

"nosnapdir" (value: "on" | "off")
Setting this option to "on" disables the visible .snapshot directory that is normally present at system internal mount points. It also turns off access to all other .snapshot directories in the volume.

"nvfail" (value : "on" | "off")
If this option is on, the filer performs additional work at boot time if it finds that there has been any potential data loss due to an NVRAM failure. In such situations, it causes the invalidation of all NFS file handles on all volumes affected by the problem so that client-side users are forced to remount the affected file system (and thus not continue to use potentially incorrect data). It is also possible to specify a set of files per volume that are to be renamed out of the way in these cases. The filer sends error messages to the console whenever such problems are found.

"raid_cv" (value: "on" | "off")
**Traditional** volumes only. Setting the option to "off" disables block checksum protection on the volume. The default is "on". The user is

| | | | |
|---|---|---|---|
| **option-name** | | string | cautioned that turning off the option exposes the filesystem to inconsistency that could be caused by a misbehaving hardware component in the system.<br><br>"raidsize" (value: < number >)<br>**Traditional** volumes only. The maximum size of a RAID group within the traditional volume. Changing this option doesn't cause existing RAID groups to grow or shrink. Rather, it only affects whether more disks will be added to the last existing RAID group in the future, and how large new RAID groups will be.<br><br>"raidtype" (value: "raid4" \| "raid_dp" \| "raid_tec")<br>**Traditional** volumes only. The type of RAID group used for this traditional volume. The "raid4" setting provides one parity disk per RAID group, "raid_dp" provides two and "raid_tec" provides three. Changing this option immediately changes the RAID group type for all RAID groups in the traditional volume. When upgrading RAID groups from "raid4" to "raid_dp", each RAID group begins reconstruction onto a spare disk allocated for the second "dparity" parity disk. Similarly, when upgrading RAID groups from "raid_dp" to "raid_tec", each RAID group begins a reconstruction onto a spare disk allocated for the third "tparity" parity disk.<br><br>"read_realloc" (value: "on" \| "space_optimized" \| "off")<br>Setting this option to "on" enables read-reallocation in the volume. This causes application reads to optimize the layout of parts of a file or LUN after the data has been read from disk and is in the appliance memory. The default value is "off". The value "space_optimized" indicates read-reallocate updates will not duplicate blocks into the active file system, thereby using space conservatively. The "space_optimized" value may result in degraded snapshot read performance; and may only be used for **flexible** volumes.<br><br>"resyncsnaptime" (value: < number >)<br>**Traditional** volumes only. Sets the RAID mirror resynchronization snapshot frequency to be the given number of minutes. The default value is '60' (minutes).<br><br>"root" (value: < none >)<br>The specified volume is to become the root volume for the filer on the next reboot. This option can be used on only one volume at any given time. The existing root volume will become a non-root volume after the reboot. Until the system is rebooted, the current root volume will continue to show 'root' as one of its options, and the new root volume will show 'diskroot' as an option. In general, the volume that has the 'diskroot' option value is the one that becomes the root volume following the next reboot. The only way to remove the root status of a volume is to set it on another one.<br><br>"schedsnapname" (value: "create_time" \| "ordinal")<br>Setting the option to "ordinal" causes scheduled snapshots to be named in the hourly.n name format. Setting the value to "create_time" causes snapshots to use a hourly.yyyy-mm-dd_hhmm name format instead. The default is "ordinal".<br><br>"snapmirrored" (value : "off")<br>If SnapMirror is enabled, the filer automatically sets this option to "on". Set this option to "off" if SnapMirror should no longer be used to update the mirror. After setting this option to "off", the mirror becomes a regular writable volume. This option can only be set to |

"off" with this interface. Only the filer can change this option's value from "off" to "on". This option is not settable in Data ONTAP Cluster-Mode. Use "snapmirror-break" API instead.

"try_first" (value : "volume_grow" | "snap_delete")
If the flexible volume is configured to automatically reclaim space if the volume is running out of space, then setting this option to "volume_grow" will cause the volume to increase in size before deleting snapshots. If the option was set to "snap_delete", snapshots will be deleted before the volume size is increased.

"svo_enable" (value: "on" | "off")
Setting this option to "on" enables SnapValidator functionality on this volume. This option only applies to non-root volumes. This option is unsupported in Data ONTAP Cluster-Mode.

"svo_allow_rman" (value: "on" | "off")
Setting this option to "on" enables SnapValidator functionality on this volume to allow this volume to contain Oracle RMAN backup data. This option only applies to non-root volumes. This option is unsupported in Data ONTAP Cluster-Mode.

"svo_checksum" (value: "on" | "off")
Setting this option to "on" enables SnapValidator checksumming of all writes to this volume. This option only applies to non-root volumes. This option is unsupported in Data ONTAP Cluster-Mode.

"svo_reject_errors" (value: "on" | "off")
Setting this option to "on" enables SnapValidator functionality to reject any write to the volume which fails the SnapValidator checks. This option only applies to non-root volumes. This option is unsupported in Data ONTAP Cluster-Mode.

"thorough_scrub" (value: "on" | "off")
**Traditional** volumes only. Setting the option to "on" enables thorough scrub on a block checksum volume. That means that a scrub will initialize any zeroed checksum entries that it finds. If there are any checksum entries to be initialized, scrub will run slower than normal.

"snaplock_autocommit_period" (value: "none" | h|d|m|y)
**SnapLock** volumes only. This option defines the criteria for committing files to WORM on a SnapLock volume by the autocommit scanner. h, d, m, y denote hours, days, months and years respectively. The default value of this option is "none" that corresponds to autocommit being disabled in the SnapLock volume. The minimum autocommit period on a SnapLock volume is 2h. Any valid value other than "none", specified in hours (h), days (d), months (m) or years (y) would trigger the autocommit scanner on the Snaplock volume.

"snaplock_default_period" (value : min | max | infinite | s|h|d|m|y)
This option can be set only for **SnapLock** volumes and specifies the default retention period that will be applied to files committed to WORM state without an associated retention period. If this option value is **min** then snaplock_minimum_period is used as the default retention period. If this option value is **max** then snaplock_maximum_period is used as the default retention period. If this option value is **infinite** then infinite retention period will be used as the default retention period. WORM files with infinite retention

| | | | |
|---|---|---|---|
| | | | period are retained forever. The retention period can also be explicitly specified as a number followed by a suffix. The valid suffixes are **s** for seconds, **h** for hours, **d** for days, **m** for months and **y** for years. For example, a value of **6m** represents a retention period of 6 months. The maximum valid retention period is 70 years. This option is not applicable while extending retention period of an already committed WORM file<br><br>"snaplock_maximum_period" (value: infinite \| s\|h\|d\|m\|y)<br>This option can be set only for **SnapLock** volumes and specifies the maximum allowed retention period for files committed to WORM state on the volume. Any file committed with a retention period longer than snaplock_maximum_period will be assigned a retention period equal to snaplock_maximum_period. If this option value is **infinite** then files can be committed for infinite retention period in the volume. WORM files with infinite retention period are retained forever. The retention period can also be explicitly specified as a number followed by a suffix. The valid suffixes are **s** for seconds, **h** for hours, **d** for days, **m** for months and **y** for years. For example, a value of **6m** represents a retention period of 6 months. The maximum valid retention period is 70 years. This option is not applicable while extending retention period of an already committed WORM file<br><br>"snaplock_minimum_period" (value: infinite \| s\|h\|d\|m\|y)<br>This option can only be set for **SnapLock** volumes and specifies the minimum allowed retention period for files committed to WORM state on the volume. Any file committed with a retention period shorter than snaplock_minimum_period will be assigned a retention period equal to snaplock_minimum_period. If this option value is **infinite** then every file committed to the volume will have a infinite retention period. WORM files with infinite retention period are retained forever. The retention period can also be explicitly specified as a number followed by a suffix. The valid suffixes are **s** for seconds, **h** for hours, **d** for days, **m** for months and **y** for years. For example, a value of **6m** represents a retention period of 6 months. The maximum valid retention period is 70 years. This option is not applicable while extending retention period of an already committed WORM file |
| **option-value** | | string | The value to set the named option (except for option 'root', which has no associated value). |
| **volume** | | string | Name of the volume for which we want to set an option. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ESWAPFILENOSPACE** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |
| **EONTAPI_EVOLOPNOTSUPP** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINCOMPATIBLE_AUTOSHRINK_AUTODELETE_TRY_FIRST** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-set-total-files

[top]

Set a volume's 'files-total' value to the given quantity. This specifies the maximum number of user-visible files that the given volume can hold, as reported by the 'files-total' value within: - the 'volumes' output parameter of the Data ONTAP 7-Mode 'volume-list-info' API, and - the 'attributes-list' output parameter of the Data ONTAP Cluster-Mode 'volume-get-iter' API. Note that this interface corresponds to the following Data ONTAP 7-Mode 'maxfiles' console command and Data ONTAP Cluster-Mode 'volume modify' console command: 'maxfiles <vol-name> <requested_new_max>' 'volume modify -vserver <vserver-name> -volume <volume-name%gt -files <requested_new_max>'

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Indicates whether the filer should reject a legal but "unreasonable" (seemingly too large) value for 'requested-total-files', or accept it without question. By default, legal but "unreasonable" values are rejected. |
| **requested-total-files** | | integer validate | Specifies the new value for the volume's 'files-total' field. This value must be larger than the volume's current 'files-total' value, and can never be larger than the number of 4KB blocks in the volume. The filer may actually choose a smaller value so as to comply with certain internal accounting and alignment requirements. Once this value has been increased for a volume, it cannot be reduced below the value of 'inodefile-public-capacity' for that volume. Range : [0..2^31-1] |
| **volume** | | string | The name of the volume whose 'files-total' field we wish to set. The chosen volume must be online and not read-only for this operation to succeed. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **resulting-total-files** | | integer | The quantity to which the given volume's 'files-total' field was actually set after all internal requirements and alignments were computed. This quantity will never be larger than 'requested-total-files', and never be smaller than the volume's 'inodefile-public-capacity' value before the request. Range : [0..2^31-1] |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVEROPNOTALLOWED** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-size

[top]

Given the name of a flexible volume, either return its current size or set the volume's size to the stated amount.

This API is not supported for FlexGroups, FlexGroup constituents, Infinite Volumes or Infinite Volume constituents. Also, this API does not allow to set the volume's size from vFiler context.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-size** | | string optional | Specify the flexible volume's new size using the following format: [+\|-] < number > k\|m\|g\|t] If a leading '+' or '-' appears, it indicates that the given flexible volume's size is to be increased or decreased (respectively) by the indicated amount, else the amount is the absolute size to set. The optional trailing 'k', 'm', 'g', and 't' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', and 'terabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of bytes desired. The file system size of a readonly replica flexible volume, such as a snapmirror destination, is determined from the replica source. In such cases, the value set using "volume-size" is interpreted as an upper limit on the size. A flexible volume that's not a readonly replica which has the "fs_size_fixed" option set may have its size displayed, but not changed. Attempting to set the volume size in this case will result in failure and a EINTERNALERROR error code. Users must be able to adjust readonly replica flexible volume size in order to maintain enough capacity to accommodate transfers from the replica source. Attempting to set a readonly replica destination size to be less than that of its source will result in a failure indicated by the EONTAPI_ENOSPC error code. This option is not applicable from vFiler context. Attempting to set volume size from vfiler context will result in failure with EINTERNALERROR error code being returned. |
| **volume** | | string | The name of the flexible volume for which we want to get or set its size. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-fixed-size-flex-volume** | | boolean optional | Is the flexible volume filesystem size fixed? |
| **is-readonly-flex-volume** | | boolean optional | Is this flexible volume read only? |
| **is-replica-flex-volume** | | boolean optional | Is this flexible volume a replica volume? |
| **volume-size** | | string | Either the size we found the given volume to be or the size to which the volume was set (if we're setting its size via the 'new-size' argument above). |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EONTAPI_ENOSPC** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |

| Vfiler-enabled |
|---|
| **Yes** |

# volume-size-async

[top]

Given the name of a volume, either return its current size or set the volume's size to the stated amount.

This API is not supported for flexible volumes, Infinite Volume constituents or FlexGroup constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-size** | | string optional | Specify the volume's new size using the following format: [+\|-]< number > [k\|m\|g\|t\|p] If a leading '+' or '-' appears, it indicates that the given volume's size is to be increased or decreased (respectively) by the indicated amount, else the amount is the absolute size to set. The optional trailing 'k', 'm', 'g', 't', and 'p' indicates the desired units, namely 'kilobytes', 'megabytes', 'gigabytes', 'terabytes', and 'petabytes' (respectively). If the trailing unit character doesn't appear, then < number > is interpreted as the number of kilobytes desired. The file system size of a readonly volume, such as a snapmirror destination, is determined from the snapmirror source. In such cases, the value set using this API is interpreted as an upper limit on the size. An volume that's not a snapmirror destination which has the "fs_size_fixed" option set may have its size displayed, but not changed. Attempting to set the volume size in this case will result in failure and a EINTERNALERROR error code. Users must be able to adjust readonly snapmirror destination volume size in order to maintain enough capacity to accommodate transfers from the replica source. Attempting to set a readonly snapmirror destination size to be less than that of its source will result in a failure indicated by the EONTAPI_ENOSPC error code. If this input is specified, the size modification occurs asynchronously, and the 'volume-size' output is not returned to the caller. Infinite Volume creation and expansion operations may involve creation and initialization of Namespace Mirrors. The initialization is started during the creation or expansion operation, but can continue after the Infinite Volume operation has completed. When this happens, the Infinite Volume will be in a 'mixed' state, until the Namespace Mirror initialization is complete. While in a 'mixed' further operations of the Infinite Volume are not possible. This parameter is not supported on Infinite Volumes that are managed by storage services. |
| **volume-name** | | string | The name of the volume. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |
| **volume-size** | | string optional | The size of the volume. This output is returned only if the caller is querying the the size and is not modifying it by specifying the 'new-size' input parameter. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

| | |
|---|---|
| **EONTAPI_ENOSPC** | |
| **EVOLUMEBUSY** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |
| **E_OLV_CONSTITUENT_SIZE_TOO_BIG** | |
| **E_OLV_CONSTITUENT_SIZE_TOO_SMALL** | |
| **E_OLV_FG_INTERNAL_STATE_UPDATE_FAILURE** | |
| **E_OLV_FG_DOESNT_EXIST** | |
| **E_OLV_FG_SHRINK_UNSUPPORTED** | |

# volume-space-get-iter

[top]

Display a list of volumes and a breakup of their used space. This information is only available when the volume is online. Some fields are expensive to compute, if the system is under load, the information may not be returned. Best practise would be to only request the fields needed.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | space-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | space-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the volume-space object. All volume-space objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | space-info[] optional | The list of attributes of volume-space objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more volume-space objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-split

[top]

Remove the specified plex from a mirrored traditional volume and create a new unmirrored traditional volume with the specified name that contains the split-off plex. The original mirrored traditional volume becomes unmirrored. The plex to be split from the original traditional volume must be functional (not partial), but it could be inactive, resyncing, or out-of-date. A 'volume-split' operation can therefore be used to gain access to a plex that is not up to date with respect to its partner plex if its partner plex is currently failed. If the plex is offline at the time of the split, the resulting traditional volume will also be offline. Otherwise, the resulting traditional volume will be in the same online/offline/restricted state as the original traditional volume. Note that a split mirror can be joined back together via the "victim-volume" option to "volume-mirror".

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-volume-name** | | string | Name of the new traditional volume to create from the split plex. |
| **plex** | | string | Name of the plex to split out of its traditional volume. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVOLUMEPLEXINVALID** | |

# volume-tiering-policies-list

[top]

Displays the list of names and descriptions of tiering policies supported in the cluster

| Output Name | Range | Type | Description |
|---|---|---|---|
| **tiering-policies** | | system-api-enum-value-info[] | Enumeration type name/value pair |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-transition-check

[top]

Check to see if a desired volume transition can be performed from one volume type to another. Only 7-mode flexible volume to cluster-mode flexible volume and vice versa with limited options are supported at this time.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **destination-vserver-name** | | string optional | The name of the vserver into which a volume is being transitioned. |
| **non-disruptive** | | boolean optional | A 'true' value indicates that only a non-disruptive transition will be accepted. This is not available for all volume configurations. If a value is not specified, this field will default to true - non-disruptive desired. |
| **operation-type** | | string optional | The type of transition operation; Possible values are: "copy_based" (default) "in_place" "untransition" Copy Based Transition is currently the only supported mode for transition; "in_place" and "untransition" should only be used in testing scenarios. |
| **override-warnings** | | boolean optional | A 'true' value indicates that all warnings will be ignored as a part of the transition process. The system will select default values as appropriate. If not specified, values will not be overridden. |

| | | | |
|---|---|---|---|
| **source-node** | | string | The name of the node where the target volumes reside. |
| **volumes** | | volume-transition-volinfo[] | Volumes to check for the ability to transition to Cluster-Mode. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVOLUMENOTONLINE** | |
| **EVOL_TOO_MANY** | |
| **EONTAPI_ENOSPC** | |
| **EONTAPI_ESYSTEMERR** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOLTRANSERROR** | |
| **EVOLTRANWARNING** | |

# volume-transition-prepare-to-downgrade

[top]

Verifies that there are no volumes actively transitioning from 7-mode to clustered Data ONTAP, and configures the transition feature for downgrade.

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **CANNOT_DISABLE_TRANSITION_TDP_VOLUME_EXISTS** | |

# volume-transition-protect

[top]

Fence access to volume during Transition.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean | Protection Enabled |
| **volume** | | string | The name of the volume. |
| **vserver** | | string | The name of the Vserver which owns the volume. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVOLUMENOTONLINE** | |
| **EONTAPI_EINPROGESS** | |
| **EVOLTRANSERROR** | |
| **EVOLTRANSWARNING** | |
| **EVOLTRANSNOTALLOWED** | |

| | |
|---|---|
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# volume-unmount

[top]

Unmount a volume from its parent volume and delete the junction path at which the volume is mounted. This API is not supported on Infinite Volume constituents.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | This specifies whether the volume unmount operation is forced or not. The default value is false.<br><br>Under certain circumstances, such as an unexpected reboot while in the middle of unmounting, the unmount operation might find that after the reboot, it is unable to delete the junction path at which the volume is mounted in the file system. In this situation, if the force option is set to false, the unmount operation is failed (EJUNCTIONDELETEFAILED), leaving the junction path information intact in the Volume Management Database. Instead, if the force option is set to true, the unmount operation proceeds to delete the junction path information in the Volume Management Database, irrespective of any failure to delete the junction path in the file system. |
| **volume-name** | | string | The name of the volume. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EOBJECTNOTFOUND** | |
| **EMULTIPLEVOLSFOUND** | |
| **EVOL_NOT_MOUNTED** | |
| **EVOL_UNMOUNT_FAILED** | |
| **EJUNCTION_DELETE_FAILED** | |
| **EVOLUME_TYPE_NOT_SUPPORTED** | |

# volume-verify-list-info

[top]

Get the status of RAID mirror verification on the named traditional volume. Status includes percentage complete and whether it's currently suspended.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string optional | Name of an existing mirrored traditional volume. If no name is given, then mirror verification status is generated for all aggregates currently being verified (including the ones embedded in traditional volumes). |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **verify-details** | | verify-detail-info[] | List of aggregates (including the ones embedded in traditional volumes) and their RAID mirror verification status. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-verify-resume

[top]

Resume RAID mirror verification on the named traditional volume. If no name is given, then resume RAID mirror verification on all aggregates (including those embedded in traditional volumes) that have been suspended.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string optional | Name of the existing traditional volume for which RAID mirror verification is to resume. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-verify-start

[top]

Start RAID mirror verification on the named traditional volume. RAID mirror verification compares the data in both plexes of a mirrored aggregate (whether it's free-standing or embedded in a traditional volume). In the default case, any blocks that differ are logged and no changes are made. The fix-plex option is used to fix any mismatches. It specifies which plex to fix. If no name is given, then RAID mirror verification is started on all online aggregates (including those embedded in traditional volumes). Use either the "aggr-verify-list-info" or "volume-verify-list-info" API to check RAID mirror verification status. If the fix-plex option is used, then a name must be specified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **fix-plex** | | integer optional | If provided, this specifies the plex to fix in case the two plexes do not match. The default is to log any discrepancies instead of fixing them. |
| **log-only** | | boolean optional | If provided, and if the value is "true", then simply log any discrepancies instead of fixing them. The default value is "true". If log-only is "false", then the fix-plex option must also be specified. If log-only is "true" and fix-plex is also specified, then the log-only option will be ignored. |
| **volume** | | string optional | Name of the mirrored traditional volume to verify. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-verify-stop

[top]

Stop RAID mirror verification on the named traditional volume. If no name is given, stop RAID mirror verification on all aggregates (including those embedded in traditional volumes) currently being verified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string optional | Name of the traditional volume for which we are to stop RAID mirror verification. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-verify-suspend

[top]

Suspend RAID mirror verification on the named traditional volume. If no name is given, suspend mirror verification on all aggregates (including those embedded in traditional volumes) currently being verified.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume** | | string optional | Name of the traditional volume for which we are to suspend RAID mirror verification. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# volume-wafl-info

[top]

DEFINED HERE FOR BACKWARDS COMPATIBILITY ONLY. CHANGE OVER TO USING THE NEW 'volume-get-filer-info' AS SOON AS POSSIBLE. Get WAFL status information.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **checksum-types** | | string | Checksum type. The possible values:<br>• "zoned" - if all volumes are Fixed VBN,<br>• "block" - if all volumes are Block Appended,<br>• "mixed" - if volumes are mixed Fixed VBN and Block Appended and Advanced Zoned,<br>• "none" - if no volumes have zoned or block or advanced_zoned checksum (azcs) or mixed,<br>• "advanced_zoned" - if all volumes in the system have Advanced Zoned Checksum scheme. |
| **disk-types** | | string | Type of disks. Possible values: 512, 520, 4096, mixed, none. "512" if all disks 512 BPS, "520" if all disks 520 BPS, "4096" if all disks 4096 BPS, "mixed" if disks are mixed 512 BPS, 520 BPS and 4096 BPS, "none" if no disks have 512 or 520 or 4096 BPS. |
| **root-volume** | | string | Current root volume. |
| **snapshots-max** | | integer | Maximum number of snapshots available. Range : [0..2^31-1]. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **clone-split-detail-info**

[top]

Status information about an active clone split.

| Name | Range | Type | Description |
|---|---|---|---|
| **block-percentage-complete** | | integer | Percent of the clone's blocks processed to date by the split. |
| **blocks-scanned** | | integer | Number of the clone's blocks that have been scanned to date by the split. |
| **blocks-updated** | | integer | Total number of the clone's blocks that have been updated to date by the split. |
| **inode-percentage-complete** | | integer optional | Percent of the clone's inodes processed to date by the split. |
| **inodes-processed** | | integer optional | Number of the clone's inodes processed to date by the split. |
| **inodes-total** | | integer optional | Total number of inodes in the clone. |
| **name** | | string | Name of the clone being split. |

# Element definition: **clone-split-estimate-info**

[top]

Estimate information about a future clone split.

| Name | Range | Type | Description |
|---|---|---|---|
| **estimate-blocks** | | integer | The estimated number of 4kb blocks required to perform the volume clone split. |

# Element definition: **disk-info**

[top]

Information for each disk in the plex.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of a member disk. |
| **vbn-end** | **[0..2^64-1].** | integer optional | VBN end value of a disk. |

| | | | |
|---|---|---|---|
| **vbn-start** | **[0..2^64-1].** | integer optional | VBN start value of a disk. |

## Element definition: **errors-warnings-info** [top]

The complete list of errors and warnings if perform-validation-only is true or all the warnings if is-override-warnings is true.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-warning** | | string | Error or warning |

## Element definition: **flexgroup-max-size-entry** [top]

The maximum FlexGroup size that can be created for an existing disk type.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-type** | | string | The disk type of the aggregates for this maximum size. |
| **max-size** | **[0..2^64-1]** | integer | The maximum FlexGroup size that can be created. |
| **provider-type** | | string | The object store provider type of the FabricPools for this maximum size. This parameter is only supported when getting the create limits of a FlexGroup where the support-tiering parameter is true. |

## Element definition: **footprint-info** [top]

Space configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **dedupe-metafiles-footprint** | **[0..2^63-1]** | integer optional | This field represents temporary deduplication metadata footprint in bytes. Attributes: non-creatable, non-modifiable |
| **dedupe-metafiles-footprint-percent** | **[0..100]** | integer optional | This field represents deduplication metadata footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **dedupe-** | | | |

| | | | |
|---|---|---|---|
| **metafiles-temporary-footprint** | **[0..2^63-1]** | integer optional | This field represents temporary deduplication metadata footprint in bytes. Attributes: non-creatable, non-modifiable |
| **dedupe-metafiles-temporary-footprint-percent** | **[0..100]** | integer optional | This field represents deduplication metadata footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **delayed-free-footprint** | **[0..2^63-1]** | integer optional | This field represents the delayed free blocks footprint in bytes. This system is used to improve delete performance by batching delete requests. Attributes: non-creatable, non-modifiable |
| **delayed-free-footprint-percent** | **[0..100]** | integer optional | This field represents the delayed free blocks footprint as a percentage of aggregate size. This system is used to improve delete performance by batching delete requests. Attributes: non-creatable, non-modifiable |
| **file-operation-metadata** | **[0..2^63-1]** | integer optional | This field represents the file operation metadata footprint in bytes. Attributes: non-creatable, non-modifiable |
| **file-operation-metadata-percent** | **[0..100]** | integer optional | This field represents the file operation metadata footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **flexvol-metadata-footprint** | **[0..2^63-1]** | integer optional | This field represents flexible volume metadata in bytes. Attributes: non-creatable, non-modifiable |
| **flexvol-metadata-footprint-percent** | **[0..100]** | integer optional | This field represents flexible volume metadata as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **snapmirror-destination-footprint** | **[0..2^63-1]** | integer optional | This field represents the SnapMirror destination footprint in bytes. Attributes: non-creatable, non-modifiable |
| **snapmirror-destination-footprint-percent** | **[0..100]** | integer optional | This field represents the SnapMirror destination footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **tape-backup-metafiles-footprint** | **[0..2^63-1]** | integer optional | This fields represents the tape backup metadata footprint in bytes. Attributes: non-creatable, non-modifiable |
| **tape-backup-metafiles-footprint-percent** | **[0..100]** | integer optional | This field represents the tape backup metadata footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **total-footprint** | **[0..2^63-1]** | integer optional | This field represents the total footprint in bytes. Attributes: non-creatable, non-modifiable |
| **total-footprint-percent** | **[0..2^32-1]** | integer optional | This field represents the total footprint as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **volume** | | string optional | Name of the volume for which the space usage is requested. Attributes: key, non-creatable, non-modifiable |
| **volume-blocks-footprint** | **[0..2^63-1]** | integer optional | This field represents the footprint of blocks written to the volume in bytes. Attributes: non-creatable, non-modifiable |
| **volume-blocks-footprint-bin0** | **[0..2^63-1]** | integer optional | This field represents the footprint of blocks written to the volume in bytes for the performance tier (bin 0). Attributes: non-creatable, non-modifiable |
| **volume-blocks-footprint-bin0-percent** | **[0..100]** | integer optional | This field represents the footprint of blocks written to the volume in bin 0 as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **volume-blocks-** | **[0..2^63-** | integer | This field represents the footprint of blocks written to the volume |

| | | | |
|---|---|---|---|
| **footprint-bin1** | **1]** | optional | in bytes for bin 1. Attributes: non-creatable, non-modifiable |
| **volume-blocks-footprint-bin1-percent** | **[0..100]** | integer optional | This field represents the footprint of blocks written to the volume in bin 1 as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **volume-blocks-footprint-percent** | **[0..2^32-1]** | integer optional | This field represents the footprint of blocks written to the volume as a percentage of aggregate size. Attributes: non-creatable, non-modifiable |
| **volume-guarantee-footprint** | **[0..2^63-1]** | integer optional | This field represents the volume guarantee footprint in bytes. Alternatively, it is the space reserved for future writes in the volume. Attributes: non-creatable, non-modifiable |
| **volume-guarantee-footprint-percent** | **[0..100]** | integer optional | This field represents the volume guarantee footprint as a percentage of aggregate size. Alternatively, it is the percentage of space reserved for future writes in the volume. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Name of the Vserver that contains the volumes for which the space usage is requested. Attributes: key, non-creatable, non-modifiable |

# Element definition: **guarantee**

[top]

Type of guarantee

| Name | Range | Type | Description |
|---|---|---|---|
| **type** | | string | guarantee that is supported on a given volume. Possible values are: "volume", "file", "partial", "none" |

# Element definition: **mediascrub-detail-info**

[top]

Information about media scrubbing.

| Name | Range | Type | Description |
|---|---|---|---|
| **mediascrub-status** | | string | Possible values are "suspended", "disabled" and "enabled" "suspended": Media scrub is enabled but temporarily paused because another task is running or it is in the idle cycle of its periodic run. It will resume automatically when the task is done or the idle cycle ends. "disabled": Media scrub feature is turned off. "enabled": Media scrub feature is active. |
| **percentage-complete** | | integer optional | Media scrubbing percentage complete. Range: [0..100]. |
| **raid-group** | | string | Name of the RAID group. |

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **raidgroup-size-info**

[top]

Default, minimum and maximum raidgroup size for each RAID type supported on this filer.

| Name | Range | Type | Description |
|---|---|---|---|
| **default-size** | | integer | Default size of a RAID group of this type in aggregates. Range : [6..16]. |
| **disktype** | | string optional | Name of the Disk type present on this controller. Possible values include FCAL, ATA, LUN, SAS, SSD, BSAS, FSAS, MSATA and VMDISK. |
| **maximum-disk-capacity** | | size optional | Maximum capacity (in TB) of the disk for which the raidgroup sizes are specified. This appears only for FSAS family disks of size less than or equal to 4TB. If this field is not present in output then there is no restriction on maximum disk capacity for this raidtype and disktype combination. |
| **maximum-size** | | integer | Maximum size of a RAID group of this type in aggregates. Range : [6..28]. |
| **minimum-disk-capacity** | | size optional | Minimum capacity (in TB) of the disk for which the raidgroup sizes are specified. This appears only for FSAS family disks of size greater than 4TB. If this field is not present in output then there is no restriction on minimum disk capacity for this raidtype and disktype combination. |
| **minimum-size** | | integer | Minimum size of a RAID group of this type in aggregates. Possible values: 2, 3, 5, 7. |
| **raidtype** | | string | Name of the RAID type allowed on this filer. Possible values: raid0, raid4, raid_dp, raid_tec. |

# Element definition: **raidtype-info**

[top]

RAID types allowed on this filer.

| Name | Range | Type | Description |
|---|---|---|---|
| **raidtype** | | string | Name of an allowed RAID type. Possible values: raid0, raid4, raid_dp, raid_tec. |

# Element definition: **scrub-detail-info**

[top]

Scrubbing information.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-suspended** | | boolean | Suspended state of the scrub on that RAID group. |
| **last-scrub-timestamp** | | integer optional | Time at which the last full scrub completed. If a scrub has never been performed, this value will not be returned. The time value is in seconds since January 1, 1970. Range : [0..2^31-1]. |
| **percentage-complete** | | integer optional | Scrubbing percentage complete. I scrubbing is not active, this value will not be returned. Range : [0..100]. |
| **raid-group** | | string | Name of the RAID group involved in the scrub. |

# Element definition: **space-info**

[top]

Space configuration info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **dedupe-metafiles** | **[0..2^63-1]** | integer optional | This field represents space used by deduplication metafiles in bytes. Attributes: non-creatable, non-modifiable |
| **dedupe-metafiles-percent** | **[0..100]** | integer optional | This field represents space used by deduplication metafiles as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **dedupe-metafiles-temporary** | **[0..2^63-1]** | integer optional | This field represents space used by temporary deduplication metafiles in bytes. Attributes: non-creatable, non-modifiable |
| **dedupe-metafiles-temporary-percent** | **[0..100]** | integer optional | This field represents space used by temporary deduplication metafiles as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **filesystem-metadata** | **[0..2^63-1]** | integer optional | This field represents volume filesystem metadata in bytes. Attributes: non-creatable, non-modifiable |
| **filesystem-metadata-percent** | **[0..100]** | integer optional | This field represents volume filesystem metadata as a percentage of volume size Attributes: non-creatable, non-modifiable |
| **inodes** | **[0..2^63-1]** | integer optional | This field represents space used by inode metadata in bytes. Attributes: non-creatable, non-modifiable |
| **inodes-percent** | **[0..100]** | integer optional | This field represents space used by inode metadata as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **inodes-upgrade** | **[0..2^63-1]** | integer optional | This field represents space used by inode metadata for upgrade in bytes. Attributes: non-creatable, non-modifiable |
| **inodes-upgrade-percent** | **[0..100]** | integer optional | This field represents space used by inode metadata for upgrade as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **logical-available** | **[0..2^63-1]** | integer optional | The size (in bytes) that is logically available in the volume. Attributes: non-creatable, non-modifiable |
| **logical-used** | **[0..2^63-1]** | integer optional | The size (in bytes) that is logically used in the volume. This value includes all the space saved by the storage efficiency features along with the physically used space. This does not include Snapshot reserve but does consider Snapshot spill. Attributes: non-creatable, non-modifiable |
| **logical-used-percent** | **[0..2^32-1]** | integer optional | This field represents the logical used as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **performance-metadata** | **[0..2^63-1]** | integer optional | This field represents metadata in bytes used for performance optimization. Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **performance-metadata-percent** | **[0..100]** | integer optional | This field represents metadata used for performance optimization as a percentage of volume size Attributes: non-creatable, non-modifiable |
| **physical-used** | **[0..2^63-1]** | integer optional | The size in bytes that is physically used in the volume. This differs from 'total-used' space by the space that is reserved for future writes. The value includes blocks in use by Snapshot copies. Attributes: non-creatable, non-modifiable |
| **physical-used-percent** | **[0..2^32-1]** | integer optional | The size (in percent) that is physically used in the volume. The percentage is based on volume size including the space reserved for Snapshot copies. Attributes: non-creatable, non-modifiable |
| **quota-metafiles** | **[0..2^63-1]** | integer optional | This field represents space used by quota metafiles in bytes. Attributes: non-creatable, non-modifiable |
| **quota-metafiles-percent** | **[0..100]** | integer optional | This field represents space used by quota metafiles as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **snapmirror-metadata** | **[0..2^63-1]** | integer optional | This field represents space used by metafiles during SnapMirror operations in bytes. Attributes: non-creatable, non-modifiable |
| **snapmirror-metadata-percent** | **[0..100]** | integer optional | This field represents space used by metafiles during SnapMirror operations as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **snapshot-reserve** | **[0..2^63-1]** | integer optional | The size (in bytes) in the volume that has been set aside as reserve for snapshot usage. Attributes: non-creatable, non-modifiable |
| **snapshot-reserve-percent** | **[0..100]** | integer optional | This field represents the snapshot reserve as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **snapshot-reserve-unusable** | **[0..2^63-1]** | integer optional | This field represents Snapshot reserve that is not available in bytes. Attributes: non-creatable, non-modifiable |
| **snapshot-reserve-unusable-percent** | **[-2^31..2^31-1]** | integer optional | This field represents Snapshot reserve that is not available as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **snapshot-spill** | **[0..2^63-1]** | integer optional | This field represents space used by Snapshot copies when it exceeds the size of the Snapshot reserve in bytes. It is computed as Snapshot used minus Snapshot reserve when Snapshot used exceeds Snapshot reserve. Attributes: non-creatable, non-modifiable |
| **snapshot-spill-percent** | **[0..100]** | integer optional | This field represents Snapshot spill as a percentage of volume size. It is computed as Snapshot used minus Snapshot reserve when Snapshot used exceeds Snapshot reserve. Attributes: non-creatable, non-modifiable |
| **tape-backup-metadata** | **[0..2^63-1]** | integer optional | This fields represents the tape backup metadata in bytes. Attributes: non-creatable, non-modifiable |
| **tape-backup-metadata-percent** | **[0..100]** | integer optional | This field represents the tape backup metadata as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **total-used** | **[0..2^63-1]** | integer optional | Total used space in the volume including snapshot reserve in bytes. Attributes: non-creatable, non-modifiable |
| **total-used-percent** | **[0..2^32-1]** | integer optional | Total used space in the volume including snapshot reserve as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **user-data** | **[0..2^63-1]** | integer optional | This field represents user data in bytes. Alternatively, this is the space reserved to overwrite the data in the volume. |

| | | | |
|---|---|---|---|
| | | | Attributes: non-creatable, non-modifiable |
| **user-data-percent** | **[0..2^32-1]** | integer optional | This field represents user data as a percentage of volume size. Attributes: non-creatable, non-modifiable |
| **volume** | | string optional | Name of the volume for which the space usage is requested. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Name of the Vserver that contains the volumes for which the space usage is requested. Attributes: key, non-creatable, non-modifiable |

# Element definition: **system-api-enum-value-info**

[top]

Enumeration type name/value pair When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **description** | | string optional | Description of the enumeration value Attributes: non-creatable, non-modifiable |
| **value** | | string optional | Name of the enumeration value Attributes: key, non-creatable, non-modifiable |

# Element definition: **verify-detail-info**

[top]

Information about mirror verification.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-suspended** | | boolean | Is mirror verification suspended for this aggregate? |
| **name** | | string | Name of the aggregate. |
| **pct-with-precision** | | string optional | Mirror verification percentage complete floored to two decimal place. If verification isn't active, this value won't be returned. (e.g. "13.12") |
| **percentage-complete** | | integer optional | Mirror verification percentage complete. If verification isn't active, this value won't be returned. Range: [0..100]. |

# Element definition: **volume-attributes**

[top]

Attributes of a volume. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **encrypt** | | boolean<br>optional | To create an encrypted Volume.<br><br>This option when set to 'true', it will generate a new key and create an encrypted volume using that key. Before that, the vserver should be configured with the key-manager. When set to 'false', the volume created will not be encrypted.<br><br>Attributes: optional-for-create, non-modifiable |
| **encryption-state** | | string<br>optional | The encryption state of a volume.<br><br>Possible values:<br><br>• 'none' ... plain-text volume,<br>• 'full' ... encrypted volume,<br>• 'partial' ... volume are in mixed encryption state(valid for FlexGroup only),<br>• 'converting_to_encrypted' ... conversion to encryption operation is in progress,<br>• 'converting_to_plaintext' ... conversion to plain-text operation is in progress(depricated),<br>• 'rekeying' ... rekey of volume is in progress<br><br>Attributes: non-creatable, non-modifiable |
| **encryption-type** | | encryptiontype<br>optional | Encryption type of a volume.<br><br>Possible values:<br><br>• 'none' ... plain-text volume,<br>• 'volume' ... NVE (NetApp Volume Encryption) volume,<br>• 'aggregate' ... NAE (NetApp Aggregate Encryption) volume<br><br>Attributes: optional-for-create, non-modifiable Possible values:<br><br>• "undefined" - Not defined,<br>• "none" - Plain-text volume,<br>• "volume" - NVE (NetApp Volume Encryption) volume,<br>• "aggregate" - NAE (NetApp Aggregate Encryption) volume,<br>• "mixed" - A FlexGroup volume with a mixture of plain-text, NetApp Volume Encryption (NVE) or NetApp Aggregate Encryption (NAE) |
| **key-creation-time** | | string<br>optional | The creation date and time of the key-id.<br><br>The creation date and time of current key-id of the volume.<br><br>Attributes: non-creatable, non-modifiable |
| **key-id** | | string<br>optional | The key-id used for creating encrypted volume.<br><br>A new key will be generated for creating an encrypted volume. This key-id is associated with the generated key.<br><br>Attributes: non-creatable, non-modifiable |

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| **volume-antivirus-attributes** | | volume-antivirus-attributes optional | This field contains information about Antivirus On-Access settings for the volume. |
| **volume-autobalance-attributes** | | volume-autobalance-attributes optional | This field contains information about the state of Auto Balance Aggregate for a volume. |
| **volume-autosize-attributes** | | volume-autosize-attributes optional | This field contains information about the autosize settings of the volume. |
| **volume-clone-attributes** | | volume-clone-attributes optional | This field contains information applying exclusively to clone volumes. |
| **volume-comp-aggr-attributes** | | volume-comp-aggr-attributes optional | This field contains information about composite aggregate attributes of a volume. |
| **volume-directory-attributes** | | volume-directory-attributes optional | This field contains information related to directories in a volume. |
| **volume-export-attributes** | | volume-export-attributes optional | This field contains information about export settings of the volume. |
| **volume-flexcache-attributes** | | volume-flexcache-attributes optional | This field contains information applying exclusively to flexcache volumes. |
| **volume-hybrid-cache-attributes** | | volume-hybrid-cache-attributes optional | This field contains information on Flash Pool caching attributes on a volume |
| **volume-id-attributes** | | volume-id-attributes optional | This field contains identification information about the volume. |
| **volume-infinitevol-attributes** | | volume-infinitevol-attributes optional | This field contains information about the state of an Infinite Volume. |
| **volume-inode-attributes** | | volume-inode-attributes optional | This field contains information about inodes in a volume. |
| **volume-language-attributes** | | volume-language-attributes optional | This field contains information about volume language-related settings. |
| **volume-mirror-attributes** | | volume-mirror-attributes optional | This field contains information applying exclusive to volume mirror. |
| **volume-performance-attributes** | | volume-performance-attributes optional | This field contains information that relates to the performance of the volume. |

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| **volume-qos-attributes** | | volume-qos-attributes optional | This field contains the information that relates to QoS. |
| **volume-security-attributes** | | volume-security-attributes optional | This field contains information about volume security settings. |
| **volume-sis-attributes** | | volume-sis-attributes optional | This field contains information about Deduplication, file clone, compression, etc. |
| **volume-snaplock-attributes** | | volume-snaplock-attributes optional | This field contains information about snaplock attributes of the volume. |
| **volume-snapshot-attributes** | | volume-snapshot-attributes optional | This field contains information applying exclusively to all the snapshots in the volume. Volume disk space-related settings are excluded. |
| **volume-snapshot-autodelete-attributes** | | volume-snapshot-autodelete-attributes optional | This field contains information about snapshot autodelete policy settings. |
| **volume-space-attributes** | | volume-space-attributes optional | This field contains information related to volume disk space management including on-disk layout. |
| **volume-state-attributes** | | volume-state-attributes optional | This field contains information about the state or status of a volume or its features. |
| **volume-transition-attributes** | | volume-transition-attributes optional | This field contains information applying exclusively to transitioned or transitioning volumes. |
| **volume-vm-align-attributes** | | volume-vm-align-attributes optional | This field contains information related to the Virtual Machine alignment settings on a volume |
| **volume-vserver-dr-protection-attributes** | | volume-vserver-dr-protection-attributes optional | This fields contains information about protection type for the volume in a Vserver DR setup. |

# Element definition: **volume-clone-info**

[top]

Volume FlexClone typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate** | | string optional | FlexClone Aggregate Attributes: non-creatable, non-modifiable |
| **block-percentage-complete** | **[0..2^64-1]** | integer optional | Percentage Complete Attributes: non-creatable, non-modifiable |
| **blocks-scanned** | **[0..2^64-1]** | integer optional | Blocks Scanned Attributes: non-creatable, non-modifiable |
| **blocks-updated** | **[0..2^64-1]** | integer optional | Blocks Updated Attributes: non-creatable, non-modifiable |
| **dsid** | **[0..2^64-1]** | integer optional | FlexClone Data Set ID Attributes: non-creatable, non-modifiable |
| **flexclone-used-percent** | **[0..100]** | integer optional | FlexClone Used Percentage Attributes: non-creatable, non-modifiable |
| **inherited-physical-used** | **[0..2^63-1]** | integer optional | Inherited Physical Used from Base Snapshot Attributes: non-creatable, non-modifiable |
| **inherited-savings** | **[0..2^63-1]** | integer optional | Inherited Savings from Base Snapshot Attributes: non-creatable, non-modifiable |
| **junction-active** | | boolean optional | Junction Active Attributes: optional-for-create, non-modifiable |
| **junction-path** | | string optional | Junction Path Attributes: optional-for-create, non-modifiable |
| **match-parent-storage-tier** | | boolean optional | (DEPRECATED)-Match Split Data to Parent Storage Tier Attributes: optional-for-create, non-modifiable |
| **msid** | **[0..2^64-1]** | integer optional | FlexClone Master Data Set ID Attributes: non-creatable, non-modifiable |
| **parent-snapshot** | | string optional | FlexClone Parent Snapshot Attributes: optional-for-create, non-modifiable |
| **parent-volume** | | string optional | FlexClone Parent Volume Attributes: required-for-create, non-modifiable |
| **parent-vserver** | | string optional | FlexClone Parent Vserver Attributes: optional-for-create, non-modifiable |
| **qos-adaptive-policy-group-name** | | string optional | QoS Adaptive Policy Group Name Attributes: optional-for-create, non-modifiable |
| **qos-policy-group-name** | | string optional | QoS Policy Group Name Attributes: optional-for-create, non-modifiable |
| **size** | **[0..2^63-1]** | integer optional | FlexClone Size Attributes: non-creatable, non-modifiable |
| **space-guarantee-enabled** | | boolean optional | Space Guarantee In Effect Attributes: non-creatable, non-modifiable |
| **space-reserve** | | string optional | Space Guarantee Style Attributes: optional-for-create, non-modifiable Possible values:<br>• "none" ,<br>• "volume" |
| **split-estimate** | | integer optional | Split Estimate Attributes: non-creatable, non-modifiable |
| **state** | | string optional | FlexClone Volume State Possible values are:<br>• 'online',<br>• 'offline',<br>• 'restricted'. |

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|---|---|---|---|
| | | | Attributes: non-creatable, non-modifiable |
| **used** | **[0..2^63-1]** | integer optional | Used Size Attributes: non-creatable, non-modifiable |
| **volume** | | string optional | FlexClone Volume Attributes: key, required-for-create, non-modifiable |
| **volume-type** | | string optional | The type of the volume to be created.<br><br>Possible values:<br><br>• 'rw' ... read-write volume,<br>• 'dp' ... data-protection volume<br><br>Default value is 'rw'.<br><br>Attributes: optional-for-create, non-modifiable |
| **vserver** | | string optional | Vserver Name Attributes: key, non-creatable, non-modifiable |
| **vserver-dr-protection** | | string optional | Indicates whether the volume will be replicated to the destination in a Vserver DR setup. Possible values are:<br><br>• 'protected'<br>• 'unprotected'<br><br>Attributes: optional-for-create, modifiable Possible values:<br><br>• "protected" - Volume is protected by Vserver DR,<br>• "unprotected" - Volume is not protected by Vserver DR |

# Element definition: **volume-encryption-conversion-info**

[top]

Volume Encryption Conversion typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **percentage-completed** | | string optional | Percentage Completed Attributes: non-creatable, non-modifiable |
| **start-time** | | datetime optional | Start Time Attributes: non-creatable, non-modifiable |
| **status** | | string optional | Status Attributes: non-creatable, non-modifiable |
| **volume** | | volume-name optional | Volume Name Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **volume-encryption-rekey-info**

[top]

Volume Encryption Rekey typedef When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **percentage-completed** | | string optional | Percentage Completed Attributes: non-creatable, non-modifiable |
| **start-time** | | datetime optional | Start Time Attributes: non-creatable, non-modifiable |
| **status** | | string optional | Status Attributes: non-creatable, non-modifiable |
| **volume** | | volume-name optional | Volume Name Attributes: key, non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **volume-flexgroup-capacity-tier-footprint-info**

[top]

FlexGroup Capacity Tier Footprint When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **volume-capacity-tier-footprint** | | size optional | This field represents the footprint of blocks written to the capacity tier, in bytes, for the FlexGroup. Attributes: non-creatable, non-modifiable |
| **volume-name** | | volume-name optional | This specifies the name of the FlexGroup for the capacity tier footprint. Attributes: key, non-creatable, non-modifiable |
| **vserver-name** | | vserver-name optional | Vserver Name Attributes: key, non-creatable, non-modifiable |

# Element definition: **volume-info**

[top]

Volume status information.

| Name | Range | Type | Description |
|---|---|---|---|
| **autosize** | | autosize-info optional | Display autosize settings of the volume. Appears only under "verbose" mode. |
| **block-type** | | string | The indirect block format of the volume. Possible values: 32_bit, 64_bit. |
| **checksum-style** | | string | The style of RAID checksum used (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). The possible values:<br>• "advanced_zoned" - advanced_zoned checksum (azcs),<br>• "block" - block,<br>• "mixed" - mixed,<br>• "none" - none,<br>• "unknown" - unknown<br>• "wafl" - wafl,<br>• "zoned" - zoned. |
| **clone-children** | | clone-child-info[] optional | **Flexible** volumes only. This field appears for a flexible volume if it is the parent of one or more clones. |
| **clone-parent** | | clone-parent-info[] optional | **Flexible** volumes only. This field appears for a flexible volume if it is a clone of another flexible volume, describing the clone's parentage. |
| **compression** | | compression-info | Note that the use of this element is deprecated, refer to the 'dense-status' element for compression status instead. |
| **containing-aggregate** | | string optional | **Flexible** volumes only. The name of the aggregate in which the given flexible volume resides. |
| **disk-count** | | integer | Total number of associated disks (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). Range : [0..2^31-1] |
| **encrypt** | | boolean optional | Specifies whether a volume is encrypted or not. |
| **encryption-state** | | integer optional | Encryption state of a volume. |
| **encryption-type** | | integer optional | Specifies whether a volume is encrypted as NAE (NetApp Aggregate Encryption) volume or not. |
| **expiry-date** | | integer optional | Expiry date of the SnapLock volume in seconds in the standard UNIX format (since 01/01/1970 00:00:00) is displayed. Range: [0..2^64-1]. The flag is-wraparound indicates if this date is in the normal format or is wrapped around. This field is not included if 1. the volume has an infinite expiry-date 2. the volume is offline 3. the volume has scan in progress 4. the volume is regular volume 5. the volume has no expiry date. The volume is SnapLock volume (is-snaplock is "true") with no WORM files and no WORM snapshots. |
| **files-private-used** | | integer | Number of system (not user-visible) files (inodes) used. If the volume is restricted or offline, a a value of 0 is returned. Range : [0..2^64-1]. |
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|---|---|---|---|
| **files-total** | | integer | Total user-visible file (inode) count, i.e., current maximum number of user-visible files (inodes) that this volume can currently hold. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]. |
| **files-used** | | integer | Number of user-visible files (inodes) used. If the volume is restricted or offline, a value 0 returned. Range : [0..2^64-1]. |
| **filesystem-size** | | integer | Filesystem size (in bytes) of the volume. This is the total usable size of the volume, not including WAFL reserve. This value is the same as Size except for certain SnapMirror destination volumes. It is possible for destination volumes to have a different filesystem-size because the filesystem-size is sent across from the source volume. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]. |
| **formatted-expiry-date** | | string optional | Expiry date of the SnapLock volume in a human-readable format :: is displayed. A value of "infinite" indicates that the volume has an infinite expiry date. A value of "scan_in_progress" indicates that expiry date is not displayed since worm scan on the volume is in progress. A value of "no_expiry_date" indicates that expiry date is not displayed since the SnapLock volume has no WORM files and WORM snapshots. This field is not included if the volume is offline or the volume is regular volume (is-snaplock is "false"). |
| **formatted-snaplock-volume-compliance-clock** | | string optional | If Compliance Clock is initialized then human readable time :: is displayed. This field will be present only for SnapLock volumes. |
| **hybrid-cache-eligibility** | | string | hybrid cache eligibility. Valid values are "read","read-write" and "none". Volumes which report "read" can support only read caching. Volumes which report "read-write" support both read and write caching. "none" means no hybrid caching support. |
| **hybrid-cache-write-caching-ineligibility-reason** | | string optional | informs why the volume cannot participate in write caching. This field is valid only if the volume can participate in read caching but not write caching. |
| **inodefile-private-capacity** | | integer | Number of inodes that can currently be stored on disk for system (not user-visible) files. This number will dynamically increase as more system files are created. If the volume is restricted or offline, a value of zero is returned. Range : [0..2^64-1]. |
| **inodefile-public-capacity** | | integer | Number of inodes that can currently be stored on disk for user-visible files. This number will dynamically increase as more user-visible files are created. If the volume is restricted or offline, a value of zero is returned. Range : [0..2^64-1]. |
| **inofile-version** | | integer | The inofile-version of the volume. If the volume is restricted or offline, a value of 0 returned. Range : [0..2^32-1]. |
| **is-checksum-enabled** | | boolean | Whether RAID checksums are enabled (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). |
| **is-in-snapmirror-jumpahead** | | boolean optional | True when the volume is in the process of SnapMirror jump ahead. Default value is false. This field is returned only for online volumes. |
| **is-inconsistent** | | boolean | Whether or not there is known inconsistency in the associated file system. |
| **is-invalid** | | boolean optional | Whether or not this volume is invalid. Volumes typically become invalid as a result of an aborted 'vol copy' or SnapMirror(R) initial transfer. In such a case a volume is in a half created state and cannot be recovered. |

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| | | | By default, this field is FALSE. |
| **is-snaplock** | | boolean | Whether or not this is a SnapLock volume. |
| **is-space-enforcement-logical** | | boolean optional | This parameter specifies whether to perform logical space accounting on the volume. When space is enforced logically, ONTAP enforces volume settings such that all the physical space saved by the storage efficiency features will be calculated as used. This parameter is not supported on FlexGroups or Infinite Volumes. The default setting is false. |
| **is-space-reporting-logical** | | boolean optional | This parameter specifies whether to report space logically on the volume. When space is reported logically, ONTAP reports the volume space such that all the physical space saved by the storage efficiency features are also as reported as used. This parameter is not supported on FlexGroups or Infinite Volumes. The default setting is false. |
| **is-space-slo-enabled** | | boolean optional | **Flexible** volumes only. Whether or not the space SLO type associated with the flexible volume is in effect. Possible values: enabled and disabled. This field does not appear if the flexible volume is restricted or offline. |
| **is-unrecoverable** | | boolean optional | Whether or not there is known inconsistency in the associated file system and it is not recoverable. This value is only present for flexible volumes.<br><br>By default, this field is FALSE. |
| **is-wraparound** | | boolean optional | True if the date represented in expiry-date is a wrap around date. SnapLock wraps around the expiry date to indicate dates after 01/19/2038. It remaps 01/01/1970 - 12/31/2002 to 01/19/2038 - 01/19/2071. This field is not included if 1. the volume has an infinite expiry date 2. the volume is offline 3. the volume has scan in progress 4. the volume is regular volume (is-snaplock is "false") 5. the volume has no expiry date. The volume is SnapLock volume (is-snaplock is "true") with no WORM files and no WORM snapshots. |
| **key-id** | | string optional | If the volume is encrypted, key associated with this key-id is used for encrypting the volume. |
| **logical-used-percent** | | integer | This field represents the percentage of logical used size in the volume. This parameter is not supported on FlexGroups or Infinite Volumes. Range : [0..2^32-1]. |
| **mirror-status** | | string | The RAID mirror status (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). Possible values: CP count check in progress, failed, invalid, limbo, mirror degraded, mirror resynchronizing, mirrored, needs CP count check, uninitialized, <unknown mirror state>, and unmirrored. |
| **name** | | string | Name of the volume. |
| **owning-vfiler** | | string optional | Name of the vfiler which owns this volume. This value will be returned only if the request is coming to vfiler0 and MultiStore is licensed. |
| **percentage-used** | | integer optional | Percentage of the volume size that is used. If the volume is restricted or offline, a value of 0 is returned. Range : [0..100]. |
| **plex-count** | | integer | Number of plexes (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). This is also the size of the "plex" array that appears below. A plex is composed of one or more RAID groups that have been lashed together to serve as the unit for RAID mirroring. Range : [0..2^31-1] |
| | | | List of plexes for this volume (for a traditional volume; for a |

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| **plexes** | | plex-info[] | flexible volume, the corresponding value of its containing aggregate). |
| **quota-init** | | integer | Quota state and percent initialized. 100% means that quotas are on, 0% means quotas are off, and anywhere inbetween means that quotas are initializing. Range : [0..100]. |
| **raid-size** | | integer | The current RAID group size (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). Range : [0..2^31-1]. |
| **raid-status** | | string | The current RAID status (for a traditional volume; for a flexible volume, the corresponding value of its containing aggregate). Possible values: copying, degraded, foreign, growing, initializing, invalid, ironing, mirror degraded, mirrored, needs check, noparity, normal, out-of-date, partial, raid0, raid4, raid_dp, raid_tec, reconstruct, resyncing, snapmirrored, verifying, unrecoverable. This field can contain a combination of the above status values in a comma separated list; for example: "reconstruct,growing". |
| **remote-location** | | string optional | Displays the remote host and remote volume where the origin of the cache is located. Returned in format: : Present only if flex volume is a FlexCache. Remote Host: Should be formatted as either the DNS hostname or as an IP address. Remote Volume: Should be formatted the same as a volume name. |
| **reserve** | | integer | Number of bytes reserved for overwriting snapshotted data in an otherwise full volume. This space is usable only by space-reserved LUNs and files, and then only when the volume is full. It is equal to reserve-required if the value of the fractional_reserve option is set to the default value of 100%, but otherwise may be less than reserve-required. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1] |
| **reserve-required** | | integer | The number of reserved bytes that are required to ensure that the reserved space is sufficient to allow all space reserved files and LUNs to be overwritten when the volume is full. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]. |
| **reserve-used** | | integer | Number of reserved bytes that is not available for new overwrites. The number includes both reserved bytes which have actually been used for overwrites as well as bytes which were never allocated in the first place. On a volume without free space, the "never allocated" component can become non-zero when reserve-required increases as holes are filled in. Because of this, the reserve-used value can exceed the number of snapshotted bytes. The reserve-used value can also exceed the value of reserve-required, as the filer maintains a small hidden reserve of last resort. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]. |
| **reserve-used-actual** | | integer | Number of reserved bytes that have been used. This value is computed as the smaller of: (1) snapshotted bytes not in the active filesystem, and (2) reserve-used. This formula comes from the observation that you cannot have used more overwrite reserved than have actually overwritten data. This value can exceed the value of reserve-required, as the filer maintains a small hidden reserve of last resort. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]. |
| **sis** | | sis-info optional | Display the Single Instance Storage (SIS) related status and statistics if the volume is a SIS volume. |
| **size-available** | | integer | Number of bytes still available in the volume. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]. |

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| **size-expected-available** | | integer | Number of bytes that should be available in the volume irrespective of available in the aggregate for a thin provisioned volume. This is same as size-available for 'volume' guaranteed volumes. For 'none' guaranteed volumes this value is calculated as if the aggregate has enough backing disk space to fully support the volumes's size. Similar to the size-available property, this does not include Snapshot reserve. This count gets reduced if snapshots consume space above Snapshot reserve threshold. This parameter is not supported on Infinite Volumes. Range : [0..2^64-1]. |
| **size-logical-available** | | integer | Number of bytes that are logically available in the volume i.e. amount of free space available considering space saved by the storage efficiency features as being used. This does not include Snapshot reserve. This parameter is not supported on FlexGroups or Infinite Volumes. Range : [0..2^64-1]. |
| **size-logical-used** | | integer | Number of bytes logically used in the volume. This value includes all the space saved by the storage efficiency features along with the physically used space. This does not include Snapshot reserve but does consider Snapshot spill. This parameter is not supported on FlexGroups or Infinite Volumes. Range : [0..2^64-1]. |
| **size-logical-used-by-afs** | | integer | Number of bytes that are logically used by the active filesystem of the volume. This value differs from 'size-logical-used' by the amount of Snapshot spill that exceeds Snapshot reserve. This parameter is not supported of FlexGroups or Infinite Volumes. Range : [0..2^64-1]. |
| **size-logical-used-by-snapshots** | | integer | Number of bytes that are logically used across all Snapshots copies in the volume. This value differs from 'size-used-by-snapshots' by the space saved by the storage efficiency features across the Snapshot copies. This parameter is not supported on FlexGroups or Infinite Volumes. Range : [0..2^64-1]. |
| **size-over-provisioned** | | integer | Number of bytes not available in the aggregate for a volume. This will be non-zero only in case of none guaranteed volume when it's unused size exceeds available space in the aggregate. For guarantee enabled volume this field will always report zero. This parameter is not supported on Infinite Volumes. Range : [0..2^64-1]. |
| **size-physical-used** | | integer | The size in bytes that is physically used in the volume. This differs from 'total-used' space by the space that is reserved for future writes. The value includes blocks in use by Snapshot copies. Range : [0..2^64-1]. |
| **size-snapshot-reserve-available** | | integer | Number of bytes available for Snapshot copies inside the Snapshot reserve. This value is zero if Snapshot spill is present. For none guaranteed volumes, this may get reduced due to less available space in the aggregate. This parameter is not supported on Infinite Volumes. Range : [0..2^64-1]. |
| **size-total** | | integer | Total usable size (in bytes) of the volume, not including WAFL reserve or volume snapshot reserve. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]. |
| **size-used** | | integer | Number of bytes used in the volume. If the volume is restricted or offline, a value of 0 is returned. Range : [0..2^64-1]. |
| **snap-autodelete** | | snap-autodelete-info optional | Display the snapshot autodelete policy related status of the volume. Appears only under "verbose" mode. |
| **snaplock-type** | | string optional | The type of the snaplock volume. It is present for snaplock volumes only, i.e. volumes for which is-snaplock is "true". Possible values - "compliance" or "enterprise" |
| | | | |

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|---|---|---|---|
| **snaplock-volume-compliance-clock** | | integer optional | If Compliance Clock is initialized then time in seconds in the standard UNIX format (since 01/01/1970 00:00:00) is displayed. This field will be present only for SnapLock volumes. Range: [0..2^64-1]. |
| **snapshot-blocks-reserved** | | integer | The number of 1024 byte blocks that has been set aside as reserve for snapshot usage. This is same as "blocks-reserved" in snapshot-get-reserve API output. Range : [0..2^64-1]. |
| **snapshot-percent-reserved** | | integer | The percentage of disk space that has been set aside as reserve for snapshot usage. This is same as "percent-reserved" in snapshot-get-reserve API output. Range : [0..100]. |
| **space-reserve** | | string optional | **Flexible** volumes only. The storage guarantee associated with the flexible volume. Possible values: none, file, volume. This field does not appear if the flexible volume is restricted or offline. |
| **space-reserve-enabled** | | boolean optional | **Flexible** volumes only. Whether or not the storage guarantee associated with the flexible volume is currently in effect. This field does not appear if the flexible volume is restricted or offline. |
| **space-slo** | | string optional | **Flexible** volumes only. The space SLO type associated with the flexible volume. The space SLO type is the Service Level Objective for space management for the volume. Possible values: none, thick, semi-thick. This field does not appear if the flexible volume is restricted or offline. |
| **state** | | string | State of the volume. Possible values: "offline", "online", "restricted" and "unknown" for both flexible and traditional volumes, and "creating", "failed", and "partial" specifically for traditional volumes. The "mixed" state applies to both FlexGroups and Infinite Volumes. If the state of a FlexGroup or Infinite Volume is mixed, that indicates that not all of the constituents are in the same state. |
| **transition** | | transition-info optional | Information relating to any transition jobs running or previously run on this volume. |
| **type** | | string | The type of volume. Possible values: "flex" for flexible volumes, and "trad" for traditional volumes. |
| **uuid** | | string | Universal unique identifier (UUID) for the volume. |
| **vm-align** | | vm-align-info optional | Information related to the Virtual Machine alignment settings on the volume. |
| **volume-64bit-upgrade** | | volume-64bit-upgrade-info optional | Information related to 64-bit upgrade. After 64-bit upgrade completes, this information is no longer available. |

# Element definition: **volume-modify-iter-async-info**

[top]

Information about the modify operation that was attempted/performed against volume object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| | | | |

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|---|---|---|---|
| **status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |
| **volume-key** | | volume-attributes | The keys for the volume object to which the modify operation applies. |

# Element definition: **volume-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against volume object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the modify operation caused an error. |
| **error-message** | | string optional | Error description, if the modify operation caused an error. |
| **volume-key** | | volume-attributes | The keys for the volume object to which the modify operation applies. |

# Element definition: **volume-move-error-code**

[top]

The complete list of error codes if perform-validation-only is true.

| Name | Range | Type | Description |
|---|---|---|---|
| **volume-move-error** | | integer | Error |

# Element definition: **volume-move-info**

[top]

Status of the move operation When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **actual-completion-timestamp** | **[0..2^31-1]** | integer optional | The date and time in cluster timezone when the volume move completed (successfully or otherwise). If the volume move operation completed successfully, this is the time when the volume on the destination aggregate has been made master and the original volume on the source aggregate has been deleted or is no longer a master copy.<br><br>Attributes: non-creatable, non-modifiable |
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|---|---|---|---|
| **actual-duration** | **[0..2^32-1]** | integer optional | The duration in days, hours, minutes and seconds for which the volume move was or is in progress.<br><br>Attributes: non-creatable, non-modifiable |
| **bypass-throttling** | | boolean optional | This specifies whether this move should be throttled so protocol operations latencies are not affected by move. If this parameter is specified with true, the move will not be throttled by the transfer engine. The default is false.<br><br>Attributes: non-creatable, modifiable |
| **bytes-remaining** | **[0..2^63-1]** | integer optional | The number of bytes remaining to be sent during volume move. This is an approximate number and lags the current status by a few (3) minutes while the volume move is in operation. The bytes-remaining is applicable only for ongoing volume moves. It is not applicable to completed or failed moves. The data inside the volume is considered to be much much larger than data outside the volume. This value most of the time will track data inside the volume yet to be sent. Note that the bytes-remaining can increase over a period of time depending on the rate of change of volume by protocols or other consumers of the volume.<br><br>Attributes: non-creatable, non-modifiable |
| **bytes-sent** | **[0..2^63-1]** | integer optional | The number of bytes sent thus far as part of volume move. This is an approximate number and lags the current status by a few seconds while the volume move is in operation. The bytes-sent is applicable only for ongoing and successful volume moves. The bytes-sent counter is mononotonically increasing in most cases. It is stored in memory. As a result, any reboots or failover of the move operation can lead to resetting of this counter to a lesser value than reported earlier. The data inside the volume is considered to be much much larger than metadata of the volume, mostly stored outside the volume. This value most of the time will track data inside the volume sent at the time of retreiving status.<br><br>Attributes: non-creatable, non-modifiable |
| **completion-code** | **[0..2^64-1]** | integer optional | The status code of the move operation. The status code will be 0 while the job is running or is successful. It will be non-zero if it is not successful. The code field will be the same as job show's 'status job' field. This field will be in diag mode of the UI.<br><br>Attributes: non-creatable, non-modifiable |
| **completion-status** | | string optional | Once a volume move is complete, the final state of the volume move operation. This is available in diag mode only.<br><br>Attributes: non-creatable, non-modifiable |
| **cutover-action** | | string optional | The action to be taken for cutover or during cutover failure. Can be one of abort_on_failure, defer_on_failure, force or wait. This is the input given during the start of volume move.<br><br>Attributes: non-creatable, modifiable |
| **cutover-attempted-count** | **[0..2^32-1]** | integer optional | Number of times cutover has been attempted during the move operation. This is a diag only field.<br><br>Attributes: non-creatable, non-modifiable |
| **cutover-attempts** | **[1..25]** | integer optional | The number of attempts to be used by the move operation to cutover to the destination volume. This is the input by the upper layers. If the number of attempts is exhausted, the cutover-action input determines the next course of action for the move operation. |

| | | | |
|---|---|---|---|
| | | | Attributes: non-creatable, modifiable |
| **cutover-hard-deferred-count** | **[0..2^32-1]** | integer optional | Number of times cutover has been hard deferred during the move operation due to non-transient, intervention-necessary conditions. This is a diag only field.<br><br>Attributes: non-creatable, non-modifiable |
| **cutover-trigger-timestamp** | **[0..2^31-1]** | integer optional | The time when move operation last accepted a trigger to initiate cutover. This is applicable when the move operation is waiting for a cutover to be triggered because of a hard cutover deferred state or because the cutover-action was wait.<br><br>Attributes: non-creatable, non-modifiable |
| **cutover-window** | **[30..300]** | integer optional | The time window in seconds given as input for the cutover phase of volume move.<br><br>Attributes: non-creatable, modifiable |
| **cutovers-soft-deferred-count** | **[0..2^32-1]** | integer optional | Number of times cutover has been soft deferred during the move operation due to transient conditions. This is a diag only field.<br><br>Attributes: non-creatable, non-modifiable |
| **destination-aggregate** | | string optional | The name of the aggregate where the volume is being moved to.<br><br>Attributes: non-creatable, non-modifiable |
| **destination-key-id** | | string optional | This is the encryption key-id of the destination volume.<br><br>Attributes: non-creatable, non-modifiable |
| **destination-node** | | string optional | The name of the node where the destination aggregate is. This will be a diagnostic only field.<br><br>Attributes: non-creatable, non-modifiable |
| **details** | | string optional | This field contains details about any warnings, errors and state of the move operation. This is a string field.<br><br>Attributes: non-creatable, non-modifiable |
| **enforce-network-throttling** | | boolean optional | This specifies whether this move should enforce replication engine node level network throttling. If this parameter is specified with true, the move will be throttled by the replication engine. The default is false.<br><br>Attributes: non-creatable, modifiable |
| **estimated-completion-time** | **[0..2^31-1]** | integer optional | The approximate date and time in the cluster time zone when the entire volume move operation is expected to complete. The move operation completes when the volume instance on the destination aggregate has become the master copy and the volume instance on the source aggregate has been deleted or is no longer the master copy. The format will be in Ontap's Date format. Note that this time may keep increasing when the move goes into Cutover-Deferrred mode. In those cases where the input for cutover-action is wait, during data copy phase, estimated time of completion will approximate the time to reach cutover point and wait for user intervention.<br><br>Attributes: non-creatable, non-modifiable |
| **estimated-remaining-** | **[0..2^32-1]** | integer optional | The approximate amount of time in terms of days, hours, minutes and seconds remaining to complete the volume move. Note that this duration will not go down to zero when the move goes into Cutover-Deferrred mode. The duration displayed in the examples is not |

| | | | |
|---|---|---|---|
| **duration** | | | correct. cutover.<br><br>Attributes: non-creatable, non-modifiable |
| **execution-progress** | | string optional | The execution progress of the job as reported by the job. This is used for debugging purposes only and is only available in diag mode.<br><br>Attributes: non-creatable, non-modifiable |
| **internal-state** | | string optional | This is the actual internal state of the move job. This is used for debugging purposes only and is only available in diag mode.<br><br>Attributes: non-creatable, non-modifiable |
| **is-destination-encrypted** | | boolean optional | This value is 'true' if the destination volume is an encrypted volume.<br><br>Attributes: non-creatable, non-modifiable |
| **is-source-encrypted** | | boolean optional | This value will be 'true' if the source volume is an encrypted volume.<br><br>Attributes: non-creatable, non-modifiable |
| **job-id** | **[0..2^64-1]** | integer optional | The ui job id of the move job. This is available in diag mode only.<br><br>Attributes: non-creatable, non-modifiable |
| **job-uuid** | | uuid optional | The job uuid of the move job. This is available in diag mode only.<br><br>Attributes: non-creatable, non-modifiable |
| **last-cutover-trigger-timestamp** | **[0..2^31-1]** | integer optional | The time when move operation initiated cutover.<br><br>Attributes: non-creatable, non-modifiable |
| **managing-node** | | string optional | The node in the cluster on which the move operation/job is or was running. This is usually on the node hosting the volume to be moved.<br><br>Attributes: non-creatable, non-modifiable |
| **moved-by-autobalance** | | boolean optional | This value will be 'true' if the move has been initiated by Auto Balance aggregate and 'false' if the move is not related to Auto Balance Aggregate.<br><br>Attributes: non-creatable, non-modifiable |
| **original-job-id** | **[0..2^64-1]** | integer optional | This field will be populated when the move job is restarted with a new Job identifier.<br><br>Attributes: non-creatable, non-modifiable |
| **percent-complete** | **[0..100]** | integer optional | The amount of work to move the volume completed thus far in terms of percentage.<br><br>Attributes: non-creatable, non-modifiable |
| | | | The phase of the move operation. The move operation can have the following phases:<br><br>• Queued - Phase where the move operation is queued for execution by the cluster.<br>• Initializing - Phase where the move operation is setting up resources and initializing them for moving the volume.<br>• Replicating - Phase in which move operation is doing data copy from source volume to destination aggregate.<br>• Cutover - Phase in which the move operation is attempting to switch over volume to the destination aggregate and ensuring client i/o and system operations go to the volume on the destination aggregate. In this phase client i/o and system operations are temporarily suspended while a final data copy is |

| | | | |
|---|---|---|---|
| **phase** | | string optional | taking place from the current volume to the destination aggregate.<br>• cutover_hard_deferred - Phase in which the move operation is deferring cutover due to some errors in the system during move. The move operation is waiting for corrective action from the admin or MEI tools to take place. The details field contains the reason for the error.<br>• cutover_soft_deferred - Phase in which the move operation is deferring cutover due to some transient errors in the system during move. The move operation is replicating in the background and waiting for the transient error which is causing the soft deferral to clear up. If the move operation has not yet started the replication in the background, the 'Detailed Status' field will contain the reason for soft deferral.<br>• Completed - The move operation has completed successfully and the volume is now on destination aggregate.<br>• Finishing - The move operation performs a cleaning up before completing succesfully and the volume is now on destination aggregate.<br>• cleaning_up - The move operation aborted and is in the process of cleaning up. This is a transient condition that will eventually lead to Failed phase.<br>• Failed - The move operation was not successful. The details field and the code indicates the reason for the failure.<br>• Failed - The move operation did not complete successfully.<br>• Restarting - The move operation is restarting.<br><br>Attributes: non-creatable, non-modifiable |
| **prior-issues** | | string optional | The list of issues or transient errors encountered causing the move operation to retry the data copy phase or the cutover phase. For RR.1, there will be only one transient error reported. For later releases, there can be many transient errors seperated by newlines reported, with the order being earliest at top and latest error at the bottom of the list. This is a diag only field.<br><br>Attributes: non-creatable, non-modifiable |
| **replication-throughput** | | string optional | The current replication throughput of the move operation in terms of Kb/s, Mb/s or Gb/s.<br><br>Attributes: non-creatable, non-modifiable |
| **skip-delta-calculation** | | boolean optional | Indicates that the move should skip delta calculation.<br><br>Attributes: non-creatable, non-modifiable |
| **source-aggregate** | | string optional | The name of the aggregate where the volume being moved originally resides or resided.<br><br>Attributes: non-creatable, non-modifiable |
| **source-key-id** | | string optional | This is the encryption key-id of the source volume.<br><br>Attributes: non-creatable, non-modifiable |
| **source-node** | | string optional | The name of the node where the source aggregate is.<br><br>Attributes: non-creatable, non-modifiable |
| **start-timestamp** | **[0..2^31-1]** | integer optional | The date and time in cluster timezone when the volume move started.<br><br>Attributes: non-creatable, non-modifiable |
| | | | The state of the volume move at the time of issuing the command |

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|---|---|---|---|
| **state** | | string optional | and the system gathering up the information about the move. The states can have the following values:<br><br>• Healthy - Volume move is proceeding as planned, with no issues so far<br>• Done - Volume move has finished successfully.<br>• Failed - Volume move has failed due to some reason, with the reason being available in the Detailed Status section.<br>• Warning - Volume move has encountered a transient error condition during its operation, but is continuing on since then. The details and phase section has more context into the cause of the error.<br>• Alert - Volume move has encountered a serious condition that cannot be rectified by the system alone and needs input from the upper layers (admin or tools) before proceeding. The volume move will go into Cutover-Deferred phase waiting for user intervention in case of errors, with volume move trigger-cutover being the way the move operation can be restarted.<br><br>Attributes: non-creatable, non-modifiable |
| **volume** | | volume-name optional | This is the name of the vserver-scoped volume being moved.<br><br>Attributes: key, non-creatable, non-modifiable |
| **volume-instance-uuid** | | uuid optional | This is the instance uuid of the vserver-scoped volume being moved.<br><br>Attributes: non-creatable, non-modifiable |
| **vserver** | | vserver-name optional | This is the name of the vserver in which the volume being moved is part of.<br><br>Attributes: key, non-creatable, non-modifiable |

# Element definition: **volume-move-target-aggr-info**

[top]

Compatible target aggregate information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-name** | | aggr-name optional | Aggregate Name Attributes: key, non-creatable, non-modifiable |
| **available-size** | | size optional | Available size Attributes: non-creatable, non-modifiable |
| **current-dest-capacity-tier-usage** | | size optional | Current Destination Capacity Tier Usage Attributes: non-creatable, non-modifiable |
| **current-dest-performance-tier-availsize** | | size optional | Current Destination Performance Tier Available Size Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **current-source-capacity-tier-usage** | | size optional | Current Source Capacity Tier Usage Attributes: non-creatable, non-modifiable |
| **current-source-performance-tier-availsize** | | size optional | Current Source Performance Tier Available Size Attributes: non-creatable, non-modifiable |
| **projected-dest-capacity-tier-usage** | | size optional | Projected Destination Capacity Tier Usage After Move Attributes: non-creatable, non-modifiable |
| **projected-dest-performance-tier-availsize** | | size optional | Projected Destination Performance Tier Available Size After Move Attributes: non-creatable, non-modifiable |
| **projected-source-capacity-tier-usage** | | size optional | Projected Source Capacity Tier Usage After Move Attributes: non-creatable, non-modifiable |
| **projected-source-performance-tier-availsize** | | size optional | Projected Source Performance Tier Available Size After Move Attributes: non-creatable, non-modifiable |
| **storage-type** | | string optional | Storage Type Attributes: non-creatable, non-modifiable |

# Element definition: **volume-option-info**

[top]

Option key and value.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Option key. |
| **value** | | string | Option value. |

# Element definition: **volume-transition-volinfo**

[top]

Information describing the volume and how to transition it.

| Name | Range | Type | Description |
|---|---|---|---|
| **junction-path** | | string optional | The path in the vserver into which the volume should be mounted. Note that this is only valid for transitions from 7-mode to Cluster-mode and not untransition. Path should be of the format "/". |
| **volume-name** | | string | The name of the volume which is to be transitioned. |

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **autosize-info**

[top]

Autosize settings of the volume This appears only if the "verbose" parameter above is set to "true".

| Name | Range | Type | Description |
|---|---|---|---|
| **grow-threshold-percent** | **[0..100]** | integer optional | The trigger capacity percentage at which the volume automatically grows. |
| **increment-size** | **[0..2^63-1]** | integer optional | The increment size by which the volume would be grown, in kbytes. |
| **is-enabled** | | boolean optional | This element is deprecated in Data ONTAP 8.2 and later. Please use autosize-mode instead. The value of 'true' means that autosize is enabled, while 'false' means that the autosize mode is 'off'. |
| **maximum-size** | **[0..2^63-1]** | integer optional | The maximum size to which the volume would be grown automatically, in kbytes. |
| **minimum-size** | **[0..2^63-1]** | integer optional | The minimim size to which the volume can be shrunk automatically, in kbytes. |
| **mode** | | string optional | Defines the current mode of volume autosize. Legal modes include "grow", "grow_shrink", and "off". |
| **shrink-threshold-percent** | **[0..100]** | integer optional | The trigger capacity percentage at which the volume automatically shrinks. |

# Element definition: **clone-child-info**

[top]

Information describing each of the clones that are children of the current flexible volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **clone-child-name** | | string | The name of a clone volume whose parent is the given flexible volume. |

# Element definition: **clone-parent-info**

[top]

Information describing the parentage of a flexible volume clone.

| Name | Range | Type | Description |
|---|---|---|---|
| **parent-snapshot-name** | | string | The name of the snapshot in 'parent-volume-name' serving as the parent of this clone. |
| **parent-volume-name** | | string | The name of the flexible volume serving as the parent of this clone. |

# Element definition: **compression-info**

[top]

Note that the use of this element is deprecated, refer to the 'dense-status' element for compression

status instead.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-compression-enabled** | | string | Note that the use of this field is deprecated, refer to the 'is-compression-enabled' field in the 'dense-status' element instead. |

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

# Element definition: **encryptiontype**

[top]

none|volume|aggregate Possible values:

- "undefined" - Not defined,
- "none" - Plain-text volume,
- "volume" - NVE (NetApp Volume Encryption) volume,
- "aggregate" - NAE (NetApp Aggregate Encryption) volume,
- "mixed" - A FlexGroup volume with a mixture of plain-text, NetApp Volume Encryption (NVE) or NetApp Aggregate Encryption (NAE)

[none]

# Element definition: **plex-info**

[top]

Information for a plex.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-online** | | boolean | "true" if the plex is online, "false" otherwise. |
| **is-resyncing** | | boolean | "true" if the plex is currently resyncing, "false" otherwise. |
| **name** | | string | Plex name, e.g. /myvol/plex0 |
| **plex-resync-pct-with-precision** | | string optional | If the plex is currently being resynced, then the completion percentage floored to two decimal places. (e.g. "13.12") |
| **plex-status** | | string optional | Plex status. Possible values: "normal", "failed", "empty", "invalid", "uninitialized", "failed assimilation", "limbo", "active", "inactive", "resyncing", These values may appear by themselves or in combination separated by commas (e.g., "normal,active") |
| **pool** | **[0..1]** | integer optional | The pool to which the majority of disks in the plex belong. |
| | | raid- | |

| | | | |
|---|---|---|---|
| **raid-groups** | | group-info[] optional | List of all RAID groups in the plex. This appears only if the "verbose" parameter above is set to "true". |
| **resync-level** | **[0..1]** | integer optional | If the plex is currently being resynced, then the resync level. |
| **resyncing-percentage** | | integer optional | If the plex is currently being resynced, then the completion percentage. Range : [0..100]. |

# Element definition: **sis-info**

[top]

Status and statistics for the SIS volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **compress-saved** | | integer | The total disk space saved due to compression in KB (1024 Bytes) on the referenced file system. Range: [0 - 2^64-1] |
| **dedup-saved** | | integer | The total disk space saved due to deduplication in KB (1024 Bytes) on the referenced file system. Range: [0 - 2^64-1] |
| **last-operation-begin** | | string | Start timestamp of the last SIS operation. |
| **last-operation-end** | | string | End timestamp of the last SIS operation. |
| **last-operation-error** | | string | A human readable error message of the last SIS operation. Present when there was an error. |
| **last-operation-size** | | integer | The size in bytes of the last SIS operation. Range : [0..2^64-1]. |
| **percent-compress-saved** | | integer | The percentage of disk space saved by compression on the referenced file system. Range: [0 - 100] |
| **percent-dedup-saved** | | integer | The percentage of disk space saved by deduplication on the referenced file system. Range: [0 - 100] |
| **percent-total-saved** | | integer | The percentage of disk space saved by compression & deduplication on the referenced file system. Range: [0 - 100] |
| **percentage-saved** | | integer | Percentage of space savings generated by the shared space. This is calculated as [size-saved / (size-saved + size-used)]. This field appears if the SIS volume is online. Range : [0..100]. |
| **progress** | | string | The progress of the current SIS operation. |
| **schedule** | | string | The schedule for SIS operation on the volume. See sis-set-config for the format of the schedule. |
| **size-saved** | | integer | The disk space savings generated by the shared space. The size is in bytes. The size-saved plus the size-used would be the total space usage, if no space is shared. This field appears if the SIS volume is online. Range : [0..2^64-1]. |
| **size-shared** | | integer | Number of bytes in the used space that is shared. This field appears if this SIS volume is online. Range : [0..2^64-1]. |
| **state** | | string | Possible values: "enabled", or "disabled". |
| **status** | | string | Possible values: "idle", "active", "pending", or "undoing". |
| | | | |

| | | | |
|---|---|---|---|
| **total-saved** | | integer | The total disk space saved by compression & deduplication in KB (1024 Bytes) on the referenced file system. Range: [0 - 2^64-1] |
| **type** | | string | Possible values: "regular" or "snapvault". |

## Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **snap-autodelete-info**

[top]

Snapshot autodelete policy settings. This appears only if the "verbose" parameter above is set to "true".

| Name | Range | Type | Description |
|---|---|---|---|
| **commitment** | | string | Possible values: "try", "disrupt", or "destroy". This option determines the snapshots which snapshot autodelete is allowed to delete to get back space. Setting this option to "try" only permits the snapshots which are not locked by data protection utilities (dump, mirroring, NDMPcopy) and data backing functionalities (volume and LUN clones) to be deleted. Setting this option to "disrupt" only permits the snapshots which are not locked by data backing functionalities (volume and LUN clones) to be deleted. |
| **defer-delete** | | string | Possible values "scheduled", "user_created", "prefix", or "none". This option determines which kind of snapshots to delete in the end. Setting this option value to "scheduled" will delete the snapshots created by the snapshot scheduler last. Setting this option value to "user_created" will delete the snapshots not created by the snapshot scheduler last. Setting this option value to "prefix" will delete the snapshots matching the prefix string to be deleted last. Setting this option value to "none" will disable the above choices. |
| **delete-order** | | string | Possible values "oldest_first", "newest_first". This option determines if the oldest or newest snapshot is deleted first. |
| **destroy-list** | | string | Possible values are the combination of "lun_clone", "vol_clone", "cifs_share", "file_clone" or "none". These options specify the list of service that can be destroyed if the snapshot is backing that service. This option is valid only when the commitment is set to destroy. |
| **prefix** | | string | This option provides the prefix string for the "prefix" value of the "defer_delete" option. |
| **state** | | string | Possible values: "on" or "off". This option determines if the snapshot autodelete is currently enabled for the volume. |
| **target-free-space** | | integer | This option determines when snapshot autodelete should stop deleting snapshot. Depending on the trigger, snapshots are deleted till we reach the target free space percentage. Range: [1..100] |
| **trigger** | | string | Possible values: "volume", "snap_reserve", or "(DEPRECATED)-space_reserve". This option determines the condition in which snapshots should be automatically deleted. Setting this option to "volume" triggers snapshot autodelete to run when the volume is near full. Setting this option to "snap_reseve" triggers snapshot autodelete to run when the snap reserve of the volume is near full. Setting this option to |

| | | | |
|---|---|---|---|
| | | | "space_reserve" triggers snapshot autodelete to run when the space reserved in the volume is near full. NOTE: The option "space_reserve" is deprecated. |

# Element definition: **transition-info**

[top]

Information relating to any transition jobs running or previously run on this volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **transition-state** | | string optional | Indicates the current state of the volume transition operation. |
| **transitioned** | | boolean optional | Indicates whether the volume has gone through a transition operation. |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **vm-align-info**

[top]

Information relating to Virtual Machine alignment settings on the volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **tsse-local-savings** | | integer | The auto adaptive compression local savings. Range : [0..2^64-1]. |
| **tsse-migrate-savings** | | integer | The auto adaptive compression migrate savings. Range : [0..2^64-1]. |
| **vm-align-sector** | **[1..7]** | integer optional | The Virtual Machine alignment 512 byte sector number. All files created with the suffix specified in the 'vm-align-suffix' input parameter will have zero-filled <512 * 'vm-align-sector'> bytes data at the beginning so that it's actual data starts at a different offset instead of zero. This is done so that the read & writes to such files are aligned to WAFL's 4k block boundary |
| **vm-align-suffix** | | string optional | The Virtual Machine alignment suffix. The suffix such as '.xyz' is used to identify the files which needs to be aligned. See the description for 'vm-align-sector' above for more information on this. |

# Element definition: **volume-64bit-upgrade-info**

[top]

Information related to 64-bit upgrade.

| Name | Range | Type | Description |
|---|---|---|---|
| **check** | | volume-64bit-upgrade-check-info optional | Information returned when upgrade-64bit-mode in aggr-add is "check". |

# Element definition: **volume-antivirus-attributes**

[top]

{Deprecated, this field does not have any effect on the operation of the volume.} Information about Antivirus settings for the volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **on-access-policy** | | string optional | {Deprecated, this field does not have any effect on the operation of the volume.} The name of the Antivirus On-Access policy. The default policy name is 'default'.<br><br>If not specified when creating a volume, the Antivirus On-Access Policy is inherited from the owning vserver. Currently, this policy can only be managed using the 'antivirus' command line interfaces.<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **volume-attributes**

[top]

Attributes of a volume. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **encrypt** | | boolean optional | To create an encrypted Volume.<br><br>This option when set to 'true', it will generate a new key and create an encrypted volume using that key. Before that, the vserver should be configured with the key-manager. When set to 'false', the volume created will not be encrypted.<br><br>Attributes: optional-for-create, non-modifiable |
| | | | The encryption state of a volume. |

| | | | |
|---|---|---|---|
| **encryption-state** | | string optional | Possible values:<br><br>• 'none' ... plain-text volume,<br>• 'full' ... encrypted volume,<br>• 'partial' ... volume are in mixed encryption state(valid for FlexGroup only),<br>• 'converting_to_encrypted' ... conversion to encryption operation is in progress,<br>• 'converting_to_plaintext' ... conversion to plain-text operation is in progress(depricated),<br>• 'rekeying' ... rekey of volume is in progress<br><br>Attributes: non-creatable, non-modifiable |
| **encryption-type** | | encryptiontype optional | Encryption type of a volume.<br><br>Possible values:<br><br>• 'none' ... plain-text volume,<br>• 'volume' ... NVE (NetApp Volume Encryption) volume,<br>• 'aggregate' ... NAE (NetApp Aggregate Encryption) volume<br><br>Attributes: optional-for-create, non-modifiable Possible values:<br><br>• "undefined" - Not defined,<br>• "none" - Plain-text volume,<br>• "volume" - NVE (NetApp Volume Encryption) volume,<br>• "aggregate" - NAE (NetApp Aggregate Encryption) volume,<br>• "mixed" - A FlexGroup volume with a mixture of plain-text, NetApp Volume Encryption (NVE) or NetApp Aggregate Encryption (NAE) |
| **key-creation-time** | | string optional | The creation date and time of the key-id.<br><br>The creation date and time of current key-id of the volume.<br><br>Attributes: non-creatable, non-modifiable |
| **key-id** | | string optional | The key-id used for creating encrypted volume.<br><br>A new key will be generated for creating an encrypted volume. This key-id is associated with the generated key.<br><br>Attributes: non-creatable, non-modifiable |
| **volume-antivirus-attributes** | | volume-antivirus-attributes optional | This field contains information about Antivirus On-Access settings for the volume. |
| **volume-autobalance-attributes** | | volume-autobalance-attributes optional | This field contains information about the state of Auto Balance Aggregate for a volume. |
| **volume-autosize-attributes** | | volume-autosize-attributes optional | This field contains information about the autosize settings of the volume. |
| **volume-clone-attributes** | | volume-clone-attributes optional | This field contains information applying exclusively to clone volumes. |
| **volume-comp-aggr-** | | volume-comp-aggr-attributes | This field contains information about composite aggregate attributes of a volume. |

| | | | |
|---|---|---|---|
| **attributes** | | optional | |
| **volume-directory-attributes** | | volume-directory-attributes optional | This field contains information related to directories in a volume. |
| **volume-export-attributes** | | volume-export-attributes optional | This field contains information about export settings of the volume. |
| **volume-flexcache-attributes** | | volume-flexcache-attributes optional | This field contains information applying exclusively to flexcache volumes. |
| **volume-hybrid-cache-attributes** | | volume-hybrid-cache-attributes optional | This field contains information on Flash Pool caching attributes on a volume |
| **volume-id-attributes** | | volume-id-attributes optional | This field contains identification information about the volume. |
| **volume-infinitevol-attributes** | | volume-infinitevol-attributes optional | This field contains information about the state of an Infinite Volume. |
| **volume-inode-attributes** | | volume-inode-attributes optional | This field contains information about inodes in a volume. |
| **volume-language-attributes** | | volume-language-attributes optional | This field contains information about volume language-related settings. |
| **volume-mirror-attributes** | | volume-mirror-attributes optional | This field contains information applying exclusive to volume mirror. |
| **volume-performance-attributes** | | volume-performance-attributes optional | This field contains information that relates to the performance of the volume. |
| **volume-qos-attributes** | | volume-qos-attributes optional | This field contains the information that relates to QoS. |
| **volume-security-attributes** | | volume-security-attributes optional | This field contains information about volume security settings. |
| **volume-sis-attributes** | | volume-sis-attributes optional | This field contains information about Deduplication, file clone, compression, etc. |
| **volume-snaplock-attributes** | | volume-snaplock-attributes optional | This field contains information about snaplock attributes of the volume. |
| **volume-snapshot-attributes** | | volume-snapshot-attributes | This field contains information applying exclusively to all the snapshots in the volume. Volume disk space-related settings are excluded. |

| | | | |
|---|---|---|---|
| | | optional | |
| **volume-snapshot-autodelete-attributes** | | volume-snapshot-autodelete-attributes optional | This field contains information about snapshot autodelete policy settings. |
| **volume-space-attributes** | | volume-space-attributes optional | This field contains information related to volume disk space management including on-disk layout. |
| **volume-state-attributes** | | volume-state-attributes optional | This field contains information about the state or status of a volume or its features. |
| **volume-transition-attributes** | | volume-transition-attributes optional | This field contains information applying exclusively to transitioned or transitioning volumes. |
| **volume-vm-align-attributes** | | volume-vm-align-attributes optional | This field contains information related to the Virtual Machine alignment settings on a volume |
| **volume-vserver-dr-protection-attributes** | | volume-vserver-dr-protection-attributes optional | This fields contains information about protection type for the volume in a Vserver DR setup. |

# Element definition: **volume-autobalance-attributes**

[top]

Information about the Auto Balance Aggregate state of a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-autobalance-eligible** | | boolean optional | When set to 'true', the volume is included in Auto Balance aggregate processing. When set to 'false', the volume is excluded from Auto Balance aggregate processing. This field is not set on FlexGroups.<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **volume-autosize-attributes**

[top]

Information about autosize settings of the volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **grow-threshold-percent** | **[0..100]** | integer optional | Used space threshold which triggers autogrow. When the volume-info.size-used is greater than this percent of volume-info.size-total, the volume will be grown. The computed value is rounded down. The default value of this element varies from 85% to 98%, depending on the volume size. It is an error for the grow threshold to be less than or equal to the shrink threshold.<br><br>Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **is-enabled** | | boolean optional | This element is deprecated in Data ONTAP 8.2 and later. Please use autosize-mode instead. Setting this parameter to 'true' enables the 'grow' mode, while setting it to 'false' disables autosize and sets the autosize mode to 'off'. The default value is 'false'.<br><br>Attributes: optional-for-create, modifiable |
| **maximum-size** | **[0..2^63-1]** | integer optional | The maximum size (in bytes) to which the volume would be grown automatically. The default value is 20% greater than the volume size. It is an error for the maximum volume size to be less than the current volume size. It is also an error for the maximum size to be less than or equal to the minimum size.<br><br>Attributes: optional-for-create, modifiable |
| **minimum-size** | **[0..2^63-1]** | integer optional | The minimum size (in bytes) below which the volume would not be shrunk automatically. The default value is the initial size of the volume. It is an error for the minimum size to be greater than or equal to the maximum size.<br><br>Attributes: optional-for-create, modifiable |
| **mode** | | string optional | The current mode of operation of volume autosize. Valid modes are 'off', 'grow', and 'grow_shrink'. The default mode is 'off'.<br><br>Attributes: optional-for-create, modifiable Possible values:<br><br>• "off" ,<br>• "grow" ,<br>• "grow_shrink" |
| **reset** | | boolean optional | Resets the values of autosize, max-autosize, min-autosize, autosize-shrink-threshold-percent, autosize-grow-threshold-percent and autosize-mode to their defaults.<br><br>Attributes: non-creatable, modifiable |
| **shrink-threshold-percent** | **[0..100]** | integer optional | The used space threshold below which autoshrink is triggered. When the volume-info.size-used is less than this percent of volume-info.size-total, the volume will be shrunk. The computed value is rounded down. The default shrink theshold is 50%. It is an error for the shrink threshold to be greater than or equal to the grow threshold.<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **volume-clone-attributes**

[top]

Information about volume clones.

| Name | Range | Type | Description |
|---|---|---|---|
| **clone-child-count** | **[0..2^32-1]** | integer optional | Number of clones for which this volume is the parent. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, non-modifiable |
| **inherited-physical-used** | | size optional | Inherited Physical Used from Clone's Base Snapshot.<br><br>Attributes: non-creatable, non-modifiable |
| **inherited-** | | size | Inherited Savings from Clone's Base Snapshot. |

| | | | |
|---|---|---|---|
| **savings** | | optional | Attributes: non-creatable, non-modifiable |
| **volume-clone-parent-attributes** | | volume-clone-parent-attributes optional | This field appears for a flexible volume if it is a clone of another flexible volume, describing the clone's parentage. This field is not set on FlexGroups. |

# Element definition: **volume-comp-aggr-attributes**

[top]

Information related to composite aggregate attributes of a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **cloud-retrieval-policy** | | string optional | This optional parameter specifies the cloud retrieval policy for the volume.This policy determines which tiered out blocks to retrieve from the capacity tier to the performance tier.<br><br>The available cloud retrieval policies are:<br><br>• default - This policy retrieves tiered data based on the underlying tiering policy. If the tiering policy is 'auto', tiered data is retrieved only for random client driven data reads. If the tiering policy is 'none' or 'snapshot-only', tiered data is retrieved for random and sequential client driven data reads. If the tiering policy is 'all', tiered data is not retrieved.<br>• on-read - This policy retrieves tiered data for all client driven data reads.<br>• never - This policy never retrieves tiered data.<br>• promote - This policy retrieves all eligible tiered data automatically during the next scheduled scan. It is only supported when the tiering policy is 'none' or 'snapshot-only'. If the tiering policy is 'snapshot-only', the only data brought back is the data in the AFS. Data that is only in a snapshot copy stays in the cloud and if tiering policy is 'none' then all data is retrieved.<br><br>Attributes: optional-for-create, modifiable |
| **needs-object-retagging** | | boolean optional | Does the object tagging scanner need to run on this volume.<br><br>This parameter is only supported if the volume is in an aggregate that is attached to an object store.<br><br>Attributes: non-creatable, non-modifiable |
| **tiering-minimum-cooling-days** | **[2..183]** | integer optional | The minimum number of cooling days for user data.<br><br>This field specifies the minimum number of days that user data blocks of the volume must be cooled before they can be considered cold and tiered out to the capacity tier. The value specified should be greater than the frequency that applications in the volume shift between different sets of data. Valid values are between 2 and 183.<br><br>Attributes: optional-for-create, modifiable |
| **tiering-object-tags** | | string[] optional | Tags to be associated with objects stored on a fabricpool.<br><br>Attributes: optional-for-create, modifiable |
| | | | The tiering policy associated with this volume. |

| | | | |
|---|---|---|---|
| **tiering-policy** | | string optional | This policy decides whether the blocks of a volume will be tiered to the capacity tier when they become cold. The possible values for this field are:<br><br>• 'snapshot-only' - This policy allows tiering of only the volume snapshot copies not associated with the active file system.<br>• 'auto' - This policy allows tiering of both snapshot and active file system user data to the capacity tier.<br>• 'none' - Volume blocks will not be tiered to the capacity tier.<br>• 'backup' - On DP volumes this policy allows all transferred user data blocks to start in the capacity tier.<br><br>Default tiering policy is 'snapshot-only' for flexible volumes and 'none' for FlexGroups.<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **volume-directory-attributes**

[top]

Information related to directories in the volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **i2p-enabled** | | boolean optional | If true, native inode-to-parent information is kept for inodes. By default, this field is true.<br><br>Attributes: non-creatable, non-modifiable |
| **max-dir-size** | **[0..2^63-1]** | integer optional | The maximum size (in bytes) to which any directory in this volume can grow.<br><br>The default maximum directory size is set to 1% of the system memory. So if the system memory is 1GB, then the maximum directory size value will be 10MB which allows upto 300,000 files. The number of files that the directory actually can hold varies depending on such things as the length of the names and whether it needs to use double-byte UNICODE characters.<br><br>Most users should not need to change this field's default setting. It is useful for environments where system users may grow a directory to a size that starts impacting system performance. When a user tries to create a file in a directory that is at the limit, the system returns a ENOSPC error and fails the create.<br><br>Attributes: optional-for-create, modifiable |
| **root-dir-gen** | | string optional | This field contains the generation number of the root directory.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **volume-export-attributes**

[top]

Information about export settings of the volume.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **policy** | | string optional | The name of the Export Policy to be used by NFS/CIFS protocols. The default policy name is 'default'. FlexGroups do not support policies that allow NFSv4 protocol access.<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **volume-flexcache-attributes**

[top]

Information about FlexCache volumes.

| Name | Range | Type | Description |
|---|---|---|---|
| **cache-policy** | | cache-policy optional | The name of the cache policy.<br><br>The default policy name is 'default'.<br><br>This policy applies only to FlexCache volumes and can be created using the 'flexcache-cache-policy-create' API.<br><br>Attributes: optional-for-create, modifiable |
| **fill-policy** | | cache-policy optional | The name of the fill policy.<br><br>The default policy name is 'default'.<br><br>This policy applies only to FlexCache volumes and can be created using the 'flexcache-fill-policy-create' API.<br><br>Attributes: optional-for-create, modifiable |
| **min-reserve** | | size optional | The amount of space requested to be preallocated in the aggregate hosting the FlexCache volume.<br><br>Attributes: optional-for-create, modifiable |
| **origin** | | volume-name optional | The name of the origin volume that contains the authoritative data. This field is valid only for a FlexCache volume. The origin volume must belong to the same vserver that owns this volume.<br><br>Attributes: optional-for-create, non-modifiable |

# Element definition: **volume-hybrid-cache-attributes**

[top]

Information about the Flash Pool caching attributes of a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **cache-retention-priority** | | string optional | The cache retention priority policy associated with this volume.<br><br>The cache retention priority that is to be associated with the volume. This policy decides how long blocks of a volume will be cached in flash pool once they become cold. The possible values for this field are:<br><br>• low - Cache the cold blocks for the lowest time.<br>• normal - Cache the cold blocks for the default time.<br>• high - Cache the cold blocks for the highest time. |

| | | | |
|---|---|---|---|
| | | | Default cache retention priority is normal.<br><br>Attributes: optional-for-create, modifiable |
| **caching-policy** | | string<br>optional | The caching policy associated with this volume.<br><br>The caching policy that is to be associated with the volume. The policy decides how the flash pool caching has to happen for the volume. The possible values for this value are:<br><br>• none - Does not cache any user data or metadata blocks.<br>• auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks.<br>• meta - Read caches only metadata blocks.<br>• random_read - Read caches all metadata and randomly read user data blocks.<br>• random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.<br>• all_read - Read caches all metadata, randomly read and sequentially read user data blocks.<br>• all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data.<br>• all - Read caches all data blocks read and written. It does not do any write caching.<br>• noread-random_write - Write caches all randomly overwritten user data blocks. It does not do any read caching.<br>• meta-random_write - Same as meta and noread-random_write.<br>• random_read_write-random_write - Same as random_read_write and noread-random_write.<br>• all_read-random_write - Same as all_read and noread-random_write.<br>• all_read_random_write-random_write - Same as all_read_random_write and noread-random_write.<br>• all-random_write - Same as all and noread-random_write.<br><br>Note that in a caching-policy name, a hyphen (-) separates read and write policies. Default caching-policy is auto.<br><br>Attributes: optional-for-create, modifiable |
| **eligibility** | | string<br>optional | Flash Pool caching eligibility of a volume<br><br>Possible values:<br><br>• 'read' ... Indicates that the volume cannot participate in write caching,<br>• 'read-write' ... Indicates that the volume can participate in read and write caching,<br><br>Attributes: non-creatable, non-modifiable |
| **write-cache-ineligibility-reason** | | string<br>optional | If the volume cannot participate in write caching, then this field explains the reason. Attributes: non-creatable, non-modifiable |

# Element definition: **volume-id-attributes**

[top]

Identification information about a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] optional | The array of aggregates which are used for FlexGroup constituents. Each aggregate in the array will host at least one FlexGroup constituent.<br><br>This field is returned only if it is explicitly requested using desired-attributes.<br><br>This parameter is only supported on FlexGroups.<br><br>Attributes: optional-for-create, non-modifiable |
| **application** | | string optional | The application with which the Volume is associated.<br><br>Attributes: non-creatable, non-modifiable |
| **application-uuid** | | uuid optional | The unique identifier of the volume's application.<br><br>Attributes: non-creatable, non-modifiable |
| **comment** | | string optional | A description for the volume. Range:[0..1023]<br><br>Attributes: optional-for-create, modifiable |
| **containing-aggregate-name** | | string optional | The name of the aggregate in which the given flexible volume resides. This field is not set on FlexGroups.<br><br>Attributes: optional-for-create, non-modifiable |
| **containing-aggregate-uuid** | | uuid optional | The 128-bit universally-unique identifier of the aggregate in which the given volume resides. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, non-modifiable |
| **creation-time** | **[0..2^31-1]** | integer optional | Creation time of the volume in seconds since January 1, 1970.<br><br>Attributes: non-creatable, non-modifiable |
| **dsid** | **[0..2^64-1]** | integer optional | The volume's Data Set ID. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, non-modifiable |
| **extent-size** | | string optional | Default extent size of a volume.<br><br>Possible values:<br><br>• '4K' 4K,<br>• '8K' 8K<br>• '16K' 16K<br>• '32K' 32K<br><br>Attributes: optional-for-create, modifiable |
| **flexcache-endpoint-type** | | string optional | The FlexCache endpoint type of the volume. Volumes that are not part of a FlexCache realtionship will have the 'none' type. FlexCache origin volumes have the 'none' type however, this may change in a future release. type in a future release. FlexCache cache volumes have the 'cache' type.<br><br>Possible values:<br><br>• 'undefined' Undefined,<br>• 'none' None<br>• 'cache' Cache<br><br>Attributes: non-creatable, non-modifiable |
| | | | The index of the constituent within its FlexGroup. |

| | | | |
|---|---|---|---|
| **flexgroup-index** | **[0..2^32-1]** | integer optional | Attributes: non-creatable, modifiable |
| **flexgroup-msid** | **[0..2^64-1]** | integer optional | The Mirror Set ID of a FlexGroup or a constituent's FlexGroup.<br><br>Attributes: non-creatable, non-modifiable |
| **flexgroup-uuid** | | uuid optional | Universal unique identifier (UUID) for the constituent's FlexGroup or the FlexGroup itself. This value only applies to FlexGroups and FlexGroup constituents.<br><br>Attributes: non-creatable, non-modifiable |
| **fsid** | | string optional | The File System Identifier (FSID) value that serves as one of this volume's internal indicies. This field is not set on FlexGroups.<br><br>This value serves as an internal index for a volume. All volumes on a given controller must have unique FSIDs, except for the two special values described below:<br><br>A value of 0 indicates that this volume does not currently have a legal FSID for some unexpected reason. Such volumes are forcibly kept offline until this attribute is assigned a legal value.<br><br>A value of 1 indicates that this volume has recently appeared on its current controller due to having its aggregate be copied from a different controller. All volumes in this newly-created aggregate must be assigned legal, controller-unique IDs when they are onlined. That will be handled automatically by WAFL upon mount.<br><br>If modifiable, this field may be set only when the volume is restricted. It may be set to any value that is not currently being used by any other volume on the same controller. If a request to set this value to '0' is received, the system will select a new value that is currently unused. Note that setting a volume's FSID sometimes has external effects. In particular, a 7-Mode volume's FSID is part of the NFS file handles constructed for its files.<br><br>Attributes: non-creatable, non-modifiable |
| **instance-uuid** | | uuid optional | Universal unique identifier (UUID) for the volume that remains unchanged when the volume is moved to a new location. This differs from the volume's regular UUID which changes after a move. The instance UUID can be used to identify a volume even after it is moved. This field is valid for flexible volumes only.<br><br>UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.<br><br>Here is an example of an actual UUID:<br><br>49e370d6-5b5a-11d9-9eb5-000100000529<br><br>Attributes: non-creatable, non-modifiable |
| **junction-parent-name** | | volume-name optional | The name of the parent volume that contains the junction inode of this volume.<br><br>The junction parent volume must belong to the same vserver that owns this volume. |

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|---|---|---|---|
| | | | Attributes: non-creatable, non-modifiable |
| **junction-path** | | junction-path optional | The Junction Path at which this volume is mounted. This field is valid only for a Cluster-Mode volume.<br><br>Attributes: optional-for-create, non-modifiable |
| **msid** | **[0..2^64-1]** | integer optional | The volume's Mirror Set ID.<br><br>This field is valid only for a Cluster-Mode volume.<br><br>Attributes: non-creatable, non-modifiable |
| **name** | | volume-name optional | The name of the volume.<br><br>Attributes: key, required-for-create, non-modifiable |
| **name-ordinal** | | string optional | The ordinal assignment used in relation to this volume's name. This field is not set on FlexGroups.<br><br>Ordinals are used to disambiguate volumes that have the same base name on the same controller. A value of zero indicates that the base volume name is unique on a controller. A value greater than zero indicates that the volume's base name is used by two or more volumes on the same controller, and that appending '(n)' to this volume's name uniquely identifies it on that controller. A value of -1 indicates that the name ordinal has not yet been determined.<br><br>Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | The current node name the volume is associated with. The node name can change due to a volume move. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, non-modifiable |
| **nodes** | | node-name[] optional | The array of nodes which host one or more of this FlexGroup's constituents.<br><br>This field is returned only if it is explicitly requested using desired-attributes.<br><br>This parameter is only supported on FlexGroups.<br><br>Attributes: optional-for-create, non-modifiable |
| **owning-vserver-name** | | string optional | The name of the Vserver that owns this volume.<br><br>Attributes: key, non-creatable, non-modifiable |
| **owning-vserver-uuid** | | uuid optional | The 128-bit universally-unique identifier for the vserver that currently owns this volume.<br><br>Attributes: non-creatable, non-modifiable |
| **provenance-uuid** | | uuid optional | Universal unique identifier (UUID) for the volume that is used to identify the source volume in a mirroring relationship. When the mirroring relationship is broken, a volume's Instance UUID and Provenance UUID are made identical. An unmirrored volume's Provenance UUID is the same as its Instance UUID. This field is valid for flexible volumes only.<br><br>UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s. The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used. |

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|---|---|---|---|
| | | | Here is an example of an actual UUID:<br><br>49e370d6-5b5a-11d9-9eb5-000100000529<br><br>Attributes: non-creatable, non-modifiable |
| **style** | | volstyle<br>optional | The style of the volume.<br><br>Possible values:<br><br>• 'flex' ... FlexVol,<br>• 'infinitevol' . Infinite Volume<br><br>Default value is 'flex'.<br><br>Attributes: non-creatable, non-modifiable Possible values:<br><br>• "flex" - Flexible Volume,<br>• "infinitevol" - Infinite Volume |
| **style-extended** | | string<br>optional | The extended style of the volume.<br><br>Possible values:<br><br>• 'flexvol' FlexVol,<br>• 'infinitevol' Infinite Volume<br>• 'infinitevol-constituent' Infinite Volume constituent<br>• 'flexgroup' FlexGroup<br>• 'flexgroup-constituent' FlexGroup constituent<br><br>Attributes: non-creatable, non-modifiable |
| **type** | | string<br>optional | The type of the volume.<br><br>Possible values:<br><br>• 'rw' ... read-write volume,<br>• 'ls' ... load-sharing volume,<br>• 'dp' ... data-protection volume,<br>• 'dc' ... data-cache volume (FlexCache),<br>• 'tmp' ... temporary volume (not valid for create)<br><br>Default value is 'rw'.<br><br>Attributes: optional-for-create, non-modifiable |
| **uuid** | | uuid<br>optional | Universal unique identifier (UUID) for this volume.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **volume-infinitevol-attributes**

[top]

Information about the state of an Infinite Volume.

| Name | Range | Type | Description |
|---|---|---|---|
| | | repos- | This field specifies the role of a constituent within a FlexGroup or an Infinite Volume. This field is only supported for FlexGroup and Infinite Volume constituents.<br><br>Attributes: optional-for-create, non-modifiable Possible values: |

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|---|---|---|---|
| **constituent-role** | | constituent-role optional | • "none" ,<br>• "namespace" ,<br>• "data" ,<br>• "root" ,<br>• "ns_mirror" ,<br>• "member" |
| **enable-snapdiff** | | boolean optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>Whether to enable Snapdiff. If enabled, the namespace mirrors will be created for Snapdiff use. The default value is false.<br><br>Attributes: optional-for-create, modifiable |
| **is-managed-by-service** | | boolean optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>Specifies if the volume is managed by GUI services. The deafult value is false.<br><br>Attributes: optional-for-create, modifiable |
| **max-data-constituent-size** | | size optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>The maximum size of each data constituent in bytes. The default value is determined by checking the maximum FlexVol size setting on all nodes used by the Infinite Volume. The smallest value found is chosen as the default for the max-data-constituent-size for the Infinite Volume.<br><br>Attributes: optional-for-create, modifiable |
| **max-namespace-constituent-size** | | size optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>The maximum size of the namespace constituent. The default value is 10TB.<br><br>Attributes: optional-for-create, modifiable |
| **namespace-mirror-aggr-list** | | aggr-name[] optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>Specifies an array of names of aggregates to be used for Infinite Volume Namespace Mirror constituents. If this input is not specified all the aggregates assigned to the Vserver are used. If the argument 'enable-snapdiff' is being set to 'true', and the Infinite Volume is managed by storage services, a value must be provided.<br><br>Attributes: optional-for-create, modifiable |
| **storage-service** | | string optional | This parameter is no longer supported as of ONTAP 9.5.0.<br><br>The name of the initial storage service for the Infinite Volume. This can only be provided if is-managed-by-service is true.<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **volume-inode-attributes**

[top]

Information about inodes in the volume.

| Name | Range | Type | Description |
|---|---|---|---|
| | | | |

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|---|---|---|---|
| **block-type** | | string optional | The indirect block format of the volume.<br><br>Possible values:<br><br>• '32_bit',<br>• '64_bit'<br><br>Attributes: non-creatable, non-modifiable |
| **files-private-used** | **[0..2^64-1]** | integer optional | Number of system (not user-visible) files (inodes) used. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **files-set-maximum** | | boolean optional | Whether the volume's inode count is set to the highest value the volume can hold.<br><br>Attributes: optional-for-create, modifiable |
| **files-total** | **[0..2^64-1]** | integer optional | Total user-visible file (inode) count, i.e., current maximum number of user-visible files (inodes) that this volume can currently hold.<br><br>Attributes: non-creatable, modifiable |
| **files-used** | **[0..2^64-1]** | integer optional | Number of user-visible files (inodes) used. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **inodefile-private-capacity** | **[0..2^64-1]** | integer optional | Number of inodes that can currently be stored on disk for system (not user-visible) files. This number will dynamically increase as more system files are created. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **inodefile-public-capacity** | **[0..2^64-1]** | integer optional | Number of inodes that can currently be stored on disk for user-visible files. This number will dynamically increase as more user-visible files are created. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **inofile-version** | **[0..2^32-1]** | integer optional | The inofile version. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **volume-language-attributes**

[top]

Information about the volume language settings.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-convert-ucode-enabled** | | boolean optional | This field controls whether all directories in this volume are forcibly converted to UNICODE format when accessed from both NFS and CIFS. The default value for 7-Mode volumes is false, in which case access from CIFS causes conversion of pre-4.0 and 4.0-format directories, and access from NFS causes conversion to 4.0-format directories. The default value for Cluster-Mode volumes is true.<br><br>Note that this field can be set to false if and only if the volume is a 7-Mode volume, or a Cluster-Mode volume that was transitioned from 7-Mode. |

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| | | | Attributes: non-creatable, modifiable |
| **is-create-ucode-enabled** | | boolean optional | This field controls whether all directories in this volume are forced to use the UNICODE format when they are created, both from NFS and CIFS. The default value is false for 7-Mode volumes, in which case all directories are created in pre-4.0 format and only converted to UNICODE format upon the first CIFS access. The default value is true for Cluster-Mode volumes.<br><br>Note that this field can be set to false if and only if the volume is a 7-Mode volume.<br><br>Attributes: non-creatable, non-modifiable |
| **language** | | string optional | The volume's fully-qualified language mapping, in the form: 'LanguageCode (Full Name).'<br><br>Example: 'en_US (English (US)).'<br><br>Attributes: non-creatable, non-modifiable |
| **language-code** | | language-code optional | The volume's language code (e.g. 'en_US').<br><br>Volume language can be specified using 'language-code' parameter.<br><br>Attributes: optional-for-create, modifiable |
| **nfs-character-set** | | string optional | The NFS language mapping character set that is currently in effect for the volume.<br><br>This field is of the following format:<br><br>• '<nfs-character-set>\|<display-name>\|<asctime>'<br><br>Note that '\|' is not an OR syntax.<br><br><asctime> is the timestamp in the language configuration file header and its format is based on the standard: 'A la ISO/IEC 9945-1, ANSI/IEEE Std 1003.1, Second Edition, 1996-07-12.'<br><br>It uses the C Programming Language Printf format:<br><br>• '%.3s %.3s%3d %02d:%02d:%02d %s %d'<br><br>This format takes the following parameters in order:<br><br>• <weekday name>,<br>• <month name>,<br>• <month day>,<br>• <hour>,<br>• <minute>,<br>• <second><br>• <timezone> OR <''>,<br>• <year><br><br>E.g., If the volume language code is set to 'en_US,' the default NFS character set is as follows:<br><br>• 'iso-8859-1\|iso-8859-1\|Thu Oct 1 15:00:53 PDT 1998'<br><br>Attributes: non-creatable, non-modifiable |
| | | | The OEM language mapping character set that is currently in effect for the volume.<br><br>This field is of the following format: |

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|---|---|---|---|
| **oem-character-set** | | string optional | • '<oem-code-page>\|<display-name>\|<asctime>'<br><br>Note that '\|' is not an OR syntax.<br><br><asctime> is the timestamp in the language configuration file header and its format is based on the standard: 'A la ISO/IEC 9945-1, ANSI/IEEE Std 1003.1, Second Edition, 1996-07-12.'<br><br>It uses the C Programming Language Printf format:<br><br>• '%.3s %.3s%3d %02d:%02d:%02d %s %d'<br><br>This format takes the following parameters in order:<br><br>• <weekday name>,<br>• <month name>,<br>• <month day>,<br>• <hour>,<br>• <minute>,<br>• <second>,<br>• <timezone> OR <''>,<br>• <year><br><br>E.g., If the volume language code is set to 'en_US,' the default OEM character set is as follows:<br><br>• 'cp437\|cp437\|Thu Oct 1 15:00:53 PDT 1998'<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **volume-mirror-attributes**

[top]

Information about the volume mirror.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-data-protection-mirror** | | boolean optional | True if this is a data protection mirror.<br><br>Attributes: non-creatable, non-modifiable |
| **is-load-sharing-mirror** | | boolean optional | True if this is a load sharing mirror.<br><br>Attributes: non-creatable, non-modifiable |
| **is-move-mirror** | | boolean optional | True if this is a volume move mirror.<br><br>Attributes: non-creatable, non-modifiable |
| **is-replica-volume** | | boolean optional | True if this is a read only replica volume.<br><br>Attributes: non-creatable, non-modifiable |
| **is-snapmirror-source** | | boolean optional | True if this is a SnapMirror source.<br><br>For load-sharing relationships a volume becomes a SnapMirror source at the time a SnapMirror relationship with the volume as the source is created. For all other relationship types, a volume does not become a SnapMirror source until just after a snapmirror-initialize of the relationship begins. Also if a snapmirror-release is performed on the relationship, the volume will no longer be considered a SnapMirror source. |

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| | | | Attributes: non-creatable, non-modifiable |
| **is-snapmirror-source-to-object-store** | | boolean optional | True if this is a SnapMirror source to object store.<br><br>For SnapMirror relationships with object store destinations, a volume does not become a SnapMirror source until just after a snapmirror-initialize of the relationship begins. Also if a snapmirror-release is performed on the relationship, the volume will no longer be considered a SnapMirror source for object store.<br><br>Attributes: non-creatable, non-modifiable |
| **is-snapmirror-source-to-ontap** | | boolean optional | True if this is a SnapMirror source to ONTAP.<br><br>For load-sharing relationships a volume becomes a SnapMirror source to ontap at the time a SnapMirror relationship with the volume as the source is created. For all other relationship types with ONTAP destinations, a volume does not become a SnapMirror source until just after a snapmirror-initialize of the relationship begins. Also if a snapmirror-release is performed on the relationship, the volume will no longer be considered a SnapMirror source to ONTAP.<br><br>Attributes: non-creatable, non-modifiable |
| **mirror-transfer-in-progress** | | boolean optional | True if a SnapMirror transfer is in progress on this mirrored volume.<br><br>This mirror's active filesystem can be inconsistent during snapmirror transfer. As a result, snapshot create operation is temporary disabled on this mirror until the current transfer session finishes.<br><br>This field is set to true at the start of a SnapMirror transfer session and set to false at the end of that session.<br><br>Attributes: non-creatable, non-modifiable |
| **redirect-snapshot-id** | **[0..255]** | integer optional | If the volume is a logical mirror destination or is in the process of being made one, this field indicates the logical-id of the snapshot to which clients are to be redirected.<br><br>If modifiable, when setting this attribute, invalid snapshot id or a non-existent snapshot id specified will be rejected with error ESNAPSHOTDOESNOTEXIST. Failure to set ('stamp') the attribute in the volume will cause error ESTAMPREDIRECTSNAPIDERROR to be returned. This field can be set only for online volumes. This option is valid only in Cluster-Mode. The volume can be set to have no redirection snapshot by using a value of 0. This option can be set only for Cluster-Mode volumes participating in a logical-mirror relationship. Setting this field on a Cluster-Mode volume which is not a logical mirror destination (yet) will not have any impact on client access or the volume's behavior. The client access will be impacted with regard to this value only when the volume is converted to a logical-mirror destination.<br><br>When reading this attribute, the value of 0 indicates volume has no redirection snapshot. The field cannot be interpreted authoritatively if the volume is offline or restricted.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **volume-performance-attributes**

[top]

Information about performance settings on a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **atime-update-period** | **[0..2^32-1]** | integer optional | The periodical value to know when to update the atime.<br><br>By default, the value is 0 seconds but for FlexCache and origin volumes, it is 86400 seconds.<br><br>Attributes: optional-for-create, modifiable |
| **extent-enabled** | | string optional | This parameter has been deprecated and may be removed in a future release of Data ONTAP. If turned on, this field enables extents in the volume. This causes application writes to be written in the volume as a write of a larger group of related data blocks called an extent.<br><br>The following values are recognized:<br><br>• 'on' ... Perform this optimization on this volume. This option may duplicate blocks from snapshots into the active file system, thereby using additional disk space. Read performance from snapshots will not be changed.<br>• 'space-optimized' ... Perform this optimization on this volume, but do not duplicate blocks from snapshots into the active file system, thereby using space conservatively. Read performance from snapshots may be degraded.<br>• 'off' ... Don't perform this optimization on this volume.<br><br>By default, it is set to 'off'.<br><br>Using extents may help workloads that perform many small random writes followed by a large sequential read. However, using extents may increase the number of disk operations performed on the controller, so this field should only be turned on when applicable.<br><br>Attributes: non-creatable, modifiable |
| **fc-delegs-enabled** | | boolean optional | If true, FlexCache Read Delegations are turned on for this volume.<br><br>On by default, only settable in Diag mode.<br><br>Attributes: non-creatable, modifiable |

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|---|---|---|---|
| **is-atime-update-enabled** | | boolean optional | If false, prevent the update of inode access times when a file is read.<br><br>This value is useful for volumes with extremely high read traffic, since it prevents writes to the inode file for the volume from contending with reads from other files.<br><br>By default, this value is true.<br><br>This field should be used carefully. That is, use this field when you know in advance that the correct access time for inodes will not be needed for files on that volume.<br><br>Attributes: non-creatable, modifiable |
| **max-write-alloc-blocks** | **[0..2048]** | integer optional | The maximum number of blocks used for write allocation.<br><br>This option is deprecated.<br><br>Attributes: optional-for-create, modifiable |
| **minimal-read-ahead** | | boolean optional | If true, the node performs minimal read-ahead for the volume.<br><br>By default, this field is false, causing the node that contains this volume to perform very aggressive read-ahead.<br><br>Attributes: non-creatable, modifiable |
| **read-realloc** | | string optional | Controls whether application reads cause optimization of the layout of parts of a file or LUN after the data has been read from disk and is in the controller's memory. This optimization is only supported for flexible volumes.<br><br>The following values are recognized:<br><br>• 'on' ... Perform this optimization on this volume. This option may duplicate blocks from snapshots into the active file system, thereby using additional disk space. Read performance from snapshots will not be changed.<br>• 'space-optimized' ... Perform this optimization on this volume, but do not duplicated blocks from snapshots into the active file system, thereby using space conservatively. Read performance from snapshots may be degraded.<br>• 'off' ... Don't perform this optimization on this volume.<br><br>By default, it is set to 'off'.<br><br>Using read reallocation may help workloads that perform a mixture of random writes and large sequential reads.<br><br>Attributes: non-creatable, modifiable |
| **single-instance-data-logging** | | string optional | Indicates whether Single Instance Data Logging is enabled on the volume. This feature is supported only on Cloud ONTAP.<br><br>Possible values:<br><br>• 'on' : Single Instance Data Logging enabled.<br>• 'off' : Single Instance Data Logging disabled.<br><br>The default value is 'off'. Attributes: non-creatable, non-modifiable |

## Element definition: **volume-qos-attributes**

[top]

QoS policy group or adaptive policy group attached with a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **adaptive-policy-group-name** | | string optional | The QoS adaptive policy group associated with this volume.<br><br>This optionally specifies which QoS adaptive policy group to apply to the volume. This policy group defines measurable service level objectives (SLOs) that adjust based on the volume allocated space or used space. This parameter is not supported on Infinite Volumes.<br><br>Attributes: optional-for-create, modifiable |
| **policy-group-name** | | string optional | The QoS policy group associated with this volume.<br><br>This optionally specifies which QoS policy group to apply to the volume. This policy group defines measurable service level objectives (SLOs) that do not adjust based on the volume allocated space or used space. If you do not assign a policy group to a volume, the system will not monitor and control the traffic to it. This parameter is not supported on Infinite Volumes.<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **volume-security-attributes**

[top]

All security aspects of a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **style** | | string optional | The security style associated with this volume.<br><br>Possible values:<br><br>• 'mixed' ... Mixed-style security,<br>• 'ntfs' ... NTFS/Windows-style security,<br>• 'unified' .Unified-style security, Unified UNIX, NFS and CIFS permissions (default for Infinite Volume)<br>• 'unix' ... Unix-style security (default for Flexible Volume, FlexGroup and FlexGroup Constituent)<br><br>This field is only returned if this volume is online. If this field is empty ('') or not present for an online volume, this attribute isn't applicable to the volume. Only Infinite Volumes can use the 'unified' security style. All other volumes cannot use the 'unified' security style. Using 'unified' for a non-Infinite Volume will result in an error. FlexGroups and FlexGroup Constituents can only have 'unix' security style. Setting other security styles for FlexGroups or FlexGroup Constituents will result in an error.<br><br>Attributes: optional-for-create, modifiable |
| **volume-security-unix-attributes** | | volume-security-unix-attributes optional | The Unix-oriented security settings associated with this volume. |

# Element definition: **volume-sis-attributes**

[top]

Statistics for Deduplication, file clone, compression, etc.

| Name | Range | Type | Description |
|---|---|---|---|
| **compression-space-saved** | **[0..2^63-1]** | integer optional | The total disk space (in bytes) that is saved by compressing blocks on the referenced file system.<br><br>Attributes: non-creatable, non-modifiable |
| **deduplication-space-saved** | **[0..2^63-1]** | integer optional | The total disk space (in bytes) that is saved by deduplication and file cloning.<br><br>Attributes: non-creatable, non-modifiable |
| **deduplication-space-shared** | | size optional | The total disk space shared due to deduplication and file cloning.<br><br>Attributes: non-creatable, non-modifiable |
| **is-sis-logging-enabled** | | boolean optional | If true, it means that sis is enabled on the volume and fingerprints of newly-written data are being logged.<br><br>Attributes: non-creatable, non-modifiable |
| **is-sis-state-enabled** | | boolean optional | If true, it means that the current sis state is enabled on the volume.<br><br>Attributes: non-creatable, non-modifiable |
| **is-sis-volume** | | boolean optional | If true, it means that the volume contains shared (deduplication, file clones) or compressed data. If SIS is disabled, this field is false.<br><br>Attributes: non-creatable, non-modifiable |
| **percentage-compression-space-saved** | **[0..100]** | integer optional | Percentage of the total disk space that is saved by compressing blocks on the referenced file system.<br><br>Attributes: non-creatable, non-modifiable |
| **percentage-deduplication-space-saved** | **[0..100]** | integer optional | Percentage of the total disk space that is saved by deduplication and file cloning.<br><br>Attributes: non-creatable, non-modifiable |
| **percentage-total-space-saved** | **[0..100]** | integer optional | Percentage of total disk space that is saved by compressing blocks, deduplication and file cloning.<br><br>Attributes: non-creatable, non-modifiable |
| **total-space-saved** | **[0..2^63-1]** | integer optional | Total space saved (in bytes) in the volume due to deduplication, compression, and file cloning.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **volume-snaplock-attributes**

[top]

Information about the snaplock volumes.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **snaplock-type** | | snaplocktype<br>optional | SnapLock type of the volume.<br><br>Attributes: optional-for-create, non-modifiable Possible values:<br><br>• "non_snaplock" - Non SnapLock,<br>• "compliance" - SnapLock Compliance,<br>• "enterprise" - SnapLock Enterprise |

# Element definition: **volume-snapshot-attributes**

[top]

Information about snapshot-related attributes in a volume. Volume disk space-related settings are excluded.

| Name | Range | Type | Description |
|---|---|---|---|
| **auto-snapshots-enabled** | | boolean<br>optional | If true, enable automatic snapshots on the volume.<br><br>The default value is true.<br><br>Attributes: non-creatable, non-modifiable |
| **snapdir-access-enabled** | | boolean<br>optional | If true, enable the visible '.snapshot' directory that is normally present at system internal mount points. This value also turns on access to all other '.snapshot' directories in the volume.<br><br>The default value is true.<br><br>Attributes: non-creatable, modifiable |
| **snapshot-clone-dependency-enabled** | | boolean<br>optional | Controls the locking of LUN clones.<br><br>If true, all initial and intermediate backing snapshots are unlocked for all inactive LUN clones. For active LUN clones, only the backing snapshot will be locked.<br><br>If false, the backing snapshot will remain locked until all intermediate backing snapshots are deleted.<br><br>This field is deprecated and will always be false in Data ONTAP 8.3 and later.<br><br>Attributes: non-creatable, modifiable |
| **snapshot-count** | **[0..1023]** | integer<br>optional | Number of Snapshot Copies in the volume.<br><br>Attributes: non-creatable, non-modifiable |
| **snapshot-policy** | | string<br>optional | The name of the snapshot policy.<br><br>The default policy name is 'default'.<br><br>This policy can be created using the 'snapshot-policy-create' API. It can be managed using the 'snapshot-policy-*' APIs.<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **volume-snapshot-autodelete-attributes**

[top]

Snapshot autodelete policy settings.

| Name | Range | Type | Description |
|---|---|---|---|
| **commitment** | | string optional | Possible values:<br>• 'try',<br>• 'disrupt', or<br>• 'destroy'<br><br>This option determines the snapshots that 'snapshot autodelete' is allowed to delete to get back space. Setting this option to 'try' only permits the snapshots which are not locked by data protection utilities (dump, mirroring, NDMPcopy) and data-backing functionalities (volume and LUN clones) to be deleted. Setting this option to 'disrupt' permits all snapshots including the snapshots which are locked by data-backing functionalities (volume and LUN clones) to be deleted. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, modifiable |
| **defer-delete** | | string optional | Possible values:<br>• 'scheduled',<br>• 'user_created',<br>• 'prefix', or<br>• 'none'<br><br>This option determines which kind of snapshots to delete. Setting this option value to 'scheduled' will delete the snapshots created by the snapshot scheduler last. Setting this option value to 'user_created' will delete the snapshots not created by the snapshot scheduler last. Setting this option value to 'prefix' will delete the snapshots matching the prefix string to be deleted last. Setting this option value to 'none' will disable the above choices. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, modifiable |
| **delete-order** | | string optional | Possible values:<br>• 'oldest_first',<br>• 'newest_first'<br><br>This option determines if the oldest or newest snapshot is deleted first. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, modifiable |
| **destroy-list** | | string optional | Possible values are the combination of:<br>• 'lun_clone',<br>• 'vol_clone',<br>• 'cifs_share',<br>• 'file_clone',<br>• 'sfsr', or<br>• 'none'<br><br>This options specifies the list of service that can be destroyed if the snapshot is backing that service. This option is valid only when the commitment is set to 'destroy'. The option 'lun_clone,file_clone' should be used for deleting snapshot backing LUN clone and/or File clone. The option 'lun_clone,sfsr' should be used for deleting snapshot backing LUN clone and/or SFSR. It must be noted that 'lun_clone', 'file_clone' and 'sfsr' individually are not valid values. Only pairs of |

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| | | | 'lun_clone,file_clone' and 'lun_clone,sfsr' are supported. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, modifiable |
| **is-autodelete-enabled** | | boolean optional | This option determines if the snapshot autodelete is currently enabled for the volume. The default value is false.<br><br>Attributes: non-creatable, modifiable |
| **prefix** | | string optional | This option provides the prefix string for the 'prefix' field value of the 'defer-delete' option. If the null prefix is set, the string '(not specified)' is returned. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, modifiable |
| **target-free-space** | **[0..100]** | integer optional | This option determines when snapshot autodelete should stop deleting snapshot. Depending on the trigger, snapshots are deleted until we reach the target free space percentage. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, modifiable |
| **trigger** | | string optional | Possible values:<br><br>• 'volume',<br>• 'snap_reserve', or<br>• '(DEPRECATED)-space_reserve'<br><br>This option determines the condition in which snapshots should be automatically deleted. This field is not set on FlexGroups.<br><br>If modifiable, setting this option to 'volume' triggers snapshot autodelete to run when the volume is near full. Setting this option to 'snap_reserve' triggers snapshot autodelete to run when the snap reserve of the volume is near full. Setting this option to 'space_reserve' triggers snapshot autodelete to run when the space reserved in the volume is near full.<br><br>Attributes: non-creatable, modifiable |

# Element definition: **volume-space-attributes**

[top]

Information about volume space management-related settings including on-disk layout.

| Name | Range | Type | Description |
|---|---|---|---|
| **expected-available** | **[0..2^63-1]** | integer optional | The size (in bytes) that should be available for the volume irrespective of available size in the aggregate. This is same as size-available for 'volume' guaranteed volumes. For 'none' guaranteed volumes this value is calculated as if the aggregate has enough backing disk space to fully support the volume's size. Similar to the size-available property, this does not include Snapshot reserve. This count gets reduced if snapshots consume space above Snapshot reserve threshold. This parameteris not supported on Infinite Volumes.<br><br>Attributes: non-creatable, non-modifiable |
| | | | Filesystem size (in bytes) of the volume. This is the total usable size of the volume, not including WAFL reserve. This value is the same |

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| **filesystem-size** | **[0..2^63-1]** | integer optional | as Size except for certain SnapMirror destination volumes. It is possible for destination volumes to have a different filesystem-size because the filesystem-size is sent across from the source volume. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **is-filesys-size-fixed** | | boolean optional | If true, this field causes the file system to remain the same size (and not grow) when a SnapMirror relationship is broken.<br><br>This option is automatically set to 'true' when a volume becomes SnapMirrored. It remains true after the SnapMirror relationship is broken for the volume. This field allows a volume to be SnapMirrored back to the source without needing to grow the source volume. If the volume size is larger than the file system size, setting this field to false forces the file system to grow to the size of the volume.<br><br>Attributes: non-creatable, modifiable |
| **is-space-enforcement-logical** | | boolean optional | This parameter specifies whether to perform logical space accounting on the volume. When space is enforced logically, ONTAP enforces volume settings such that all the physical space saved by the storage efficiency features will be calculated as used. The default setting is false.<br><br>Attributes: optional-for-create, modifiable |
| **is-space-guarantee-enabled** | | boolean optional | Whether or not the storage guarantee associated with the flexible volume is currently in effect. This field is valid only if this is a flexible volume and it is online.<br><br>By default, space guarantee is enabled.<br><br>Attributes: non-creatable, non-modifiable |
| **is-space-reporting-logical** | | boolean optional | This parameter specifies whether to report space logically on the volume. When space is reported logically, ONTAP reports the volume space such that all the physical space saved by the storage efficiency features are also as reported as used. The default setting is false.<br><br>Attributes: optional-for-create, modifiable |
| **is-space-slo-enabled** | | boolean optional | Whether or not the space SLO type associated with the flexible volume is currently in effect. Space SLO is not enabled if space guarantee is not enabled. Try enabling the space guarantee or set the volume's space SLO setting to 'none'. This field is valid only if this is a flexible volume and it is online.<br><br>By default, space SLO type is none and is enabled.<br><br>Attributes: non-creatable, non-modifiable |
| **is-used-stale** | | string optional | If true, the used counter is stale.<br><br>By default, this field is false.<br><br>Attributes: non-creatable, non-modifiable |
| **logical-available** | **[0..2^63-1]** | integer optional | The size (in bytes) that is logically available in the volume. This is the amount of free space available considering space saved by the storage efficiency features as being used. This does not include Snapshot reserve. This parameter is not supported on FlexGroups or Infinite Volumes. |

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| | | | Attributes: non-creatable, non-modifiable |
| **logical-used** | **[0..2^63-1]** | integer optional | The size (in bytes) that is logically used in the volume. This value includes all the space saved by the storage efficiency features along with the physically used space. This does not include Snapshot reserve but does consider Snapshot spill. This parameter is not supported on FlexGroups or Infinite Volumes.<br><br>Attributes: non-creatable, non-modifiable |
| **logical-used-by-afs** | **[0..2^63-1]** | integer optional | The size (in bytes) that is logically used by the active filesystem of the volume. This value differs from 'logical-used' by the amount of Snapshot spill that exceeds Snapshot reserve. This parameter is not supported on FlexGroups or Infinite Volumes.<br><br>Attributes: non-creatable, non-modifiable |
| **logical-used-by-snapshots** | **[0..2^63-1]** | integer optional | The size (in bytes) that is logically used across all Snapshot copies in the volume. This value differs from 'size-used-by-snapshots' by the space saved by the storage efficiency features across the Snapshot copies. This parameter is not supported on FlexGroups or Infinite Volumes.<br><br>Attributes: non-creatable, non-modifiable |
| **logical-used-percent** | **[0..2^32-1]** | integer optional | Percentage of the logical used size of the volume. This parameter is not supported on FlexGroups or Infinite Volumes.<br><br>Attributes: non-creatable, non-modifiable |
| **max-constituent-size** | | size optional | The maximum size of each constituent in bytes. The default value is determined by first checking the maximum FlexVol size setting on all nodes used by the FlexGroup, and then selecting the smallest value found.<br><br>This parameter is only supported on FlexGroups.<br><br>Attributes: optional-for-create, modifiable |
| **over-provisioned** | **[0..2^63-1]** | integer optional | The size (in bytes) that is not available in the aggregate for a volume. This applies only for a 'none' guaranteed volume when it's unused size exceeds available space in the aggregate. This value is always zero for 'volume' guaranteed volumes. This parameter is not supported on Infinite Volumes.<br><br>Attributes: non-creatable, non-modifiable |
| **overwrite-reserve** | **[0..2^63-1]** | integer optional | The size (in bytes) that is reserved for overwriting snapshotted data in an otherwise full volume. This space is usable only by space-reserved LUNs and files, and then only when the volume is full. It is equal to 'overwrite-reserve-required' if the value of 'percentage-fractional-reserve' is set to the default value of 100%, but otherwise may be less than 'overwrite-reserve-required'. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **overwrite-reserve-required** | **[0..2^63-1]** | integer optional | The reserved size (in bytes) that is required to ensure that the reserved space is sufficient to allow all space-reserved files and LUNs to be overwritten when the volume is full. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| | | | The reserved size (in bytes) that is not available for new overwrites. The number includes both the reserved size which has actually been used for overwrites as well as the size which was never allocated in |

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| **overwrite-reserve-used** | **[0..2^63-1]** | integer optional | the first place. On a volume without free space, the 'never allocated' component can become non-zero when 'overwrite-reserve-required' increases as holes are filled in. Because of this, the 'overwrite-reserve-used' value can exceed the snapshotted size. The 'overwrite-reserve-used' value can also exceed the value of 'overwrite-reserve-required', as the filer maintains a small hidden reserve of last resort. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **overwrite-reserve-used-actual** | **[0..2^63-1]** | integer optional | The reserved size (in bytes) that has been used. This value is computed as the smaller of: (1) snapshotted size not in the active filesystem, and (2) 'overwrite-reserve-used'. This formula comes from the observation that you cannot have used more overwrite reserved than have actually overwritten data. This value can exceed the value of 'overwrite-reserve-required', as the filer maintains a small hidden reserve of last resort. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **percentage-fractional-reserve** | **[0..100]** | integer optional | This field can be used to change the amount of space reserved for overwrites of reserved objects (e.g., files, LUNs) in a volume. This field is expressed as a percent.<br><br>By default, it is set to 100, indicating that 100% of the required reserved space will actually be reserved so the objects are fully protected for overwrites.<br><br>Using a value of less than 100 indicates the percentage of the required reserved space should actually be reserved. This returns the extra space to the available space for the volume, decreasing the total amount of space used. However, this does leave the protected objects in the volume vulnerable to out of space errors, since less than 100% of the required reserved space is actually reserved. If reserved space becomes exhausted, this will cause disruptions on the hosts using the objects. If the percentage is decreased below 100%, it is highly recommended that the administrator actively monitor the space usage on the volume and take corrective action if the reserved space nears exhaustion.<br><br>Attributes: non-creatable, modifiable |
| **percentage-size-used** | **[0..100]** | integer optional | Percentage of the volume size that is used. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **percentage-snapshot-reserve** | **[0..100]** | integer optional | The percentage of volume disk space that has been set aside as reserve for snapshot usage.<br><br>Attributes: optional-for-create, modifiable |
| **percentage-snapshot-reserve-used** | **[0..2^32-1]** | integer optional | Percentage of the volume reserved for snapshots that has been used. Note that in some scenarios, it is possible to pass 100% of the space allocated.<br><br>Attributes: non-creatable, non-modifiable |
| **performance-tier-inactive-user-data** | **[0..2^63-1]** | integer optional | The size (in bytes) that is physically used in the performance tier of the volume and has a cold temperature.<br><br>This parameter is only supported if the volume is in an aggregate that is either attached to object store or could be attached to an |

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| | | | object store.<br><br>Attributes: non-creatable, non-modifiable |
| **performance-tier-inactive-user-data-percent** | **[0..100]** | integer optional | The size (in percent) that is physically used in the performance tier of the volume and has a cold temperature. The percentage is based on volume size including the space reserved for Snapshot copies.<br><br>This parameter is only supported if the volume is in an aggregate that is either attached to object store or could be attached to an object store.<br><br>Attributes: non-creatable, non-modifiable |
| **physical-used** | **[0..2^63-1]** | integer optional | The size (in bytes) that is physically used in the volume. This differs from 'total-used' space by the space that is reserved for future writes. The value includes blocks in use by Snapshot copies.<br><br>This field is valid only if the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **physical-used-percent** | **[0..2^32-1]** | integer optional | The size (in percent) that is physically used in the volume. The percentage is based on volume size including the space reserved for Snapshot copies.<br><br>This field is valid only if the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **size** | **[0..2^63-1]** | integer optional | Filesystem size (in bytes) of the volume. This is the total usable size of the volume, not including WAFL reserve.<br><br>This field can not be set on Infinite Volumes that are managed by storage services.<br><br>Attributes: optional-for-create, modifiable |
| **size-available** | **[0..2^63-1]** | integer optional | The size (in bytes) that is still available in the volume. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **size-available-for-snapshots** | **[0..2^63-1]** | integer optional | Total free space (in bytes) available in the volume and the snapshot reserve. If this value is 0 or negative, a new snapshot cannot be created.<br><br>Attributes: non-creatable, non-modifiable |
| **size-total** | **[0..2^63-1]** | integer optional | Total usable size (in bytes) of the volume, not including WAFL reserve or volume snapshot reserve. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **size-used** | **[0..2^63-1]** | integer optional | The size (in bytes) that is used in the volume. This field is valid only when the volume is online.<br><br>Attributes: non-creatable, non-modifiable |
| **size-used-by-snapshots** | **[0..2^63-1]** | integer optional | The size (in bytes) that is used by snapshots in the volume.<br><br>Attributes: non-creatable, non-modifiable |
| **snapshot-reserve-available** | **[0..2^63-1]** | integer optional | The size (in bytes) that is available for Snapshot copies inside the Snapshot reserve. This value is zero if Snapshot spill is present. For 'none' guaranteed volumes, this may get reduced due to less available space in the aggregate. This parameter is not supported on Infinite Volumes. |

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| | | | Attributes: non-creatable, non-modifiable |
| **snapshot-reserve-size** | **[0..2^63-1]** | integer optional | The size (in bytes) in the volume that has been set aside as reserve for snapshot usage.<br><br>Attributes: non-creatable, non-modifiable |
| **space-full-threshold-percent** | **[0..100]** | integer optional | This field defines the used space threshold percentage at which EMS critical errors regarding the volume fullness will be generated. The default value is 98%. Setting this threshold to 0 disables the volume full space alerts.<br><br>This field is valid only if the volume is online.<br><br>Attributes: non-creatable, modifiable |
| **space-guarantee** | | string optional | The storage guarantee option that is associated with the flexible volume.<br><br>Possible options:<br><br>• 'none',<br>• 'volume' (default option)<br><br>This field is valid only if the volume is online. For data-cache volumes, this field is not returned.<br><br>This field can not be set on Infinite Volumes that are managed by storage services.<br><br>Attributes: optional-for-create, modifiable Possible values:<br><br>• "none" ,<br>• "volume" |
| **space-mgmt-option-try-first** | | string optional | This field controls the strategy to try first when this volume is space-challenged. This field is not set on FlexGroups.<br><br>There are two available settings:<br><br>• 'volume_grow' ... (default setting) Causes the volume to increase in size before deleting snapshots,<br>• 'snap_delete' ... Causes snapshots to be deleted before the volume size is increased.<br><br>Attributes: non-creatable, modifiable |
| **space-nearly-full-threshold-percent** | **[0..100]** | integer optional | This field defines the used space threshold percentage at which EMS warnings regarding the volume fullness will be generated. The default value is 95%. Setting this threshold to 0 disables the volume nearly full space alerts.<br>This field is valid only if the volume is online.<br><br>Attributes: non-creatable, modifiable |
| | | | The space SLO type that is associated with the flexible volume. The space SLO type is the Service Level Objective for space management for the volume. The space SLO value is used to enforce existing volume settings so that sufficient space is set aside to meet the space SLO. This parameter is not supported on Infinite Volumes. The default setting is none. There are three supported values: none, thick and semi-thick.<br><br>none: The value of none does not provide any guarantee for |

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| **space-slo** | | space-slo-enum optional | overwrites or enforce any restrictions. It should be used if the admin plans to manually manage space consumption in the volume and aggregate, and out of space errors.<br><br>thick: The value of thick guarantees that the hole fills and overwrites to space-reserved files in this volume will always succeed by reserving space. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified:<br><br>• Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's space-guarantee type is not supported.<br>• Fractional Reserve: 100 - 100% of the space required for overwrites is reserved. Changing the volume's fractional-reserve setting is not supported.<br><br>semi-thick: The value of semi-thick is a best-effort attempt to ensure that overwrites succeed by restricting the use of features that share blocks and auto-deleting backups and Snapshot copies in the volume. To meet this space SLO, the following volume-level settings are automatically set and cannot be modified:<br><br>• Space Guarantee: volume - The entire size of the volume is preallocated in the aggregate. Changing the volume's space-guarantee type is not supported.<br>• Fractional Reserve: 0 - No space will be reserved for overwrites by default. However, changing the volume's fractional-reserve setting is supported. Changing the setting to 100 means that 100% of the space required for overwrites is reserved.<br>• Snapshot Autodelete: enabled - Automatic deletion of Snapshot copies is enabled to reclaim space. To ensure that the overwrites can be accommodated when the volume reaches threshold capacity, the following volume snapshot autodelete parameters are set automatically to the specified values and cannot be modified:<br>◦ enabled: true<br>◦ commitment: destroy<br>◦ trigger: volume<br>◦ defer-delete: none<br>◦ destroy-list: vol_clone, lun_clone, file_clone, cifs_share<br><br>In addition, with a value of semi-thick, the following technologies are not supported for the volume:<br><br>• File Clones with autodelete disabled: Only full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of autodelete for file clone create is required.<br>• Partial File Clones: Only full file clones of files or LUNs that can be autodeleted can be created in the volume. The use of range for file clone create is not supported.<br>• Volume Efficiency: Enabling volume efficiency is not supported to allow autodeletion of Snapshot copies.<br><br>Possible options:<br><br>• 'thick',<br>• 'semi-thick',<br>• 'none' (default option)<br><br>This field is valid only if the volume is online. For data-cache volumes, this field is not returned. |

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| | | | This field can not be set on Infinite Volumes that are managed by storage services.<br><br>Attributes: optional-for-create, modifiable Possible values:<br><br>• "none" ,<br>• "thick" ,<br>• "semi_thick" |

# Element definition: **volume-state-attributes**

[top]

Information about the state or status of a volume or its features.

| Name | Range | Type | Description |
|---|---|---|---|
| **become-node-root-after-reboot** | | boolean optional | Whether this non node-root volume has been marked as the one that will become the node root volume the next time the hosting controller is rebooted. Only one volume at a time may have this marking on any given controller. This field is not directly settable. Instead, a legal request to set the 'is-node-root' attribute (if modifiable) causes this field to be set. Note that marking a volume that is already the node root volume as the new node root has no net effect. This field is not set on FlexGroups.<br><br>By default, this field is false.<br><br>Attributes: non-creatable, non-modifiable |
| **constituent-count** | **[0..2^32-1]** | integer optional | Number of constituents in a FlexGroup.<br><br>Attributes: non-creatable, non-modifiable |
| **force-nvfail-on-dr** | | boolean optional | If true, volume would be put in a special state called 'in-nvfailed-state' by 'metrocluster-switchover' API that performs a disaster recovery operation. This field has no effect for negotiated or an automatic switchover, and is not set on FlexGroups.<br><br>The protocol access on the volume in 'in-nvfailed-state' is blocked. This will cause the client applications to crash and thus prevent access to data on the volume.<br><br>To get out of this situation, the admin needs to manually clear the 'in-nvfailed-state' on the volume.<br><br>By default, this value is false.<br><br>Attributes: non-creatable, modifiable |
| **ignore-inconsistent** | | boolean optional | If true, then the volume can be brought online when booting even if it is marked as inconsistent. The user is cautioned that bringing it online prior to running wafliron may result in further file system inconsistency. This field is not set on FlexGroups.<br><br>By default, this field is false.<br><br>Attributes: non-creatable, non-modifiable |
| | | | The user can only clear this state and never set it. The file system will set this state on the volume if NVFAIL event occurs. So long as the volume is in this state, all protocol Ops with a special SpinNP |

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| **in-nvfailed-state** | | boolean optional | flag set are blocked. By clearing this state on the volume, the admin will allow protocol access to the data on the volume and can initiate the recovery process.<br><br>By default, this field is false.<br><br>Attributes: non-creatable, modifiable |
| **is-cluster-volume** | | boolean optional | Indicates whether this volume is a Cluster-Mode volume, namely one that is owned by cluster authorities and agents. These same clustering agents also provide all protocol services for this class of volume.<br><br>Cluster-Mode volumes are not supported in 7-Mode Data ONTAP deployments. All such volumes are forced offline whenever they are detected in that environment.<br><br>Similarly, all 7-Mode volumes on a Data ONTAP Cluster-Mode system (except each controller's root volume) are by default forced offline. There are exceptions, in particular when a 7-Mode volume is being prepared to become that controller's new root volume in a recovery scenario.<br><br>At the moment, traditional volumes cannot be Cluster-Mode volumes.<br><br>By default, this field is false.<br><br>Attributes: non-creatable, non-modifiable |
| **is-constituent** | | boolean optional | This field indicates if this volume is a constituent within another volume. For a FlexGroup or Infinite Volume, this field is true for all their constituents. This field is set to false for volumes which are not the constituents of a FlexGroup or Infinite Volume.<br><br>The default value is false.<br><br>Attributes: non-creatable, non-modifiable |
| **is-flexgroup** | | boolean optional | This field indicates if this volume is a FlexGroup.<br><br>Attributes: non-creatable, non-modifiable |
| **is-flexgroup-qtree-enabled** | | boolean optional | Indicates whether a FlexGroup or origin of a FlexCache volumesupports creation of Qtrees.<br><br>Attributes: non-creatable, non-modifiable |
| **is-inconsistent** | | boolean optional | Whether or not there is known inconsistency in the file system associated with the volume. By default, the value is false.<br><br>Attributes: non-creatable, non-modifiable |
| **is-invalid** | | boolean optional | Whether or not this volume is invalid. Volumes typically become invalid as a result of an aborted SnapMirror(R) initial transfer. In such a case, a volume is in a half-created state and cannot be recovered. By default, the value is false.<br><br>Attributes: non-creatable, non-modifiable |
| **is-junction-active** | | boolean optional | This field indicates whether the mounted volume is accessible. The default is true. If the mounted path is not accessible, the volume does not appear in the owning Vserver's namespace. This field applies only to Cluster-Mode volumes.<br><br>Attributes: optional-for-create, modifiable |
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| **is-move-destination-in-cutover** | | boolean optional | Indicates whether the volume is the destination of a move that is in cutover.<br><br>Attributes: non-creatable, non-modifiable |
| **is-moving** | | boolean optional | Is the given volume moving? If true, this volume is moving from one aggregate to another aggregate in the cluster. The aggregates can be on different nodes of the cluster.<br><br>Attributes: non-creatable, non-modifiable |
| **is-node-root** | | boolean optional | If true, this volume is the root volume of the node in which it resides. This field is not set on FlexGroups.<br><br>Only the node's internal logic can change this option's value from true to false; this happens when some other volume has the value set to true.<br><br>By default, this field is false.<br><br>Attributes: non-creatable, non-modifiable |
| **is-nvfail-enabled** | | boolean optional | If true, the controller performs additional work at boot and takeover times if it finds that there has been any potential data loss in this volume due to an NVRAM failure.<br><br>For 7-Mode volumes, it causes the invalidation of all NFS file handles on all volumes affected by the problem so that client-side users are forced to remount the affected file system (and thus not continue to use potentially incorrect data).<br><br>It is also possible to specify a set of files per volume that are to be renamed out of the way in these cases. The controller sends error messages to the console whenever such problems are found.<br><br>For Cluster-Mode volumes, the volume would be put in a special state called 'in-nvfailed-state' such that protocol access is blocked. This will cause the client applications to crash and thus prevent access to stale data on the volume.<br><br>To get out of this situation, the admin needs to manually clear the 'in-nvfailed-state' on the volume.<br><br>By default, this value is false.<br><br>Attributes: optional-for-create, modifiable |
| **is-protocol-access-fenced** | | boolean optional | This field indicates if this volume is fenced for protocol access. Only FlexGroup constituents and volumes in SnapMirror Synchronous relationships can be fenced for protocol access.<br><br>Attributes: non-creatable, non-modifiable |
| **is-quiesced-in-memory** | | boolean optional | Is the given volume quiesced? If true, this volume is in an (in-memory) quiesced state in which most operations on the volume are blocked except for certain internal operations. By default, this value is false.<br><br>Attributes: non-creatable, non-modifiable |
| **is-quiesced-on-disk** | | boolean optional | Is the given volume quiesced? If true, this volume is in an (on-disk) quiesced state in which most operations on the volume are blocked except for certain internal operations. By default, this value is false.<br><br>Attributes: non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| **is-smbc-failover-capable** | | boolean optional | This field indicates if volume is SMBC failover capable.<br><br>This parameter is only supported if volume is part of SMBC relationship<br><br>Attributes: non-creatable, non-modifiable |
| **is-smbc-master** | | boolean optional | This field indicates if volume is an SMBC master.<br><br>This parameter is only supported if volume is part of SMBC relationship<br><br>Attributes: non-creatable, non-modifiable |
| **is-unrecoverable** | | boolean optional | Whether or not there is known inconsistency in the associated file system and it is not recoverable. This field is valid only for flexible volumes.<br><br>By default, this field is false.<br><br>Attributes: non-creatable, non-modifiable |
| **is-volume-in-cutover** | | boolean optional | Is the given volume move operation in cutover phase? If true, this volume is moving from one aggregate to another aggregate in the cluster and is in cutover phase. The aggregates can be on different nodes of the cluster. This field is not set on FlexGroups.<br><br>Attributes: non-creatable, non-modifiable |
| **is-vserver-root** | | boolean optional | If true, this volume is the namespace root volume of the Vserver which owns this volume. The default value is false. This field is not set on FlexGroups.<br><br>When creating a volume, if this field is set to true, the new volume is to become the new namespace root volume of the Vserver. This field can be used in a recovery scenario in which the namespace root volume of the Vserver becomes unrecoverable.<br><br>Attributes: optional-for-create, non-modifiable |
| **protocol-access-fenced-by** | | string optional | This field indicates the owner of the protocol access fence when the volume's protocol access is fenced. Only FlexGroup constituents and volumes in SnapMirror Synchronous relationships can be fenced for protocol access.<br><br>Possible values:<br><br>• 'none',<br>• 'coordinated_snaprestore',<br>• 'coordinated_redirection',<br>• 'snapmirror_synchronous',<br>• 'vserver_migrate'<br><br>Attributes: non-creatable, non-modifiable |
| **smbc-consensus** | | string optional | This field indicates consensus state of SMBC volume.<br><br>Possible values:<br><br>• 'Awaiting-consensus',<br>• 'Consensus',<br>• 'No-consensus'<br><br>Attributes: non-creatable, non-modifiable |
| | | | Volume State. |

| | | | |
|---|---|---|---|
| **state** | | string optional | Possible values:<br>• 'online',<br>• 'restricted',<br>• 'offline',<br>• 'mixed'<br><br>If a FlexGroup or Infinite Volume's constituents are not all in the same state, it will return 'mixed'. The 'mixed' state is read-only.<br><br>Attributes: optional-for-create, modifiable |
| **status** | | string[] optional | Volume status.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **volume-transition-attributes**

[top]

Information about the transition attributes of a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-cft-precommit** | | boolean optional | Indicates whether the volume is in the pre-commit phase of Copy-Free Transition. This field is not set on FlexGroups or Infinite Volumes. Attributes: non-creatable, non-modifiable |
| **is-copied-for-transition** | | boolean optional | Indicates whether the volume has been copied for copy based transition. This field is not set on FlexGroups. Attributes: non-creatable, non-modifiable |
| **is-transitioned** | | boolean optional | Indicates whether the volume has gone through a transition operation at some point in the past. This field is not set on FlexGroups. Attributes: non-creatable, non-modifiable |
| **transition-behavior** | | string optional | For an in progress transition, indicate what the behavior is. This field is not set on FlexGroups.<br><br>Possible values:<br>• 'none' ... No transition is in progress,<br>• 'data-move' ... Transition will follow volume move behavior. For example, Lun serial number is preserved,<br>• 'data-protection' ... Transition will follow a data protection relationship behavior.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **volume-vm-align-attributes**

[top]

Information related to the Virtual Machine alignment settings on the volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **vm-align-** | **[1..7]** | integer | The Virtual Machine alignment 512 byte sector number. All files created with the suffix specified in the 'vm-align-suffix' input parameter will have zero-filled <512 * 'vm-align-sector'> bytes data at the beginning so that it's actual data starts at a different offset instead of zero. This is done so that the read & writes |

| | | | |
|---|---|---|---|
| **sector** | | optional | to such files are aligned to WAFL's 4k block boundary. This field is not set on FlexGroups.<br><br>Attributes: optional-for-create, non-modifiable |
| **vm-align-suffix** | | string optional | The Virtual Machine alignment suffix. The suffix such as '.xyz'. is used to identify the files which needs to be aligned. See the description for 'vm-align-sector' above for more information on this. This field is not set on FlexGroups.<br><br>Attributes: optional-for-create, non-modifiable |

# Element definition: **volume-vserver-dr-protection-attributes**

[top]

Information related to volume protection type in a Vserver DR setup.

| Name | Range | Type | Description |
|---|---|---|---|
| **vserver-dr-protection** | | string optional | Indicates whether the volume will be replicated to the destination in a Vserver DR setup.<br><br>Possible values:<br><br>• 'protected' ... Volume will be replicated to the destination,<br>• 'unprotected' ... Volume will not be replicated to the destination.<br><br>Attributes: optional-for-create, modifiable Possible values:<br><br>• "protected" - Volume is protected by Vserver DR,<br>• "unprotected" - Volume is not protected by Vserver DR |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **cache-policy**

[top]

Cache Policy Name

[none]

## Element definition: **encryptiontype**

[top]

none|volume|aggregate Possible values:

- "undefined" - Not defined,
- "none" - Plain-text volume,
- "volume" - NVE (NetApp Volume Encryption) volume,
- "aggregate" - NAE (NetApp Aggregate Encryption) volume,
- "mixed" - A FlexGroup volume with a mixture of plain-text, NetApp Volume Encryption (NVE) or NetApp Aggregate Encryption (NAE)

[none]

## Element definition: **junction-path**

[top]

The Junction Path.

The fully-qualified pathname in the owning Vserver's namespace at which a volume is mounted. Note that this pathname may itself contain junctions, one for each volume (other than the namespace root volume) that provides storage along the pathname's length. As with all fully-qualified pathnames , this string must begin with '/'. In addition, it must not end with '/'.

An example of a valid FlexVol or FlexGroup junction path is: '/user/my_volume'. An example of a valid Infinite Volume junction path is: '/repository'.

Only one volume can be mounted at any given junction path.

[none]

## Element definition: **language-code**

[top]

Language Code.

The following are the possible language codes along with their names:

- 'C' ... POSIX,
- 'ar' ... Arabic,
- 'cs' ... Czech,
- 'da' ... Danish,
- 'de' ... German,
- 'en' ... English,
- 'en_US' ... English (US),
- 'es' ... Spanish,
- 'fi' ... Finnish,
- 'fr' ... French,
- 'he' ... Hebrew,
- 'hr' ... Croatian,

- 'hu' ... Hungarian,
- 'it' ... Italian,
- 'ja' ... Japanese euc-j*,
- 'ja_v1' ... Japanese euc-j,
- 'ja_JP.PCK' ... Japanese PCK (sjis)*,
- 'ja_JP.932' ... Japanese cp932*,
- 'ja_JP.PCK_v2' ... Japanese PCK (sjis),
- 'ko' ... Korean,
- 'no' ... Norwegian,
- 'nl' ... Dutch,
- 'pl' ... Polish,
- 'pt' ... Portuguese,
- 'ro' ... Romanian,
- 'ru' ... Russian,
- 'sk' ... Slovak,
- 'sl' ... Slovenian,
- 'sv' ... Swedish,
- 'tr' ... Turkish,
- 'zh' ... Simplified Chinese,
- 'zh.GBK' ... Simplified Chinese (GBK),
- 'zh_TW' ... Traditional Chinese euc-tw,
- 'zh_TW.BIG5' ... Traditional Chinese Big 5

To use UTF-8 as the NFS character set, append '.UTF-8' to the language code.

[none]

# Element definition: **node-name**

[top]

The node's name

[none]

# Element definition: **raid-group-info**

[top]

Information for a particular RAID group.

| Name | Range | Type | Description |
|---|---|---|---|
| **checksum-style** | | string | Checksum style. The possible values:<br>• "advanced_zoned" - advanced_zoned checksum (azcs),<br>• "block" - block,<br>• "mixed" - mixed,<br>• "none" - none,<br>• "unknown" - unknown,<br>• "wafl" - wafl,<br>• "zoned" - zoned (this value is no longer supported). |
| **cluster-disk-names** | | disk-info[] optional | List of disks in this plex by their spatial names, if available. |
| | | disk- | |

| | | | |
|---|---|---|---|
| **disks** | | info[] | List of disks in this plex. |
| **is-cache-tier** | | boolean | "true" if the RAID group is composed of SSDs and the owning aggregate is hybrid (group is not part of usable space). |
| **is-recomputing-parity** | | boolean | "true" if the RAID group is currently recomputing parity. |
| **is-reconstructing** | | boolean | "true" if the RAID group is currently reconstructing. |
| **is-scrub-suspended** | | boolean optional | Suspended state of the scrub on that RAID group. |
| **last-scrub-timestamp** | | integer optional | Time at which the last full scrub completed. If a scrub has never been performed, this value will not be returned. The time value is in seconds since January 1, 1970. Range : [0..2^31-1]. |
| **name** | | string | RAID group name. |
| **recomputing-parity-percentage** | | integer optional | The percentage of parity recomputation if is-recomputing-parity is set to true. Range : [0-100] |
| **reconstruction-percentage** | | integer optional | If reconstruction is going on, the the completion percentage. Range : [0-100] |
| **scrub-percentage-complete** | | integer optional | Scrub percentage complete. If scrub is not active, this value will not be returned. Range: [0..100]. |

# Element definition: **repos-constituent-role**

[top]

Constituent Roles Possible values:

- "none" ,
- "namespace" ,
- "data" ,
- "root" ,
- "ns_mirror" ,
- "member"

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **snaplocktype**

[top]

non-snaplock|compliance|enterprise Possible values:

- "non_snaplock" - Non SnapLock,
- "compliance" - SnapLock Compliance,
- "enterprise" - SnapLock Enterprise

[none]

## Element definition: **space-slo-enum**

[top]

none|thick|semi-thick Possible values:

- "none" ,
- "thick" ,
- "semi_thick"

[none]

## Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

## Element definition: **volstyle**

[top]

flex Possible values:

- "flex" - Flexible Volume,
- "infinitevol" - Infinite Volume

[none]

## Element definition: **volume-64bit-upgrade-check-info**

[top]

Information returned when upgrade-64bit-mode in aggr-add is "check". Upgrade check results such as "used-space", "available-space", "capacity", and "grow-space" are only updated after the space estimate is completed successfully.

| Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **age** | | integer optional | The age in seconds of the space check results. Range: [0..2^64-1]. |
| **available-space** | | integer optional | Amount of space (in bytes) that would be available in the volume after it is upgraded to 64-bit. Range: [0..2^64-1]. |
| **capacity** | | integer optional | Percentage of space that would be used in the volume after it is upgraded to 64-bit. Range: [0..100]. |
| **grow-space** | | integer optional | Amount of space (in bytes) the volume must be grown by before successfully upgrading its current data. Range: [0..2^64-1] |
| **last-errno** | | integer optional | The error code of the last attempt to check for space usage on the specific volume. This field is present only if a 64-bit upgrade check was previously attempted. Possible values: 0 - indicates success EVOLUME_64BIT_UPGRADE_KIREETI_NOT_AVAIL Upgrade check results may be out of date if last-errno is not 0. |
| **used-space** | | integer optional | Amount of space (in bytes) that would be used in the volume after it is upgraded to 64-bit. Range: [0..2^64-1]. |

# Element definition: **volume-antivirus-attributes**

[top]

{Deprecated, this field does not have any effect on the operation of the volume.} Information about Antivirus settings for the volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **on-access-policy** | | string optional | {Deprecated, this field does not have any effect on the operation of the volume.} The name of the Antivirus On-Access policy. The default policy name is 'default'.<br><br>If not specified when creating a volume, the Antivirus On-Access Policy is inherited from the owning vserver. Currently, this policy can only be managed using the 'antivirus' command line interfaces.<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **volume-clone-parent-attributes**

[top]

Information describing the parentage of a clone volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **dsid** | **[0..2^64-1]** | integer optional | The clone parent volume's Data Set ID.<br><br>Attributes: non-creatable, non-modifiable |
| **msid** | **[0..2^64-1]** | integer optional | The clone's parent volume's Mirror Set ID.<br><br>Attributes: non-creatable, non-modifiable |
| **name** | | volume-name optional | The clone parent volume's human-readable name.<br><br>Attributes: non-creatable, non-modifiable |
| **snapshot-id** | **[0..2^64-1]** | integer optional | The clone parent volume's base snapshot identifier.<br><br>The only legal value for a snapshot identifier is its Data Set ID. |

| | | | |
|---|---|---|---|
| | | | Attributes: non-creatable, non-modifiable |
| **snapshot-name** | | string optional | The clone parent volume's base snapshot name.<br><br>Attributes: non-creatable, non-modifiable |
| **uuid** | | uuid optional | The clone parent volume's UUID.<br><br>Attributes: non-creatable, non-modifiable |
| **vserver-name** | | vserver-name optional | The Vserver under which the clone parent volume resides.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **volume-security-unix-attributes**

[top]

The Unix-oriented security settings associated with this volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **group-id** | **[0..2^32-1]** | integer optional | The UNIX group ID for the volume. The default value is 0 ('root').<br><br>Attributes: optional-for-create, modifiable |
| **permissions** | | string optional | Unix permission bits in octal string format.<br><br>It's similar to Unix style permission bits:<br><br>In Data ONTAP 7-mode, the default setting of '0755' gives read/write/execute permissions to owner and read/execute to group and other users.<br><br>In Data ONTAP Cluster-Mode, for security style 'mixed' or 'unix', the default setting of '0755' gives read/write/execute permissions to owner and read/execute permissions to group and other users. For security style 'ntfs', the default setting of '0000' gives no permissions to owner, group and other users. |

| | | | |
|---|---|---|---|
| | | | It consists of 4 octal digits derived by adding up bits 4, 2 and 1. Omitted digits are assumed to be zeros. First digit selects the set user ID(4), set group ID (2) and sticky (1) attributes. The second digit selects permission for the owner of the file: read (4), write (2) and execute (1); the third selects permissions for other users in the same group; the fourth for other users not in the group.<br><br>Attributes: optional-for-create, modifiable |
| **user-id** | **[0..2^32-1]** | integer<br>optional | The UNIX user ID for the volume. The default value is 0 ('root').<br><br>Attributes: optional-for-create, modifiable |

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **disk-info**

[top]

Information for each disk in the plex.

| Name | Range | Type | Description |
|---|---|---|---|
| **name** | | string | Name of a member disk. |
| **vbn-end** | **[0..2^64-1].** | integer<br>optional | VBN end value of a disk. |
| **vbn-start** | **[0..2^64-1].** | integer<br>optional | VBN start value of a disk. |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# APIs in Category: **vscan**


vscan-active-scanner-pool-get-iter
vscan-connection-extended-stats-get-iter
vscan-connection-status-all-get-iter
vscan-events-get-iter
vscan-on-access-policy-create
vscan-on-access-policy-delete
vscan-on-access-policy-get-iter
vscan-on-access-policy-modify
vscan-on-access-policy-status-modify
vscan-on-demand-report-delete
vscan-on-demand-report-get-iter
vscan-on-demand-task-create
vscan-on-demand-task-delete
vscan-on-demand-task-get-iter
vscan-on-demand-task-modify
vscan-on-demand-task-run
vscan-reset
vscan-resolve-hostnames
vscan-scanner-pool-apply-policy
vscan-scanner-pool-create
vscan-scanner-pool-delete
vscan-scanner-pool-get-iter
vscan-scanner-pool-modify
vscan-status-get-iter
vscan-status-modify


This set of APIs allow configuring and managing Vscan on Data ONTAP Cluster-Mode environment. This includes the APIs to retrieve the connection-status and other diagnostic information of active Vscan servers.

## vscan-active-scanner-pool-get-iter

[top]

Returns active scanner pool configuration of a vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vscan-active-scanner-pool-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vscan-active-scanner-pool-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-active-scanner-pool object. All vscan-active-scanner-pool objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vscan-active-scanner-pool-info[] optional | The list of attributes of vscan-active-scanner-pool objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vscan-active-scanner-pool objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# vscan-connection-extended-stats-get-iter

[top]

Returns connection status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vscan-connection-extended-stats-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vscan-connection-extended-stats-info | A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-connection-extended-stats object. All vscan-connection-extended-stats |

| | | | |
|---|---|---|---|
| | | optional | objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vscan-connection-extended-stats-info[] optional | The list of attributes of vscan-connection-extended-stats objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vscan-connection-extended-stats objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ENODENOTFOUND** | |
| **E_SCANNER_POOL_NOT_FOUND** | |

# vscan-connection-status-all-get-iter

[top]

Returns connection status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vscan-connection-status-all-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vscan-connection-status-all-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-connection-status-all object. All vscan-connection-status-all objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vscan-connection-status-all-info[] optional | The list of attributes of vscan-connection-status-all objects. |
| | | | |

| | | | |
|---|---|---|---|
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vscan-connection-status-all objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ENODENOTFOUND** | |
| **E_SCANNER_POOL_NOT_FOUND** | |

# vscan-events-get-iter

[top]

Returns content of the vscan event log, which is generated by the cluster to capture important events.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vscan-events-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vscan-events-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-events object. All vscan-events objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vscan-events-info[] optional | The list of attributes of vscan-events objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vscan-events objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **ENODENOTFOUND** | |

[top]

# vscan-on-access-policy-create

Create an On-Access policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **file-ext-to-exclude** | | file-extension[] optional | File extensions for which On-Access scanning must not be performed. |
| **file-ext-to-include** | | file-extension[] optional | File extensions for which On-Access scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. |
| **filters** | | vscan-on-access-policy-ui-filter[] optional | A list of filters which can be used to define the scope of the On-Access policy more precisely. The filters can be added in any order. Possible values:<br>• "scan_ro_volume" - Enable scans for read-only volume,<br>• "scan_execute_access" - Scan only files opened with execute-access (CIFS only) |
| **is-scan-mandatory** | | boolean optional | Specifies whether access to a file is allowed if there are no external virus-scanning servers available for virus scanning. It is true if not provided at the time of creating a policy. |
| **max-file-size** | | size optional | Max file-size (in bytes) allowed for scanning. The default value of 2147483648 (2GB) is taken if not provided at the time of creating a policy. |
| **paths-to-exclude** | | file-path[] optional | File paths for which On-Access scanning must not be performed. |
| **policy-name** | | policy-name | Name of the policy. |
| **protocol** | | vscan-protocol | File-Access protocol to monitor for On-Access scanning. Possible values:<br>• "cifs" - CIFS Protocol |
| **return-record** | | boolean optional | If set to true, returns the vscan-on-access-policy on successful creation. Default: false |
| **scan-files-with-no-ext** | | true-false optional | Specifies whether files without any extension are considered for scanning or not. The default value is true. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | vscan-on-access-policy-info optional | The vscan-on-access-policy created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **E_VSERVER_TYPE_NOT_SUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **E_OA_POLICY_EXISTS** | |
| **E_OA_POLICY_CANNOT_CREATE_MAX_LIMIT** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# vscan-on-access-policy-delete

[top]

Delete an On-Access policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | policy-name | Name of the policy. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **E_OA_POLICY_NOT_FOUND** | |
| **EAPIPRIVILEGE** | |
| **E_OA_POLICY_CANNOT_DELETE** | |
| **ERESOURCEINUSE** | |

# vscan-on-access-policy-get-iter

[top]

Returns list of On-Access policies.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vscan-on-access-policy-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vscan-on-access-policy-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-on-access-policy object. All vscan-on-access-policy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vscan-on-access-policy-info[] optional | The list of attributes of vscan-on-access-policy objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vscan-on-access-policy objects to return. |

| | | | |
|---|---|---|---|
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **E_OA_POLICY_NOT_FOUND** | |

# vscan-on-access-policy-modify

[top]

Modify an On-Access policy.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **file-ext-to-exclude** | | file-extension[] optional | File extensions for which On-Access scanning must not be performed. |
| **file-ext-to-include** | | file-extension[] optional | File extensions for which On-Access scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. |
| **filters** | | vscan-on-access-policy-ui-filter[] optional | A list of filters which can be used to define the scope of the On-Access policy more precisely. The filters can be added in any order. Possible values:<br>• "scan_ro_volume" - Enable scans for read-only volume,<br>• "scan_execute_access" - Scan only files opened with execute-access (CIFS only) |
| **is-scan-mandatory** | | boolean optional | Specifies whether access to a file is allowed if there are no external virus-scanning servers available for virus scanning. It is true if not provided at the time of creating a policy. |
| **max-file-size** | | size optional | Max file-size (in bytes) allowed for scanning. The default value of 2147483648 (2GB) is taken if not provided at the time of creating a policy. |
| **paths-to-exclude** | | file-path[] optional | File paths for which On-Access scanning must not be performed. |
| **policy-name** | | policy-name | Name of the policy. |
| **scan-files-with-no-ext** | | true-false optional | Specifies whether files without any extension are considered for scanning or not. The default value is true. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **E_OA_POLICY_NOT_FOUND** | |
| **EAPIPRIVILEGE** | |

[top]

# vscan-on-access-policy-status-modify

Modify On-Access policy status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **policy-name** | | policy-name | Name of the policy. |
| **policy-status** | | boolean | Policy Status |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **E_VSERVER_TYPE_NOT_SUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **E_OA_POLICY_NOT_FOUND** | |
| **ERESOURCEINUSE** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# vscan-on-demand-report-delete

[top]

Delete an On-Demand report.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **delete-report-file** | | true-false optional | Specifies if report file also need to be deleted. Default is false. |
| **report-file** | | string | Path of the report file from root of the Vserver. |
| **task-name** | | string | Name of the task. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EAPIPRIVILEGE** | |
| **ERESOURCEINUSE** | |

# vscan-on-demand-report-get-iter

[top]

Returns list of On-Demand Task Report.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vscan-on-demand-report-info | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| | | | |
|---|---|---|---|
| | | optional | |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vscan-on-demand-report-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-on-demand-report object. All vscan-on-demand-report objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vscan-on-demand-report-info[] optional | The list of attributes of vscan-on-demand-report objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vscan-on-demand-report objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# vscan-on-demand-task-create

[top]

Create an On-Demand Task.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cross-junction** | | true-false optional | Specifies whether the On-Demand task is allowed to cross volume junctions. If the parameter is set to false, crossing junctions is not allowed. Default is true. |
| **directory-recursion** | | true-false optional | Specifies whether the On-Demand task is allowed to recursively scan through sub-directories. If the parameter is set to false, recursive scanning is not allowed. Default is true. |
| **file-ext-to-exclude** | | file-extension[] optional | File-Extensions for which scanning must not be performed. File whose extension matches with both inclusion and exclusion list is not considered for scanning. |
| **file-ext-to-include** | | file-extension[] optional | File extensions for which scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. File whose extension matches with both inclusion and exclusion list is not considered for scanning. |
| **max-file-size** | | size optional | Max file-size (in bytes) allowed for scanning. The default value of 10737418240 (10GB) is taken if not provided at the time of creating a task. |

| | | | |
|---|---|---|---|
| **paths-to-exclude** | | string[] optional | File-paths for which scanning must not be performed. |
| **report-directory** | | string | Path from the vserver root where task report is created. The path must be a directory and provided in unix-format from the root of the Vserver. Example: /vol1/on-demand-reports. |
| **report-expiry-time** | | time-interval optional | Expiration time for On-Demand reports. A value of 0 indicates that report files will be retained until manually deleted. Default is 0 |
| **report-log-level** | | vscan-od-log-level optional | Log level for the On-Demand report. Default is error. Possible values:<br>• "verbose" - Report file will contain verbose logs for each file found in the scan-path.,<br>• "info" - Report file will contain info and error logs.,<br>• "error" - Report file will contain only error logs. |
| **request-timeout** | | time-interval optional | Total request-service time-limit in seconds. If the virus-scanner does not respond within the provided time, scan will be timedout. |
| **return-record** | | boolean optional | If set to true, returns the vscan-on-demand-task on successful creation. Default: false |
| **scan-files-with-no-ext** | | true-false optional | Specifies whether files without any extension are considered for scanning or not. The default value is true. |
| **scan-paths** | | string[] | List of paths that need to be scanned. The path must be provided in unix-format and from the root of the Vserver. Example: /vol1/large_files. |
| **scan-priority** | | vscan-scan-priority optional | Priority of the On-Demand scan requests generated by this task. Default is low. Possible values:<br>• "low" - The scan request will be sent to the Vscan server only if no other normal request is in queue.,<br>• "normal" - The scan request will be processed normally. |
| **schedule** | | string optional | Schedule of the task. The task will be run as per the schedule. For running the task immediately, vscan-on-demand-task-run api must be used after creating a task. |
| **task-name** | | string | Name of the task. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | vscan-on-demand-task-info optional | The vscan-on-demand-task created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **E_VSERVER_TYPE_NOT_SUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **E_OD_TASK_CANNOT_CREATE_MAX_LIMIT** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# vscan-on-demand-task-delete

[top]

Delete an On-Demand Task.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **task-name** | | string | Name of the task. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EAPIPRIVILEGE** | |
| **ERESOURCEINUSE** | |

# vscan-on-demand-task-get-iter

[top]

Returns list of On-Demand Task.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vscan-on-demand-task-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vscan-on-demand-task-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-on-demand-task object. All vscan-on-demand-task objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vscan-on-demand-task-info[] optional | The list of attributes of vscan-on-demand-task objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vscan-on-demand-task objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |

| EVSERVERNOTFOUND | |
|---|---|

# vscan-on-demand-task-modify

[top]

Modify an On-Demand Task.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cross-junction** | | true-false optional | Specifies whether the On-Demand task is allowed to cross volume junctions. If the parameter is set to false, crossing junctions is not allowed. Default is true. |
| **directory-recursion** | | true-false optional | Specifies whether the On-Demand task is allowed to recursively scan through sub-directories. If the parameter is set to false, recursive scanning is not allowed. Default is true. |
| **file-ext-to-exclude** | | file-extension[] optional | File-Extensions for which scanning must not be performed. File whose extension matches with both inclusion and exclusion list is not considered for scanning. |
| **file-ext-to-include** | | file-extension[] optional | File extensions for which scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. File whose extension matches with both inclusion and exclusion list is not considered for scanning. |
| **max-file-size** | | size optional | Max file-size (in bytes) allowed for scanning. The default value of 10737418240 (10GB) is taken if not provided at the time of creating a task. |
| **paths-to-exclude** | | string[] optional | File-paths for which scanning must not be performed. |
| **report-directory** | | string optional | Path from the vserver root where task report is created. The path must be a directory and provided in unix-format from the root of the Vserver. Example: /vol1/on-demand-reports. |
| **report-expiry-time** | | time-interval optional | Expiration time for On-Demand reports. A value of 0 indicates that report files will be retained until manually deleted. Default is 0 |
| **report-log-level** | | vscan-od-log-level optional | Log level for the On-Demand report. Default is error. Possible values:<br>• "verbose" - Report file will contain verbose logs for each file found in the scan-path.,<br>• "info" - Report file will contain info and error logs.,<br>• "error" - Report file will contain only error logs. |
| **request-timeout** | | time-interval optional | Total request-service time-limit in seconds. If the virus-scanner does not respond within the provided time, scan will be timedout. |
| **scan-files-with-no-ext** | | true-false optional | Specifies whether files without any extension are considered for scanning or not. The default value is true. |
| **scan-paths** | | string[] optional | List of paths that need to be scanned. The path must be provided in unix-format and from the root of the Vserver. Example: /vol1/large_files. |
| **scan-priority** | | vscan-scan-priority optional | Priority of the On-Demand scan requests generated by this task. Default is low. Possible values:<br>• "low" - The scan request will be sent to the Vscan server only if no other normal request is in queue.,<br>• "normal" - The scan request will be processed normally. |
| | | | |

| | | | |
|---|---|---|---|
| **schedule** | | string optional | Schedule of the task. The task will be run as per the schedule. For running the task immediately, vscan-on-demand-task-run api must be used after creating a task. |
| **task-name** | | string | Name of the task. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EAPIPRIVILEGE** | |

# vscan-on-demand-task-run

[top]

Run an On-Demand task

| Input Name | Range | Type | Description |
|---|---|---|---|
| **task-name** | | string | Task Name |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EAPIPRIVILEGE** | |
| **ERESOURCEINUSE** | |

# vscan-reset

[top]

Discard cached information of files that have been successfully scanned.

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **E_VSERVER_TYPE_NOT_SUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# vscan-resolve-hostnames

[top]

Resolve the hostnames configured in the scanner pool.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **scanner-pool** | | scanner-pool | Name of the virus scanner pool. |

| Errno | Description |
|---|---|
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EOPNOTSUPPORTED | |
| E_VSERVER_TYPE_NOT_SUPPORTED | |
| EVSERVERNOTFOUND | |
| E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE | |

# vscan-scanner-pool-apply-policy

[top]

Apply scanner-policy to a scanner pool.

| Input Name | Range | Type | Description |
|---|---|---|---|
| cluster | | cluster-name optional | Cluster on Which Policy Is Applied |
| scanner-policy | | scanner-policy | Scanner Policy |
| scanner-pool | | scanner-pool | Name of the virus scanner pool. |

| Errno | Description |
|---|---|
| EINVALIDINPUTERROR | |
| EINTERNALERROR | |
| EOPNOTSUPPORTED | |
| E_VSERVER_TYPE_NOT_SUPPORTED | |
| EVSERVERNOTFOUND | |
| E_SCANNER_POOL_NOT_FOUND | |
| E_ONLY_SCANNER_POOL_ACTIVE | |
| E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE | |

# vscan-scanner-pool-create

[top]

Create a virus scanner pool, which is used for validating and managing connections between clustered Data ONTAP and Vscan servers.

| Input Name | Range | Type | Description |
|---|---|---|---|
| hostnames | | string[] | List of hostnames of Vscan servers which are allowed to connect to clustered Data ONTAP. |
| max-session-setup-retries | [0..2^32-1] | integer optional | Maximum number of consecutive session-setup attempts. The value for this field must be between 1 and 5. The default value of 5 is taken if not provided while creating a scanner pool. |
| privileged-users | | privileged-user[] | List of privileged users. |
| | | | Total request-service time-limit in seconds. It is used to specify the time interval in which the node waits for a response from the Vscan server. If the timeout is reached, the node allows the file-operation if the applicable On-Access policy has scan-mandatory set to \"off\". If the policy has scan-mandatory set to \"on\", the |

| | | | |
|---|---|---|---|
| **request-timeout** | **[0..2^32-1]** | integer optional | node will retry the scan or disallow the file-operation depending on the remaining lifetime of the CIFS request. Valid values for this field are from 10s to 40s. However, if scan-mandatory is set to \"off\", the effective value is limited to a maximum of 35s. The default value of 30 is taken if not provided while creating a scanner pool. |
| **return-record** | | boolean optional | If set to true, returns the vscan-scanner-pool on successful creation. Default: false |
| **scan-queue-timeout** | **[0..2^32-1]** | integer optional | Scan-queue wait-time-limit in seconds. The value for this field must be between 10s and 30s. The default value of 20 is taken if not provided while creating a scanner pool. |
| **scanner-pool** | | scanner-pool | Name of the virus scanner pool. |
| **session-setup-timeout** | **[0..2^32-1]** | integer optional | Total session-setup time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool. |
| **session-teardown-timeout** | **[0..2^32-1]** | integer optional | Total session-teardown time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | vscan-scanner-pool-info optional | The vscan-scanner-pool created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **E_VSERVER_TYPE_NOT_SUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **E_SCANNER_POOL_EXISTS** | |
| **E_SCANNER_POOL_CANNOT_CREATE_MAX_LIMIT** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# vscan-scanner-pool-delete

[top]

Delete a scanner pool.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **scanner-pool** | | scanner-pool | Name of the virus scanner pool. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **E_SCANNER_POOL_NOT_FOUND** | |
| **EAPIPRIVILEGE** | |

| | |
|---|---|
| **E_ONLY_SCANNER_POOL_ACTIVE** | |
| **ERESOURCEINUSE** | |

# vscan-scanner-pool-get-iter

[top]

Returns list of scanner pools. Scanner pool is a set of attributes which are used to validate and manage connections between clustered Data ONTAP and Vscan servers (virus scanners).

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vscan-scanner-pool-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vscan-scanner-pool-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-scanner-pool object. All vscan-scanner-pool objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vscan-scanner-pool-info[] optional | The list of attributes of vscan-scanner-pool objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vscan-scanner-pool objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **E_SCANNER_POOL_NOT_FOUND** | |

# vscan-scanner-pool-modify

[top]

Modify a scanner pool.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **hostnames** | | string[] optional | List of hostnames of Vscan servers which are allowed to connect to clustered Data ONTAP. |
| **max-** | | | |

| | | | |
|---|---|---|---|
| **session-setup-retries** | **[0..2^32-1]** | integer optional | Maximum number of consecutive session-setup attempts. The value for this field must be between 1 and 5. The default value of 5 is taken if not provided while creating a scanner pool. |
| **privileged-users** | | privileged-user[] optional | List of privileged users. |
| **request-timeout** | **[0..2^32-1]** | integer optional | Total request-service time-limit in seconds. It is used to specify the time interval in which the node waits for a response from the Vscan server. If the timeout is reached, the node allows the file-operation if the applicable On-Access policy has scan-mandatory set to \"off\". If the policy has scan-mandatory set to \"on\", the node will retry the scan or disallow the file-operation depending on the remaining lifetime of the CIFS request. Valid values for this field are from 10s to 40s. However, if scan-mandatory is set to \"off\", the effective value is limited to a maximum of 35s. The default value of 30 is taken if not provided while creating a scanner pool. |
| **scan-queue-timeout** | **[0..2^32-1]** | integer optional | Scan-queue wait-time-limit in seconds. The value for this field must be between 10s and 30s. The default value of 20 is taken if not provided while creating a scanner pool. |
| **scanner-pool** | | scanner-pool | Name of the virus scanner pool. |
| **session-setup-timeout** | **[0..2^32-1]** | integer optional | Total session-setup time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool. |
| **session-teardown-timeout** | **[0..2^32-1]** | integer optional | Total session-teardown time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **E_SCANNER_POOL_NOT_FOUND** | |
| **EAPIPRIVILEGE** | |

# vscan-status-get-iter

[top]

Returns Vscan status information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vscan-status-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vscan-status-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vscan-status object. All vscan-status objects matching this query up to 'max-records' will be returned. |
| **tag** | | string | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' |

| | | | |
|---|---|---|---|
| | | optional | obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vscan-status-info[] optional | The list of attributes of vscan-status objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vscan-status objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

## vscan-status-modify

[top]

Modify Vscan status.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-vscan-enabled** | | boolean | Vscan status. When true, Vscan feature is enabled for the Vserver. |

| Errno | Description |
|---|---|
| **EINVALIDINPUTERROR** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **E_VSERVER_TYPE_NOT_SUPPORTED** | |
| **EVSERVERNOTFOUND** | |
| **ECIFSERVERNOTFOUND** | |
| **E_NO_SCANNER_POOL_ACTIVE** | |
| **E_VSCAN_CAPABILITY_NOT_ENABLED** | |
| **E_VSCAN_JOB_QUEUE_FAILED** | |
| **E_VSCAN_JOB_DELETE_FAILED** | |
| **E_CIFS_OPERATION_NOT_SUPPORTED_IN_REALM_MODE** | |

# Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

## Element definition: **file-extension** [top]

File extension

[none]

## Element definition: **file-path** [top]

File path

[none]

## Element definition: **policy-name** [top]

Policy name

[none]

## Element definition: **privileged-user** [top]

Privileged user

[none]

## Element definition: **scanner-policy** [top]

Policy applied to a Vscan scanner pool

[none]

## Element definition: **scanner-pool** [top]

Scanner pool is a set of attributes which are used to validate and manage connections between clustered ONTAP and Vscan servers (virus scanners).

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **time-interval**

[top]

Time interval in seconds Range : [0..2^32-1].

[none]

# Element definition: **true-false**

[top]

True/False

[none]

# Element definition: **vscan-active-scanner-pool-info**

[top]

Vscan active scanner pool information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **max-session-setup-retries** | **[0..2^32-1]** | integer optional | Maximum number of consecutive session-setup attempts. This is set to the max of max-session-setup-retries of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable |
| **privileged-users** | | privileged-user[] optional | List of privileged users for a vserver. Vscan server is given privileged access to the clustered Data ONTAP only if it uses one of these users. Attributes: non-creatable, non-modifiable |
| **request-timeout** | **[0..2^32-1]** | integer optional | Total request-service time-limit in seconds. This is set to the max of the request-timeouts of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable |
| **scan-queue-timeout** | **[0..2^32-1]** | integer optional | Scan-queue wait-time-limit in seconds. This is set to the max of the scan-queue-timeouts of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable |
| **scanner-** | | scanner- | List of active scanner pools on a vserver. Attributes: non-creatable, |

| | | | |
|---|---|---|---|
| **pools** | | pool[] optional | non-modifiable |
| **servers** | | ip-address[] optional | List of allowed Vscan servers IP for a vserver. A Vscan server is allowed to connect to the clustered Data ONTAP only if its IP is part of this list. Attributes: non-creatable, non-modifiable |
| **session-setup-timeout** | **[0..2^32-1]** | integer optional | Total session-setup time-limit in seconds. This is set to the max of the session-setup-timeouts of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable |
| **session-teardown-timeout** | **[0..2^32-1]** | integer optional | Total session-teardown time-limit in seconds. This is set to the max of the session-teardown-timeouts of all active scanner pools on a vserver. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **vscan-connection-extended-stats-info**

[top]

Vscan connection extended statistics. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **extended-stats** | | string[] optional | Vscanner's extended statistics. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Cluster node to which this connection is applicable. Attributes: key, non-creatable, non-modifiable |
| **server** | | ip-address optional | IP of the Vscan server. Attributes: key, non-creatable, non-modifiable |
| **server-status** | | vscan-server-status optional | Status of the connection. Attributes: non-creatable, non-modifiable Possible values:<br>• "disconnected" - Disconnected,<br>• "disconnecting" - Disconnecting,<br>• "connecting" - Connecting,<br>• "connected" - Connected |
| **server-type** | | vscan-scanner-type optional | Server type. Attributes: non-creatable, non-modifiable Possible values:<br>• "primary" - Primary,<br>• "backup" - Backup |
| **vendor** | | string optional | Name of virus-scanner vendor. Attributes: non-creatable, non-modifiable |
| **version** | | string optional | Version of virus-scanner. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **vscan-connection-status-all-info**

[top]

Vscan connection status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **connected-since** | | datetime optional | Time when Vscan server was connected. Attributes: non-creatable, non-modifiable |
| **disconnect-reason** | | vscan-disconnect-reason optional | Reason for disconnection. Attributes: non-creatable, non-modifiable Possible values:<br>• "na" - Not applicable,<br>• "vscan_disabled" - Vscan disabled on the vserver,<br>• "no_data_lif" - Vserver does not have data lif on the node,<br>• "session_uninitialized" - Session not initialized,<br>• "remote_closed" - Closure from Server,<br>• "invalid_protocol_msg" - Invalid protocol-message received,<br>• "invalid_session_id" - Invalid session-id received,<br>• "inactive_connection" - No activity on connection,<br>• "invalid_user" - Connection request by invalid user,<br>• "server_removed" - Server removed from the active scanner-pool |
| **disconnected-since** | | datetime optional | Time when Vscan server was disconnected. Attributes: non-creatable, non-modifiable |
| **lif** | | ip-address optional | IP address of the Vserver LIF, which is used for the connection between clustered Data ONTAP and the Vscan server. Attributes: non-creatable, non-modifiable |
| **node** | | node-name optional | Cluster node to which this connection is applicable. Attributes: key, non-creatable, non-modifiable |
| **privileged-user** | | string optional | Privileged user, which is used for the connection between clustered Data ONTAP and the Vscan server. Attributes: non-creatable, non-modifiable |
| **server** | | ip-address optional | IP of the Vscan server. Attributes: key, non-creatable, non-modifiable |
| **server-status** | | vscan-server-status optional | Status of the connection. Attributes: non-creatable, non-modifiable Possible values:<br>• "disconnected" - Disconnected,<br>• "disconnecting" - Disconnecting,<br>• "connecting" - Connecting,<br>• "connected" - Connected |
| **server-type** | | vscan-scanner-type | Server type. Attributes: non-creatable, non-modifiable Possible values:<br>• "primary" - Primary, |

| | | | |
|---|---|---|---|
| | | optional | • "backup" - Backup |
| **vendor** | | string optional | Name of virus-scanner vendor. Attributes: non-creatable, non-modifiable |
| **version** | | string optional | Version of virus-scanner. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **vscan-events-info**

[top]

Vscan events information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **consecutive-occurrence-count** | **[0..2^32-1]** | integer optional | Consecutive occurrence count of the same event. Attributes: non-creatable, non-modifiable |
| **disconnect-reason** | | vscan-disconnect-reason optional | Reason for disconnection. This field is applicable only for the scanner-disconnection events. Attributes: non-creatable, non-modifiable Possible values:<br>• "na" - Not applicable,<br>• "vscan_disabled" - Vscan disabled on the vserver,<br>• "no_data_lif" - Vserver does not have data lif on the node,<br>• "session_uninitialized" - Session not initialized,<br>• "remote_closed" - Closure from Server,<br>• "invalid_protocol_msg" - Invalid protocol-message received,<br>• "invalid_session_id" - Invalid session-id received,<br>• "inactive_connection" - No activity on connection,<br>• "invalid_user" - Connection request by invalid user,<br>• "server_removed" - Server removed from the active scanner-pool |
| **event-time** | | datetime optional | Event log time. Attributes: key, non-creatable, non-modifiable |
| **event-type** | | vscan-event-type optional | Event type. Attributes: non-creatable, non-modifiable Possible values:<br>• "scanner_connected" - Scanner connected,<br>• "scanner_disconnected" - Scanner disconnected,<br>• "scanner_updated" - Scanner updated,<br>• "scan_internal_error" - Internal error,<br>• "scan_failed" - Scan failed,<br>• "scan_timedout" - Scan timed out,<br>• "file_infected" - File is infected, |

| | | | |
|---|---|---|---|
| | | | "file_renamed" - File is renamed after found infected,<br>• "file_quarantined" - File is quarantined after found infected,<br>• "file_deleted" - File is deleted after found infected,<br>• "scanner_busy" - Scanner is busy |
| **file-path** | | string<br>optional | Path of the file which is being scanned. The path gives the client view of the file being scanned. This field is applicable only for the scanning related events. Attributes: non-creatable, non-modifiable |
| **lif** | | ip-address<br>optional | IP address of the Vserver LIF, which is used for the connection between clustered Data ONTAP and the Vscan server. It could be either IPV4 or IPV6 as configured. Attributes: non-creatable, non-modifiable |
| **node** | | node-name<br>optional | Node to which this connection is applicable. Attributes: key, non-creatable, non-modifiable |
| **scan-engine-status** | **[0..2^64-1]** | integer<br>optional | Status code returned by scan-engine. This field is applicable only if scan-engine is capable of responding with extended status. Attributes: non-creatable, non-modifiable |
| **server** | | ip-address<br>optional | IP of the Vscan server. It could be either IPV4 or IPV6 as configured in the scanner pool. Attributes: non-creatable, non-modifiable |
| **vendor** | | string<br>optional | Name of virus-scanner vendor. Attributes: non-creatable, non-modifiable |
| **version** | | string<br>optional | Version of virus-scanner. Attributes: non-creatable, non-modifiable |
| **vserver** | | string<br>optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **vscan-od-log-level**

[top]

Log level for the On-Demand report. Possible values:

- "verbose" - Report file will contain verbose logs for each file found in the scan-path.,
- "info" - Report file will contain info and error logs.,
- "error" - Report file will contain only error logs.

[none]

# Element definition: **vscan-on-access-policy-info**

[top]

Vscan On-Access policy information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **admin-owner** | | vscan-config-owner optional | Owner of the policy. Attributes: non-creatable, non-modifiable Possible values:<br>• "vserver" - Vserver Admin,<br>• "cluster" - Cluter Admin |
| **file-ext-to-exclude** | | file-extension[] optional | File extensions for which On-Access scanning must not be performed. Attributes: optional-for-create, modifiable |
| **file-ext-to-include** | | file-extension[] optional | File extensions for which On-Access scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. Attributes: optional-for-create, modifiable |
| **filters** | | vscan-on-access-policy-ui-filter[] optional | A list of filters which can be used to define the scope of the On-Access policy more precisely. The filters can be added in any order. Attributes: optional-for-create, modifiable Possible values:<br>• "scan_ro_volume" - Enable scans for read-only volume,<br>• "scan_execute_access" - Scan only files opened with execute-access (CIFS only) |
| **is-policy-enabled** | | boolean optional | Policy status. Attributes: non-creatable, non-modifiable |
| **is-scan-mandatory** | | boolean optional | Specifies whether access to a file is allowed if there are no external virus-scanning servers available for virus scanning. It is true if not provided at the time of creating a policy. Attributes: optional-for-create, modifiable |
| **max-file-size** | | size optional | Max file-size (in bytes) allowed for scanning. The default value of 2147483648 (2GB) is taken if not provided at the time of creating a policy. Attributes: optional-for-create, modifiable |
| **paths-to-exclude** | | file-path[] optional | File paths for which On-Access scanning must not be performed. Attributes: optional-for-create, modifiable |
| **policy-name** | | policy-name optional | Name of the policy. Attributes: key, required-for-create, non-modifiable |
| **protocol** | | vscan-protocol optional | File-Access protocol to monitor for On-Access scanning. Attributes: required-for-create, non-modifiable Possible values:<br>• "cifs" - CIFS Protocol |
| **scan-files-with-no-ext** | | true-false optional | Specifies whether files without any extension are considered for scanning or not. The default value is true. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **vscan-on-access-policy-ui-filter**

[top]

Filters to define the scope of On-Access scanning more precisely. Possible values:

- "scan_ro_volume" - Enable scans for read-only volume,
- "scan_execute_access" - Scan only files opened with execute-access (CIFS only)

[none]

# Element definition: **vscan-on-demand-report-info**

[top]

Vscan On-Demand Task Report information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **already-scanned-files** | **[0..2^64-1]** | integer optional | Total number of files which were already scanned by a valid virus-scanner. Attributes: non-creatable, non-modifiable |
| **attempted-scans** | **[0..2^64-1]** | integer optional | Total number of attempted scans. Attributes: non-creatable, non-modifiable |
| **failed-scans** | **[0..2^64-1]** | integer optional | Total number of failed scans. Attributes: non-creatable, non-modifiable |
| **files-cleaned** | **[0..2^64-1]** | integer optional | Total number of files that were marked clean by the virus-scanner. Attributes: non-creatable, non-modifiable |
| **files-infected** | **[0..2^64-1]** | integer optional | Total number of files that were marked infected by the virus-scanner. Attributes: non-creatable, non-modifiable |
| **internal-error** | **[0..2^64-1]** | integer optional | Total number of internal error occured while running the task. Attributes: non-creatable, non-modifiable |
| **job-duration** | | time-interval optional | Time taken by the job to complete the on-demand task. Attributes: non-creatable, non-modifiable |
| **job-end-time** | | datetime optional | On-demand task end time. Attributes: non-creatable, non-modifiable |
| **job-id** | **[-2^63..2^63-1]** | integer optional | ID of the on-demand scan job. Attributes: non-creatable, non-modifiable |
| **job-start-time** | | datetime optional | On-demand task start time. Attributes: non-creatable, non-modifiable |
| **report-file** | | string optional | Path of the report file from root of the Vserver. Attributes: key, non-creatable, non-modifiable |
| **scan-retries** | **[0..2^64-1]** | integer optional | Total number of scans that were retried because of internal error. Attributes: non-creatable, non-modifiable |
| **skipped-scans** | **[0..2^64-1]** | integer optional | Total number of files which were not scanned because of the configured scope of scanning. Attributes: non-creatable, non-modifiable |
| **successful-scans** | **[0..2^64-1]** | integer optional | Total number of files which were successfully scanned. Attributes: non-creatable, non-modifiable |
| **task-name** | | string optional | Name of the task. Attributes: key, non-creatable, non-modifiable |
| **timedout-scans** | **[0..2^64-1]** | integer optional | Total number of scans that were timed out. Attributes: non-creatable, non-modifiable |
| **vserver** | | string | Vserver Attributes: key, non-creatable, non-modifiable |

| | | | |
|---|---|---|---|
| | | optional | |

# Element definition: **vscan-on-demand-task-info**

[top]

Vscan On-Demand Task information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **cross-junction** | | true-false optional | Specifies whether the On-Demand task is allowed to cross volume junctions. If the parameter is set to false, crossing junctions is not allowed. Default is true. Attributes: optional-for-create, modifiable |
| **directory-recursion** | | true-false optional | Specifies whether the On-Demand task is allowed to recursively scan through sub-directories. If the parameter is set to false, recursive scanning is not allowed. Default is true. Attributes: optional-for-create, modifiable |
| **file-ext-to-exclude** | | file-extension[] optional | File-Extensions for which scanning must not be performed. File whose extension matches with both inclusion and exclusion list is not considered for scanning. Attributes: optional-for-create, modifiable |
| **file-ext-to-include** | | file-extension[] optional | File extensions for which scanning is considered. The default value is '*', which means that all files are considered for scanning except those which are excluded from scanning. File whose extension matches with both inclusion and exclusion list is not considered for scanning. Attributes: optional-for-create, modifiable |
| **max-file-size** | | size optional | Max file-size (in bytes) allowed for scanning. The default value of 10737418240 (10GB) is taken if not provided at the time of creating a task. Attributes: optional-for-create, modifiable |
| **paths-to-exclude** | | string[] optional | File-paths for which scanning must not be performed. Attributes: optional-for-create, modifiable |
| **report-directory** | | string optional | Path from the vserver root where task report is created. The path must be a directory and provided in unix-format from the root of the Vserver. Example: /vol1/on-demand-reports. Attributes: required-for-create, modifiable |
| **report-expiry-time** | | time-interval optional | Expiration time for On-Demand reports. A value of 0 indicates that report files will be retained until manually deleted. Default is 0 Attributes: optional-for-create, modifiable |
| **report-log-level** | | vscan-od-log-level optional | Log level for the On-Demand report. Default is error. Attributes: optional-for-create, modifiable Possible values:<br>• "verbose" - Report file will contain verbose logs for each file found in the scan-path.,<br>• "info" - Report file will contain info and error logs.,<br>• "error" - Report file will contain only error logs. |
| **request-timeout** | | time-interval optional | Total request-service time-limit in seconds. If the virus-scanner does not respond within the provided time, scan will be timedout. Attributes: optional-for-create, modifiable |

| | | | |
|---|---|---|---|
| **scan-files-with-no-ext** | | true-false optional | Specifies whether files without any extension are considered for scanning or not. The default value is true. Attributes: optional-for-create, modifiable |
| **scan-paths** | | string[] optional | List of paths that need to be scanned. The path must be provided in unix-format and from the root of the Vserver. Example: /vol1/large_files. Attributes: required-for-create, modifiable |
| **scan-priority** | | vscan-scan-priority optional | Priority of the On-Demand scan requests generated by this task. Default is low. Attributes: optional-for-create, modifiable Possible values:<br>• "low" - The scan request will be sent to the Vscan server only if no other normal request is in queue.,<br>• "normal" - The scan request will be processed normally. |
| **schedule** | | string optional | Schedule of the task. The task will be run as per the schedule. For running the task immediately, vscan-on-demand-task-run api must be used after creating a task. Attributes: optional-for-create, modifiable |
| **task-name** | | string optional | Name of the task. Attributes: key, required-for-create, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **vscan-protocol**

[top]

CIFS Possible values:

- "cifs" - CIFS Protocol

[none]

# Element definition: **vscan-scan-priority**

[top]

Priority of the scan request. Possible values:

- "low" - The scan request will be sent to the Vscan server only if no other normal request is in queue.,
- "normal" - The scan request will be processed normally.

[none]

# Element definition: **vscan-scanner-pool-info**

[top]

Vscan scanner pool information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **admin-owner** | | vscan-config-owner optional | Owner of the scanner pool. Attributes: non-creatable, non-modifiable Possible values:<br>• "vserver" - Vserver Admin,<br>• "cluster" - Cluter Admin |
| **cluster** | | cluster-name optional | Name of the cluster on which you want to apply the scanner policy of a scanner pool. Default value is taken as local cluster. This parameter does not have any significance if the cluster is not in a DR relationship. Attributes: non-creatable, non-modifiable |
| **hostnames** | | string[] optional | List of hostnames of Vscan servers which are allowed to connect to clustered Data ONTAP. Attributes: required-for-create, modifiable |
| **is-currently-active** | | boolean optional | Current status of a scanner pool. Attributes: non-creatable, non-modifiable |
| **max-session-setup-retries** | **[0..2^32-1]** | integer optional | Maximum number of consecutive session-setup attempts. The value for this field must be between 1 and 5. The default value of 5 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable |
| **privileged-users** | | privileged-user[] optional | List of privileged users. Attributes: required-for-create, modifiable |
| **request-timeout** | **[0..2^32-1]** | integer optional | Total request-service time-limit in seconds. It is used to specify the time interval in which the node waits for a response from the Vscan server. If the timeout is reached, the node allows the file-operation if the applicable On-Access policy has scan-mandatory set to \"off\". If the policy has scan-mandatory set to \"on\", the node will retry the scan or disallow the file-operation depending on the remaining lifetime of the CIFS request. Valid values for this field are from 10s to 40s. However, if scan-mandatory is set to \"off\", the effective value is limited to a maximum of 35s. The default value of 30 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable |
| **scan-queue-timeout** | **[0..2^32-1]** | integer optional | Scan-queue wait-time-limit in seconds. The value for this field must be between 10s and 30s. The default value of 20 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable |
| **scanner-policy** | | scanner-policy optional | Scanner policy. Currently only system policies are supported.<br><br>Possible values:<br>• 'primary' - Makes it active always,<br>• 'secondary' - Makes it active only when no primary Vscan server is connected,<br>• 'idle' - Makes it inactive always<br><br>Attributes: non-creatable, non-modifiable |
| **scanner-pool** | | scanner-pool optional | Scanner pool is a set of attributes which are used to validate and manage connections between clustered Data ONTAP and Vscan servers (virus scanners). Attributes: key, required-for-create, non-modifiable |

| | | | |
|---|---|---|---|
| **servers** | | ip-address[] optional | List of IP addresses of Vscan servers which are allowed to connect to clustered Data ONTAP. Attributes: non-creatable, non-modifiable |
| **session-setup-timeout** | **[0..2^32-1]** | integer optional | Total session-setup time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable |
| **session-teardown-timeout** | **[0..2^32-1]** | integer optional | Total session-teardown time-limit in seconds. The value for this field must be between 5s and 10s. The default value of 10 is taken if not provided while creating a scanner pool. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **vscan-status-info**

[top]

Vscan status information. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-vscan-enabled** | | boolean optional | Vscan status. When true, Vscan feature is enabled for the Vserver. Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **cluster-name**

[top]

Name of the Peer Cluster

[none]

# Element definition: **datetime**

[top]

The number of seconds since January 1, 1970. Range : [0..2^31-1].

[none]

## Element definition: **file-extension** [top]

File extension

[none]

## Element definition: **file-path** [top]

File path

[none]

## Element definition: **ip-address** [top]

IPv4 and IPv6 address

[none]

## Element definition: **node-name** [top]

The node's name

[none]

## Element definition: **policy-name** [top]

Policy name

[none]

## Element definition: **privileged-user** [top]

Privileged user

[none]

## Element definition: **scanner-policy** [top]

Policy applied to a Vscan scanner pool

[none]

## Element definition: **scanner-pool** [top]

Scanner pool is a set of attributes which are used to validate and manage connections between clustered ONTAP and Vscan servers (virus scanners).

[none]

## Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **time-interval** [top]

Time interval in seconds Range : [0..2^32-1].

[none]

## Element definition: **true-false** [top]

True/False

[none]

## Element definition: **vscan-config-owner** [top]

Configuration owner Possible values:

- "vserver" - Vserver Admin,
- "cluster" - Cluter Admin

[none]

# Element definition: **vscan-disconnect-reason**

[top]

reason Possible values:

- "na" - Not applicable,
- "vscan_disabled" - Vscan disabled on the vserver,
- "no_data_lif" - Vserver does not have data lif on the node,
- "session_uninitialized" - Session not initialized,
- "remote_closed" - Closure from Server,
- "invalid_protocol_msg" - Invalid protocol-message received,
- "invalid_session_id" - Invalid session-id received,
- "inactive_connection" - No activity on connection,
- "invalid_user" - Connection request by invalid user,
- "server_removed" - Server removed from the active scanner-pool

[none]

# Element definition: **vscan-event-type**

[top]

Type of the event generated by the cluster. Possible values:

- "scanner_connected" - Scanner connected,
- "scanner_disconnected" - Scanner disconnected,
- "scanner_updated" - Scanner updated,
- "scan_internal_error" - Internal error,
- "scan_failed" - Scan failed,
- "scan_timedout" - Scan timed out,
- "file_infected" - File is infected,
- "file_renamed" - File is renamed after found infected,
- "file_quarantined" - File is quarantined after found infected,
- "file_deleted" - File is deleted after found infected,
- "scanner_busy" - Scanner is busy

[none]

# Element definition: **vscan-od-log-level**

[top]

Log level for the On-Demand report. Possible values:

- "verbose" - Report file will contain verbose logs for each file found in the scan-path.,
- "info" - Report file will contain info and error logs.,
- "error" - Report file will contain only error logs.

[none]

# Element definition: **vscan-scanner-type**

[top]

Server type Possible values:

- "primary" - Primary,
- "backup" - Backup

[none]

# Element definition: **vscan-server-status**

[top]

Status Possible values:

- "disconnected" - Disconnected,
- "disconnecting" - Disconnecting,
- "connecting" - Connecting,
- "connected" - Connected

[none]

# APIs in Category: **vserver**


vserver-add-aggregates
vserver-add-protocols
vserver-config-diff-get
vserver-config-diff-get-iter
vserver-create
vserver-create-async
vserver-data-policy-export
vserver-data-policy-import
vserver-data-policy-validation-get-error
vserver-destroy
vserver-destroy-async
vserver-get
vserver-get-iter
vserver-http-proxy-create
vserver-http-proxy-delete
vserver-http-proxy-get
vserver-http-proxy-get-iter
vserver-http-proxy-modify
vserver-login-banner-get
vserver-login-banner-get-iter
vserver-login-banner-modify
vserver-login-banner-modify-iter
vserver-modify
vserver-modify-iter
vserver-motd-get
vserver-motd-get-iter
vserver-motd-modify
vserver-motd-modify-iter
vserver-protect-precheck
vserver-protect-precheck-dp-support
vserver-protect-precheck-network
vserver-protect-precheck-vge-support
vserver-remove-aggregates
vserver-remove-protocols
vserver-rename
vserver-rename-async
vserver-san-purge
vserver-san-purge-verify
vserver-show-aggr-get-iter
vserver-start
vserver-stop
vserver-unlock


## vserver-add-aggregates

[top]

Add aggregates to the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] | Specifies a list of aggregates to be added to the Vserver. The root aggregates should not be specified in this list because though the command will return success, volumes cannot be created on root aggregates. In a MetroCluster configuration, this command does not honor the remote cluster's aggregates. |
| **vserver-name** | | string | Specifies the name of the Vserver for which aggregates are to be added. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# vserver-add-protocols

[top]

add protocols to the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **protocols** | | protocol[] | Is the list of protocols to be added to the vserver specified. Possible values are: 'nfs', 'cifs', 'fcp', 'iscsi', and 'ndmp'. |
| **vserver-name** | | string | Specifies the name of the Vserver on which the given set of protocols are allowed. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVER_OPERATION_SUPPORTED_ONLY_ON_DATA_TYPE_VSERVER** | |
| **EVSERVER_CANNOT_DELETE_SYNC_DESTINATION_IN_INITIALIZING_STATE** | |
| **E_NVMF_REPL_NOT_SUPPORTED** | |
| **E_NVMF_EXCLUSIVE_VSERVER** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# vserver-config-diff-get

[top]

Provides the differences in attributes of a specified configuration instance between two Vservers in DR relationship, including MetroCluster. This helps in verifying if the configuration of interest is replicated correctly from source Vserver to destination Vserver. If the source configuration matches that of destination, EOBJECTNOTFOUND is returned, indicating that the difference is nil. This API can be invoked on the source cluster or destination cluster. Note: The configuration objects replicated as part

of Vserver DR and their keys can potentially change from release to release. If a program has opted to use those as inputs for selection, it may have to be adjusted for updated versions of Data ONTAP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | config-diff-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **destination-vserver-name** | | string | Name of destination Vserver |
| **instance** | **[0..2^32-1]** | integer optional | The count of object instance |
| **keys** | | key-value-pair[] | List of key:value pairs of the specific configuration instance compared - for example, volume:vol1 |
| **object** | | string | The Vserver configuration object compared - for example, volume |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | config-diff-info | The attributes of the vserver. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |

# vserver-config-diff-get-iter

[top]

Provides the differences in configuration between Vservers in DR relationship, including MetroCluster. If an object is not specified, the differences for all replicated objects are shown. If Vserver is not specified, the differences for all Vservers in the cluster, which are in DR relationship are returned. This API helps in verifying if the configuration of interest is replicated correctly from source Vserver to destination Vserver. If the source configuration matches that of destination, EOBJECTNOTFOUND is returned, indicating that the difference is nil. This API can be invoked on the source cluster or destination cluster. Note: The configuration objects replicated as part of Vserver DR and their keys can potentially change from release to release. If a program has opted to use those as inputs for selection, it may have to be adjusted for updated versions of Data ONTAP.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | config-diff-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | config-diff-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver object. All vserver objects matching this query up to 'max-records' will be returned. |
| **tag** | | string | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' |

| | | | |
|---|---|---|---|
| | | optional | obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | config-diff-info[] optional | The list of attributes of vserver objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vserver objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EOBJECTNOTFOUND** | |
| **EVSERVERNOTFOUND** | |

# vserver-create

[top]

This command is deprecated and may be removed in future releases of Data ONTAP. To create Vserver use API vserver-create-async. Create a new Vserver. Use a fully qualified domain name(FQDN) - for example, 'data.example.com' - for the Vserver name to reduce name collisions in cluster leagues.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **anti-ransomware-default-volume-state** | | vserver-anti-ransomware-state optional | The default anti_ransomware state on new volume create Possible values:<br>• "disabled" ,<br>• "enabled" ,<br>• "dry_run" |
| **antivirus-on-access-policy** | | antivirus-policy optional | {Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default |
| **caching-policy** | | string optional | The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are:<br>• none - Does not cache any user data or metadata blocks.<br>• auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks.<br>• meta - Read caches only metadata blocks.<br>• random_read - Read caches all metadata and randomly read user data blocks.<br>• random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.<br>• all_read - Read caches all metadata, randomly read and sequentially read user data blocks.<br>• all_read_random_write - Read caches all metadata, |

| | | | |
|---|---|---|---|
| | | | randomly read, sequentially read and randomly written user data.<br>• all - Read caches all data blocks read and written. It does not do any write caching.<br><br>Default caching-policy is auto. |
| **comment** | | string<br>optional | Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. |
| **ipspace** | | string<br>optional | IPspace name. The default value is 'Default' |
| **is-repository-vserver** | | boolean<br>optional | This parameter is no longer supported as of ONTAP 9.5.0. If you are using Infinite Volumes it is recommended that you do not upgrade the cluster to a release that is later than Data ONTAP 9.3.0.<br><br>Specifies if this Vserver is a Vserver with Infinite Volume. When part of vserver-get-iter call, this will return the list of matching Vservers. Default value is false.<br><br>Prior to Data ONTAP 8.2.0, Vserver with Infinite Volume is called repository Vserver and once a repository Vserver is created in a cluster, additional Vservers cannot be created. Conversely, a repository Vserver cannot be created if non-repository Vservers already exist in a cluster. |
| **is-space-enforcement-logical** | | boolean<br>optional | Whether to perform logical space accounting on new volume create |
| **is-space-reporting-logical** | | boolean<br>optional | Whether to report space logically on new volume create |
| **language** | | language-code<br>optional | Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP. |
| | | | Name Mapping switch configuration details for the Vserver. When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. |

| | | | |
|---|---|---|---|
| **name-mapping-switch** | | nmswitch[] optional | 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name mapping switch order. Possible values:<br>• "file" ,<br>• "ldap" |
| **name-server-switch** | | nsswitch[] optional | Name Server switch configuration details for the Vserver. Possible values: 'nis', 'file', 'ldap'. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name server switch order. Possible values:<br>• "nis" ,<br>• "file" ,<br>• "ldap" |
| **quota-policy** | | string optional | Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a Vserver with Infinite Volume. default: default |
| **return-record** | | boolean optional | If set to true, returns the vserver on successful creation. Default: false |
| **root-volume** | | volume-name optional | Root volume of the Vserver. Optional field for 'default' Vserver. Not allowed for creation of a 'dp-destination' Vserver. If not specified, the system will choose a default name for the root volume based on the Vserver name. |
| **root-volume-aggregate** | | aggr-name optional | The aggregate on which the root volume will be created. Optional field for creating a default Vserver. If this field is not provided, the most appropriate aggregate will be selected. Not allowed for creation of a dp-destination Vserver. Creating a root volume on a SnapLock aggregate is not supported. |
| **root-volume-security-style** | | security-style-enum optional | Security Style of the root volume. Optional field for creating a default Vserver. Not allowed for creation of a dp-destination Vserver. When specified as part of the vserver-create, this field represents the security style for the Vserver root volume. When specified as part of vserver-get-iter call, this will return the list of matching Vservers. Possible values: 'unix', 'ntfs', 'mixed'. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to a Vserver's root volume. Default value is 'unix'. Possible values:<br>• "unix" - NFS,<br>• "ntfs" - CIFS,<br>• "mixed" - Mixed,<br>• "unified" - Unified |
| **snapshot-policy** | | snapshot-policy optional | Default snapshot policy setting for all volumes of the Vserver. This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this |

| | | | |
|---|---|---|---|
| | | | will return the list of matching Vservers. default: default |
| **vserver-name** | | string | Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name |
| **vserver-subtype** | | string optional | Vserver Subtype. This option allows the admin to specify the sub-type of Vserver being created. The possible options for this value are:<br>• default<br>• dp_destination<br>• sync_source<br>• sync_destination<br>If a Vserver is an MCC destination, then it would have the sub-type sync-source. Vserver of sub-type sync-destination cannot be explicitly created by the admin. When a Vserver of sub-type dp-destination is created, most of the management activities are not allowed. Default value is default. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | vserver-info optional | The vserver created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNAMEEXISTS** | |
| **EINVALIDINPUTERROR** | |
| **E_CANNOT_CREATE_PEERED_VSERVER** | |
| **E_VSERVER_CREATE_NONCONFIGURABLE_OPTIONS** | |
| **EVSERVER_REPOSITORY_VSERVER_QUOTA_POLICY_UNSUPPORTED** | |
| **EIPSPACEDOESNOTEXIST** | |
| **EVSERVER_CANNOT_BELONG_TO_IPSPACE** | |
| **EVSERVER_NSSWITCH_MANDATORY** | |
| **EVSERVER_SYSTEM_VSERVER_EXISTS** | |
| **EVSERVER_CANT_END_WITH_MC** | |
| **EVSERVER_WITH_INFINITE_VOLUMES_NOT_SUPPORTED_IN_MCC_CONFIGURATION** | |
| **EVSERVER_SUBTYPE_NOT_SUPPORTED** | |
| **EVSERVER_SNAPLOCK_AGGR_ROOT_VOLUME** | |
| **EVSERVER_CREATE_FAIL_AGGR_UNKNOWN** | |

# vserver-create-async

[top]

Create a new Vserver asynchronously. The progress of the operation can be monitored using job-get-iter API. Use a fully qualified domain name(FQDN) - for example, 'data.example.com' - for the Vserver name to reduce name collisions in cluster leagues.

| Input Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **anti-ransomware-default-volume-state** | | vserver-anti-ransomware-state optional | The default anti_ransomware state on new volume create Possible values:<br>• "disabled" ,<br>• "enabled" ,<br>• "dry_run" |
| **antivirus-on-access-policy** | | antivirus-policy optional | {Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default |
| **caching-policy** | | string optional | The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are:<br>• none - Does not cache any user data or metadata blocks.<br>• auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks.<br>• meta - Read caches only metadata blocks.<br>• random_read - Read caches all metadata and randomly read user data blocks.<br>• random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.<br>• all_read - Read caches all metadata, randomly read and sequentially read user data blocks.<br>• all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data.<br>• all - Read caches all data blocks read and written. It does not do any write caching.<br><br>Default caching-policy is auto. |
| **comment** | | string optional | Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. |
| **ipspace** | | string optional | IPspace name. The default value is 'Default' |
| **is-repository-vserver** | | boolean optional | This parameter is no longer supported as of ONTAP 9.5.0. If you are using Infinite Volumes it is recommended that you do not upgrade the cluster to a release that is later than Data ONTAP 9.3.0.<br><br>Specifies if this Vserver is a Vserver with Infinite Volume. When part of vserver-get-iter call, this will return the list of matching Vservers. Default value is false.<br><br>Prior to Data ONTAP 8.2.0, Vserver with Infinite Volume is called repository Vserver and once a repository Vserver is created in a cluster, additional Vservers cannot be created. Conversely, a repository Vserver cannot be created if non-repository Vservers already exist in a cluster. |
| **is-space-enforcement-logical** | | boolean optional | Whether to perform logical space accounting on new volume create |

| | | | |
|---|---|---|---|
| **is-space-reporting-logical** | | boolean optional | Whether to report space logically on new volume create |
| **language** | | language-code optional | Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP. |
| **name-mapping-switch** | | nmswitch[] optional | Name Mapping switch configuration details for the Vserver. When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name mapping switch order. Possible values:<br>• "file" ,<br>• "ldap" |
| **name-server-switch** | | nsswitch[] optional | Name Server switch configuration details for the Vserver. Possible values: 'nis', 'file', 'ldap'. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name server switch order. Possible values:<br>• "nis" ,<br>• "file" ,<br>• "ldap" |
| **quota-policy** | | string optional | Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a |

| | | | |
|---|---|---|---|
| | | | Vserver with Infinite Volume. default: default |
| **root-volume** | | volume-name optional | Root volume of the Vserver. Optional field for 'default' Vserver. Not allowed for creation of a 'dp-destination' Vserver. If not specified, the system will choose a default name for the root volume based on the Vserver name. |
| **root-volume-aggregate** | | aggr-name optional | The aggregate on which the root volume will be created. Optional field for creating a default Vserver. If this field is not provided, the most appropriate aggregate will be selected. Not allowed for creation of a dp-destination Vserver. Creating a root volume on a SnapLock aggregate is not supported. |
| **root-volume-security-style** | | security-style-enum optional | Security Style of the root volume. Optional field for creating a default Vserver. Not allowed for creation of a dp-destination Vserver. When specified as part of the vserver-create, this field represents the security style for the Vserver root volume. When specified as part of vserver-get-iter call, this will return the list of matching Vservers. Possible values: 'unix', 'ntfs', 'mixed'. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to a Vserver's root volume. Default value is 'unix'. Possible values:<br>• "unix" - NFS,<br>• "ntfs" - CIFS,<br>• "mixed" - Mixed,<br>• "unified" - Unified |
| **snapshot-policy** | | snapshot-policy optional | Default snapshot policy setting for all volumes of the Vserver. This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default |
| **vserver-name** | | string | Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name |
| **vserver-subtype** | | string optional | Vserver Subtype. This option allows the admin to specify the sub-type of Vserver being created. The possible options for this value are:<br>• default<br>• dp_destination<br>• sync_source<br>• sync_destination<br><br>If a Vserver is an MCC destination, then it would have the sub-type sync-source. Vserver of sub-type sync-destination cannot be explicitly created by the admin. When a Vserver of sub-type dp-destination is created, most of the management activities are not allowed. Default value is default. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | vserver-info optional | The vserver created (keys or the entire object if requested) |
| | | | |

| | | | |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | The ID of the job that was spawned to create this vserver. |
| **result-status** | | string optional | The operation status. Possible values: "succeeded" if creation completed successfully, "in_progress" if creation is in progress, "failed" if creation failed. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNAMEEXISTS** | |
| **EINVALIDINPUTERROR** | |
| **E_CANNOT_CREATE_PEERED_VSERVER** | |
| **E_VSERVER_CREATE_NONCONFIGURABLE_OPTIONS** | |
| **EVSERVER_REPOSITORY_VSERVER_QUOTA_POLICY_UNSUPPORTED** | |
| **EIPSPACEDOESNOTEXIST** | |
| **EVSERVER_CANNOT_BELONG_TO_IPSPACE** | |
| **EVSERVER_NSSWITCH_MANDATORY** | |
| **EVSERVER_SYSTEM_VSERVER_EXISTS** | |
| **EVSERVER_CANT_END_WITH_MC** | |
| **EVSERVER_WITH_INFINITE_VOLUMES_NOT_SUPPORTED_IN_MCC_CONFIGURATION** | |
| **EVSERVER_SUBTYPE_NOT_SUPPORTED** | |
| **EVSERVER_SNAPLOCK_AGGR_ROOT_VOLUME** | |

# vserver-data-policy-export

[top]

This API is no longer supported as of ONTAP 9.5.0.

Export a data policy for a Vserver with an Infinite Volume. The data policy is exported as a JSON string. For a description of the JSON format, please refer to the Clustered Data ONTAP Infinite Volumes Management Guide.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **data-policy-expression** | | string | Data-policy JSON expression. A JSON string, XML escaped and UTF8 encoded. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNOTFOUND** | |

# vserver-data-policy-import

[top]

This API is no longer supported as of ONTAP 9.5.0.

Import a data policy for a Vserver with an Infinite Volume. The data policy is imported as a JSON string. For a description of the required JSON format, please refer to the Clustered Data ONTAP Infinite Volumes Management Guide.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **data-policy-expression** | | string | Data-policy JSON expression. A JSON string with a maximum length of 50 MB. The string should be XML escaped and use the same encoding as the XML document of which it is a part (UTF8 for APIs). |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNOTFOUND** | |
| **EDATAPOLICY_VALIDATION_ERROR** | |

# vserver-data-policy-validation-get-error

[top]

This API is no longer supported as of ONTAP 9.5.0.

Validate without importing a data policy for a Vserver with an Infinite Volume. The data policy needs to be specified as a JSON string. For a description of the required JSON format, please refer to the Clustered Data ONTAP Infinite Volumes Management Guide.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **expression** | | string | Data-policy JSON expression. A JSON string with a maximum length of 50 MB. The string should be XML escaped and use the same encoding as the XML document of which it is a part (UTF8 for APIs). |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNOTFOUND** | |
| **EDATAPOLICY_VALIDATION_ERROR** | |

# vserver-destroy

[top]

This command is deprecated and may be removed in future releases of Data ONTAP. To delete Vserver use API vserver-destroy-async. Destroys the Vserver and its objects. All volumes and mirrors belonging to the Vserver must be deleted using other APIs before destroying the Vserver. EVOLEXISTS is returned if the Vserver is found to have any volumes or mirrors. This APIS removes all other objects of this Vserver including its network Interfaces, routes, configurations, admin login accounts and roles.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **vserver-name** | | string | Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a |

| | | | |
|---|---|---|---|
| | | | reserved name and should not be used as a Vserver name |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EOPNOTSUPPORTED** | |
| **EVOLEXISTS** | |
| **EINVALIDINPUTERROR** | |
| **E_CANNOT_DELETE_PEERED_VSERVER** | |
| **EVSERVER_CANT_LOOKUP_CIFS_SERVER** | |
| **EVSERVER_REMOVE_CIFS_SERVER_WITH_AD** | |
| **EVSERVER_CANT_LOOKUP_AD_ACCOUNT** | |
| **EVSERVER_CANT_REMOVE_AD_ACCOUNT** | |
| **EVSERVER_OPERATION_UNSUPPORTED_ON_SYSTEM_VSERVER** | |

# vserver-destroy-async

[top]

Destroys the Vserver and its objects asynchronously. The progress of the operation can be monitored using job-get-iter API. All volumes and mirrors belonging to the Vserver must be deleted using other APIs before destroying the Vserver. EVOLEXISTS is returned if the Vserver is found to have any volumes or mirrors. This APIS removes all other objects of this Vserver including its network Interfaces, routes, configurations, admin login accounts and roles.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **vserver-name** | | string | Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EOPNOTSUPPORTED** | |
| **EVOLEXISTS** | |
| **EINVALIDINPUTERROR** | |
| **E_CANNOT_DELETE_PEERED_VSERVER** | |

| | |
|---|---|
| **EVSERVER_CANT_LOOKUP_CIFS_SERVER** | |
| **EVSERVER_REMOVE_CIFS_SERVER_WITH_AD** | |
| **EVSERVER_CANT_LOOKUP_AD_ACCOUNT** | |
| **EVSERVER_CANT_REMOVE_AD_ACCOUNT** | |
| **EVSERVER_OPERATION_UNSUPPORTED_ON_SYSTEM_VSERVER** | |

# vserver-get

[top]

Get the attributes of the Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vserver-info | The attributes of the vserver. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# vserver-get-iter

[top]

Display information about Vservers. Information about Admin Vserver, Node Vserver, and Cluster Vservers is displayed. If the ZAPI is issued to the Cluster LIF with no Vserver specified as input, then information about all Vservers is shown. If the request is sent to the Vserver LIF, then information about that Vserver is shown.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vserver-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver object. All vserver objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **attributes-list** | | vserver-info[] optional | The list of attributes of vserver objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vserver objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# vserver-http-proxy-create

[top]

Create a new HTTP proxy configuration.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string optional | Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter. |
| **is-auth-enabled** | | boolean optional | Specifies whether authentication is required for the HTTP proxy. By default it is set to false. |
| **password** | | string optional | Specifies the password for the username to authenticate with the HTTP proxy when authentication is enabled. |
| **port** | **[1..65535]** | integer | Specifies the port number on which the HTTP proxy service is configured for the server. |
| **server** | | string | Specifies the HTTP proxy hostname or IP address. |
| **skip-config-validation** | | boolean optional | Skip the config validation |
| **username** | | string optional | Specifies the username to authenticate with the HTTP proxy when authentication is enabled. |
| **vserver** | | vserverid optional | Specifies the vserver for which the HTTP proxy should be configured. This parameter is mutually exclusive with ipsapce parameter. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# vserver-http-proxy-delete

[top]

Remove the proxy configuration for the specified Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string optional | Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter. |

| | | | |
|---|---|---|---|
| **vserver** | | vserverid optional | Specifies the vserver for which the HTTP proxy should be configured. This parameter is mutually exclusive with ipsapce parameter. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# vserver-http-proxy-get

[top]

Get the HTTP proxy configuration of the Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | http-proxy optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **ipspace** | | string optional | Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | http-proxy | The attributes of the http-proxy. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# vserver-http-proxy-get-iter

[top]

Get the HTTP proxy configuration of the cluster.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | http-proxy optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | http-proxy optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the http-proxy object. All http-proxy objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | http-proxy[] optional | The list of attributes of http-proxy objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more http-proxy objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# vserver-http-proxy-modify

[top]

Modify the proxy configuration for the specified Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string optional | Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter. |
| **is-auth-enabled** | | boolean optional | Specifies whether authentication is required for the HTTP proxy. By default it is set to false. |
| **password** | | string optional | Specifies the password for the username to authenticate with the HTTP proxy when authentication is enabled. |
| **port** | | integer optional | Specifies the port number on which the HTTP proxy service is configured for the server. |
| **server** | | string optional | Specifies the HTTP proxy hostname or IP address. |
| **skip-config-validation** | | boolean optional | Skip the config validation |
| **username** | | string optional | Specifies the username to authenticate with the HTTP proxy when authentication is enabled. |
| **vserver** | | vserverid optional | Specifies the vserver for which the HTTP proxy should be configured. This parameter is mutually exclusive with ipsapce parameter. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# vserver-login-banner-get

[top]

Return the login banner message. This message is displayed during SSH and console device login, just before the password prompt is, or would be, displayed. There is a cluster-wide default login banner that is used for every incoming connection regardless of LIF type. Each data Vserver can over-ride this default.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-login-banner-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vserver-login-banner-info | The attributes of the vserver-login-banner. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# vserver-login-banner-get-iter

[top]

Return the specified login banner. See the description for the non-iter API for details.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-login-banner-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vserver-login-banner-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-login-banner object. All vserver-login-banner objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vserver-login-banner-info[] optional | The list of attributes of vserver-login-banner objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vserver-login-banner objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# vserver-login-banner-modify

[top]

Modify the login banner message. This message is displayed during SSH and console device login, just before the password prompt is, or would be, displayed. There is a cluster-wide default login banner that is used for every incoming connection regardless of LIF type. Each data Vserver can over-ride this default. To restore the default for a data Vserver, set the message to '-'.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **message** | | string optional | The login banner message. Maximum byte length for modify: 2048. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# vserver-login-banner-modify-iter

[top]

Modify the login banner message. This message is displayed during SSH and console device login, just before the password prompt is, or would be, displayed. There is a cluster-wide default login banner that is used for every incoming connection regardless of LIF type. Each data Vserver can over-ride this default. To restore the default for a data Vserver, set the message to '-'.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple vserver-login-banner objects match a given query. If set to true, the API will continue with the next matching vserver-login-banner even when the operation fails for the vserver-login-banner. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching vserver-login-banner even when the operation on a previous matching vserver-login-banner fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of vserver-login-banner objects to be operated in this call. Default: 20 |
| **message** | | string optional | The login banner message. Maximum byte length for modify: 2048. |
| **query** | | vserver-login-banner-info | If operating on a specific vserver-login-banner, this input element must specify all keys. If operating on vserver-login-banner objects based on query, this input element must specify a query. |

| | | | |
|---|---|---|---|
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of vserver-login-banner objects (just keys) that were not operated on due to some error. If set to false, the list of vserver-login-banner objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of vserver-login-banner objects (just keys) that were successfully operated on. If set to false, the list of vserver-login-banner objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | vserver-login-banner-modify-iter-info[] optional | Information about vserver-login-banner objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching vserver-login-banner objects to be operated on. |
| **num-failed** | [0..2^32-1] | integer optional | The number of vserver-login-banner objects that matched the query, but were not operated on due some error. |
| **num-succeeded** | [0..2^32-1] | integer optional | The number of vserver-login-banner objects that matched the query and were successfully processed. |
| **success-list** | | vserver-login-banner-modify-iter-info[] optional | The vserver-login-banner objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# vserver-modify

[top]

Modify the attributes of vserver object.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] optional | List of aggregates assigned for volume operations. These aggregates could be shared for use with other Vservers. When specified as part of a vserver-create, this field represents the list of aggregates that are assigned to the Vserver for volume operations. When part of vserver-get-iter call, this will return the list of Vservers which have any of the aggregates specified as part of the aggr-list. |
| | | | Allowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols allowed on the Vserver. |

| | | | |
|---|---|---|---|
| **allowed-protocols** | | protocol[] optional | When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the allowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Possible values:<br>• "nfs" - NFS protocol,<br>• "cifs" - CIFS protocol,<br>• "fcp" - FCP protocol,<br>• "iscsi" - iSCSI protocol,<br>• "ndmp" - NDMP protocol,<br>• "http" - HTTP protocol,<br>• "nvme" - NVMe over Fabrics protocol,<br>• "s3" - S3 protocol |
| **anti-ransomware-default-volume-state** | | vserver-anti-ransomware-state optional | The default anti_ransomware state on new volume create Possible values:<br>• "disabled" ,<br>• "enabled" ,<br>• "dry_run" |
| **antivirus-on-access-policy** | | antivirus-policy optional | {Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default |
| **caching-policy** | | string optional | The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are:<br>• none - Does not cache any user data or metadata blocks.<br>• auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks.<br>• meta - Read caches only metadata blocks.<br>• random_read - Read caches all metadata and randomly read user data blocks.<br>• random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.<br>• all_read - Read caches all metadata, randomly read and sequentially read user data blocks.<br>• all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data.<br>• all - Read caches all data blocks read and written. It does not do any write caching.<br><br>Default caching-policy is auto. |
| **comment** | | string optional | Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. |
| | | | Disallowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols not allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as |

| | | | |
|---|---|---|---|
| **disallowed-protocols** | | protocol[] optional | part of the disallowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Possible values:<br>• "nfs" - NFS protocol,<br>• "cifs" - CIFS protocol,<br>• "fcp" - FCP protocol,<br>• "iscsi" - iSCSI protocol,<br>• "ndmp" - NDMP protocol,<br>• "http" - HTTP protocol,<br>• "nvme" - NVMe over Fabrics protocol,<br>• "s3" - S3 protocol |
| **is-space-enforcement-logical** | | boolean optional | Whether to perform logical space accounting on new volume create |
| **is-space-reporting-logical** | | boolean optional | Whether to report space logically on new volume create |
| **language** | | language-code optional | Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP. |
| **max-volumes** | | string optional | Maximum number of volumes that can be created on the Vserver. When specified as part of a vserver-create, this field represents the maximum number of volumes that can be created on the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. |
| **name-mapping-switch** | | nmswitch[] optional | Name Mapping switch configuration details for the Vserver. When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get- |

| | | | |
|---|---|---|---|
| | | | iter' APIs must be used to fetch the currently configured name mapping switch order. Possible values:<br>• "file" ,<br>• "ldap" |
| **name-server-switch** | | nsswitch[] optional | Name Server switch configuration details for the Vserver. Possible values: 'nis', 'file', 'ldap'. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name server switch order. Possible values:<br>• "nis" ,<br>• "file" ,<br>• "ldap" |
| **qos-policy-group** | | string optional | The QoS policy group associated with this volume. This optionally specifies which QoS policy group to apply to the Vserver. The policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a Vserver, the system will not monitor and control traffic to it. This parameter is not supported on a Vserver with Infinite Volume. |
| **quota-policy** | | string optional | Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a Vserver with Infinite Volume. default: default |
| **snapshot-policy** | | snapshot-policy optional | Default snapshot policy setting for all volumes of the Vserver. This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default |
| **state** | | vsadminstate optional | State of the Virtual Server. This field, together with the operational state, determines the data serving ability of a Vserver Possible values:<br>• "running" ,<br>• "stopped" ,<br>• "starting" ,<br>• "stopping" ,<br>• "initializing" ,<br>• "deleting" |
| **volume-delete-retention-hours** | **[0..2^32-1]** | integer optional | The number of hours that a deleted volume should be retained before the delete is completed |
| **vserver-** | | string | Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the |

| | | | |
|---|---|---|---|
| **name** | | | Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EINVALIDINPUTERROR** | |
| **E_QOS_NO_SUCH_PG** | |
| **E_QOS_OBJECT_OVERLAP_ERROR** | |
| **E_QOS_TOO_MANY_USER_WIDS** | |
| **E_QOS_VSERVERIZATION_VIOLATION_FOR_VS** | |

# vserver-modify-iter

[top]

Modify the attributes of vserver or a group of vserver objects.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vserver-info | Specify at least one modifiable element. Do not specify any other element. |
| **continue-on-failure** | | boolean optional | This input element is useful when multiple vserver objects match a given query. If set to true, the API will continue modifying the next matching vserver even when modification of a previous vserver fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed modify operations before the server gives up and returns. If set, the API will continue modifying the next matching vserver even when the modification of a previous matching vserver fails, and do so until the total number of objects failed to be modified reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed modify operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of objects to be modified in this call. Default: 20 |
| **query** | | vserver-info | If modifying a specific vserver, this input element must specify all keys. If modifying vserver objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of vserver objects (just keys) that were not modified due to some error. If set to false, the list of vserver objects not modified will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of vserver objects (just keys) that were successfully updated. If set to false, the list of vserver objects modified will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **failure-list** | | vserver-modify-iter-info[] optional | Information about vserver objects that were not modified due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching vserver objects to be modified. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of vserver objects that matched the query, but were not modified due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of vserver objects that matched the query and were successfully updated. |
| **success-list** | | vserver-modify-iter-info[] optional | The vserver objects that were successfully updated. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **EINVALIDINPUTERROR** | |

# vserver-motd-get

[top]

Return the specified message of the day (MOTD). This message appears just before the clustershell prompt. The cluster Admin Vserver message will appear, then if the user is logging in as a Data Vserver admin, that Vserver's message will be printed. The cluster-level MOTD can be disabled for each Vserver using the configuration parameter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-motd-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vserver-motd-info | The attributes of the vserver-motd. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |

# vserver-motd-get-iter

[top]

Return the specified message of the day. See the description for the non-iter API for details.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-motd-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | [1..2^32-1] | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vserver-motd-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-motd object. All vserver-motd objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vserver-motd-info[] optional | The list of attributes of vserver-motd objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vserver-motd objects to return. |
| **num-records** | [0..2^32-1] | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# vserver-motd-modify

[top]

Modify the message of the day (MOTD). This message appears just before the clustershell prompt. The cluster Admin Vserver message will appear, then if the user is logging in as a Data Vserver admin, that Vserver's message will be printed. The cluster-level MOTD can be disabled for each Vserver using the configuration parameter.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **is-cluster-message-enabled** | | boolean optional | Is the display of the cluster message of the day (MOTD) enabled for this Vserver? This field cannot be modified in a data Vserver context (tunneled to a data Vserver). |
| **message** | | string optional | The message of the day (MOTD). Maximum byte length for modify: 2048. Newlines can be supplied as either LF or CRLF, but they will always be returned as LF. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **E_MOTD_CANNOT_UPDATE_IS_CLUSTER_MESSAGE_ENABLED** | |
| **EVSERVER_LOCKED_FOR_BASELINE** | |
| **EVSERVER_OPERATION_NOT_PERMITTED** | |

# vserver-motd-modify-iter

[top]

Modify the message of the day. See the description of the non-iter API for more information.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple vserver-motd objects match a given query. If set to true, the API will continue with the next matching vserver-motd even when the operation fails for the vserver-motd. If set to false, the API will return on the first failure. Default: false |
| **is-cluster-message-enabled** | | boolean optional | Is the display of the cluster message of the day (MOTD) enabled for this Vserver? This field cannot be modified in a data Vserver context (tunneled to a data Vserver). |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed operations before the server gives up and returns. If set, the API will continue with the next matching vserver-motd even when the operation on a previous matching vserver-motd fails, and do so until the total number of objects failed to be operated on reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed operations. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of vserver-motd objects to be operated in this call. Default: 20 |
| **message** | | string optional | The message of the day (MOTD). Maximum byte length for modify: 2048. Newlines can be supplied as either LF or CRLF, but they will always be returned as LF. |
| **query** | | vserver-motd-info | If operating on a specific vserver-motd, this input element must specify all keys. If operating on vserver-motd objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of vserver-motd objects (just keys) that were not operated on due to some error. If set to false, the list of vserver-motd objects not operated on will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of vserver-motd objects (just keys) that were successfully operated on. If set to false, the list of vserver-motd objects operated on will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **failure-list** | | vserver-motd-modify-iter-info[] optional | Information about vserver-motd objects that were not operated on due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching vserver-motd objects to be operated on. |
| **num-failed** | **[0..2^32-1]** | integer optional | The number of vserver-motd objects that matched the query, but were not operated on due some error. |
| **num-** | **[0..2^32-** | integer | The number of vserver-motd objects that matched the query and |

| | | | |
|---|---|---|---|
| **succeeded** | **1]** | optional | were successfully processed. |
| **success-list** | | vserver-motd-modify-iter-info[] optional | The vserver-motd objects that were successfully processed. This element will be returned only if input element 'return-success-list' is true. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EVSERVERNOTFOUND** | |
| **E_MOTD_CANNOT_UPDATE_IS_CLUSTER_MESSAGE_ENABLED** | |

# vserver-protect-precheck

[top]

Check source vserver for creating svmdr Relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | uuid | Specifies Uuid of the peer Cluster. |
| **vserver-name** | | string | Vserver |
| **vserver-uuid** | | uuid | Vserver UUID |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **precheck-success** | | boolean | was the precheck successful |
| **svmdr-precheck-error-codes** | **[0..2^32-1]** | integer[] | Validation Error Codes |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ENOTCLUSTERED** | |
| **E_VSERVERDR_PRECHECK_FAILURE_ERROR** | |

# vserver-protect-precheck-dp-support

[top]

Check source cluster for creating svmdr Relationship of type DP

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | uuid | Specifies Uuid of the peer Cluster. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean | was the precheck successful |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ENOTCLUSTERED** | |
| **EVSERVERNOTFOUND** | |

| Errno | Description |
|---|---|
| **E_VSERVERDR_PRECHECK_ECV_BELOW_9_5_0** | |

# vserver-protect-precheck-network

[top]

Check source vserver lif placement for creating svmdr Relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | uuid | Specifies Uuid of the peer Cluster. |
| **ipspace** | | string | IPsapce of the destination vserver |
| **peer-cluster-uuid** | | uuid | Peer cluster UUID |
| **vserver-name** | | string | Vserver |
| **vserver-uuid** | | uuid | Vserver UUID |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ENOTCLUSTERED** | |
| **EVSERVERNOTFOUND** | |
| **E_VSERVERDR_NETWORK_PRECHECK_ERROR** | |
| **E_VSERVERDR_NETWORK_PRECHECK_FAILURE_ERROR** | |
| **E_VSERVERDR_PRECHECK_ECV_BELOW_9_5_0** | |

# vserver-protect-precheck-vge-support

[top]

Check source cluster for creating svmdr Relationship of type DP

| Input Name | Range | Type | Description |
|---|---|---|---|
| **cluster** | | uuid | Specifies Uuid of the peer Cluster. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **is-enabled** | | boolean | was the precheck successful |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# vserver-remove-aggregates

[top]

Remove aggregates from the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] | Specifies a list of aggregates to be removed from Vserver. |
| **vserver-name** | | string | Specifies the name of the Vserver from which aggregates are to be removed. |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |
| EINTERNALERROR | |
| EINVALIDINPUTERROR | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# vserver-remove-protocols

[top]

remove protocols from the Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| protocols | | protocol[] | Is the list of protocols to be removed from the vserver specified. Possible values are: 'nfs', 'cifs', 'fcp', 'iscsi', and 'ndmp'. |
| vserver-name | | string | Specifies the name of the Vserver on which the given set of protocols are not allowed. |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |
| EINTERNALERROR | |
| EOPNOTSUPPORTED | |
| EINVALIDINPUTERROR | |
| EVSERVER_OPERATION_SUPPORTED_ONLY_ON_DATA_TYPE_VSERVER | |
| EVSERVER_LOCKED_FOR_BASELINE | |
| EVSERVER_OPERATION_NOT_PERMITTED | |

# vserver-rename

[top]

Rename a Vserver. Use a fully qualified domain name(FQDN) - for example, 'data.example.com' - for the Vserver name to reduce name collisions in cluster leagues. This operation is not supported for a node Vserver. Use the 'system-node-rename' API to rename a node Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| new-name | | string | New Vserver name (Use Fully Qualified Domain Name, For example: data.example.com) |
| vserver-name | | string | Vserver |

| Errno | Description |
|---|---|
| EVSERVERNOTFOUND | |
| EINTERNALERROR | |
| EVSERVERNAMEEXISTS | |
| EINVALIDINPUTERROR | |
| E_CANNOT_RENAME_PEERED_VSERVER | |
| EOPNOTSUPPORTED | |

| | |
|---|---|
| **EVSERVER_OPERATION_SUPPORTED_ONLY_ON_DATA_TYPE_VSERVER** | |
| **EVSERVER_CANT_END_WITH_MC** | |
| **EVSERVER_RENAME_FAILED** | |
| **EVSERVER_RENAME_VSERVER_NAME_CONFLICT_ON_REMOTE_CLUSTER** | |
| **EVSERVER_RENAME_PEER_CLUSTER_NOT_CAPABLE** | |
| **EVSERVER_RENAME_FAILED_COMMUNICATE_WITH_PEER_CLUSTER** | |
| **EVSERVER_RENAME_CANT_RENAME_VSERVER_ON_REMOTE_CLUSTER** | |
| **EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED** | |
| **EVSERVER_RENAME_FAILED_TO_UPDATE_PEER_VSERVER_NAME** | |
| **EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED_LOCAL** | |
| **E_VSERVERPEER_UNIQUE_CANT_RENAME_TO_VSERVER_IN_PEERED** | |
| **E_DUPLICATE_PEER_VSERVER_NAME_FILER** | |

# vserver-rename-async

[top]

Rename a Vserver asynchronously. Use a fully qualified domain name(FQDN) - for example, 'data.example.com' - for the Vserver name to reduce name collisions in cluster leagues. This operation is not supported for a node Vserver. Use the 'system-node-rename' API to rename a node Vserver. A job will be spawned to operate on the vserver and the job id will be returned. The progress of the job can be tracked using the job APIs.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-name** | | string | New Vserver name (Use Fully Qualified Domain Name, For example: data.example.com) |
| **vserver-name** | | string | Vserver |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result-error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **result-error-message** | | string optional | Error description, if the operation caused an error. |
| **result-jobid** | **[0..2^64-1]** | integer optional | Job Id, if this operation was performed via a job. |
| **result-status** | | string | The operation status. Possible values: "succeeded", "in_progress", "failed". |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EVSERVERNAMEEXISTS** | |
| **EINVALIDINPUTERROR** | |
| **E_CANNOT_RENAME_PEERED_VSERVER** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVER_OPERATION_SUPPORTED_ONLY_ON_DATA_TYPE_VSERVER** | |
| **EVSERVER_CANT_END_WITH_MC** | |
| **EVSERVER_RENAME_FAILED** | |
| **EVSERVER_RENAME_VSERVER_NAME_CONFLICT_ON_REMOTE_CLUSTER** | |
| **EVSERVER_RENAME_PEER_CLUSTER_NOT_CAPABLE** | |

| | |
|---|---|
| **EVSERVER_RENAME_FAILED_COMMUNICATE_WITH_PEER_CLUSTER** | |
| **EVSERVER_RENAME_CANT_RENAME_VSERVER_ON_REMOTE_CLUSTER** | |
| **EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED** | |
| **EVSERVER_RENAME_FAILED_TO_UPDATE_PEER_VSERVER_NAME** | |
| **EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED_LOCAL** | |
| **E_VSERVERPEER_UNIQUE_CANT_RENAME_TO_VSERVER_IN_PEERED** | |
| **E_DUPLICATE_PEER_VSERVER_NAME_FILER** | |

# vserver-san-purge

[top]

Purge SAN kernel cache for a Vserver. In Metrocluster configuration, if metrocluster switchback fails to clear the SAN kernel cache, the zapi can be issued to clear the SAN kernel cache.

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# vserver-san-purge-verify

[top]

Verify the SAN Kernel Agent on all nodes is unloaded for the specified Vserver.

| Output Name | Range | Type | Description |
|---|---|---|---|
| **status** | | boolean | SAN Kernel Agent for the Vserver is unloaded or not |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# vserver-show-aggr-get-iter

[top]

Display list of aggregates owned by Vservers.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | show-aggregates optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | show-aggregates optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver show-aggregates object. All vserver show-aggregates objects matching this query up to 'max-records' will be returned. |
| | | string | Specify the tag from the last call. It is usually not specified for |

| | | | |
|---|---|---|---|
| **tag** | | optional | the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |
| **vserver** | | string optional | Vserver |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | show-aggregates[] optional | The list of attributes of vserver show-aggregates objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vserver show-aggregates objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

# vserver-start

[top]

Start a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | In case of a MetroCluster configuration or Vserver disaster recovery, by using this parameter you can start a Vserver when it is locked (which prevents any configuration changes) or when its partner Vserver is operationally running. The default value for this parameter is false. |
| **vserver-name** | | string | Specifies the name of the Vserver to be started. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVERALREADYSTARTED** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNOTOPERATIONAL** | |
| **E_SAN_NOT_READY** | |

# vserver-stop

[top]

Stop a Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| | | | Name of the Vserver. When specified as part of a vserver-create, this field |

| | | | |
|---|---|---|---|
| **vserver-name** | | string | represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVERNOTRUNNING** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVERNOTOPERATIONAL** | |
| **E_SAN_NOT_READY** | |

# vserver-unlock

[top]

Revoke the administrative lock on the Vserver configuration. When a Vserver is unlocked, configuration changes are permitted. A failure is returned if the Vserver is not locked by the administrator or if it is locked by internal applications. If the vserver lock remains due to an error condition, it can be forcefully removed by specifying the force option.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force unlock the Vserver which got locked as part of a DR event or an error condition. The default value for this parameter is false. |
| **vserver-name** | | string | Specifies the name of the Vserver to be unlocked. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EOPNOTSUPPORTED** | |
| **EVSERVER_INTERNAL_CONFIG_LOCK** | |
| **EVSERVER_ALREADY_UNLOCKED** | |
| **EVSERVER_OPERATION_SUPPORTED_ON_ADMIN_AND_DATA_TYPE_VSERVER** | |

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **antivirus-policy**

[top]

Antivirus policy name

[none]

# Element definition: **config-diff-info**

[top]

Difference in configuration of an object instance. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **attribute-diff-list** | | attribute-info[] optional | The list of attributes that differ |
| **destination-vserver-name** | | string optional | Name of destination Vserver Attributes: key, non-creatable, non-modifiable |
| **destination-vserver-uuid** | | uuid optional | External UUID of destination Vserver Attributes: non-creatable, non-modifiable |
| **instance** | **[0..2^32-1]** | integer optional | The count of object instance Attributes: key, non-creatable, non-modifiable |
| **keys** | | key-value-pair[] optional | List of key:value pairs of the specific configuration instance compared - for example, volume:vol1 Attributes: key, non-creatable, non-modifiable |
| **object** | | string optional | The Vserver configuration object compared - for example, volume Attributes: key, non-creatable, non-modifiable |
| **skip-excluded-fields** | | boolean optional | Specifies whether to compare configuration attributes which are not explicitly replicated. Default is true. Attributes: non-creatable, non-modifiable |
| **source-vserver-name** | | string optional | Name of source Vserver Attributes: non-creatable, non-modifiable |
| **source-vserver-uuid** | | uuid optional | External UUID of source Vserver Attributes: non-creatable, non-modifiable |

# Element definition: **http-proxy**

[top]

HTTP Proxy Configuration. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it

shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **ipspace** | | string optional | Specifies the Ipspace for which the HTTP proxy should be configured. this parameter is mutually exclusive with vserver parameter. Attributes: optional-for-create, modifiable |
| **is-auth-enabled** | | boolean optional | Specifies whether authentication is required for the HTTP proxy. By default it is set to false. Attributes: required-for-create, modifiable |
| **password** | | string optional | Specifies the password for the username to authenticate with the HTTP proxy when authentication is enabled. Attributes: optional-for-create, modifiable |
| **port** | **[1..65535]** | integer optional | Specifies the port number on which the HTTP proxy service is configured for the server. Attributes: required-for-create, modifiable |
| **server** | | string optional | Specifies the HTTP proxy hostname or IP address. Attributes: required-for-create, modifiable |
| **username** | | string optional | Specifies the username to authenticate with the HTTP proxy when authentication is enabled. Attributes: optional-for-create, modifiable |
| **vserver** | | vserverid optional | Specifies the vserver for which the HTTP proxy should be configured. This parameter is mutually exclusive with ipsapce parameter. Attributes: key, non-creatable, non-modifiable |

# Element definition: **key-value-pair**

[top]

Key value pair in the format key:value

[none]

# Element definition: **language-code**

[top]

Language Code.

The following are the possible language codes along with their names:

- 'C' ... POSIX,
- 'ar' ... Arabic,
- 'cs' ... Czech,
- 'da' ... Danish,
- 'de' ... German,
- 'en' ... English,
- 'en_US' ... English (US),
- 'es' ... Spanish,
- 'fi' ... Finnish,
- 'fr' ... French,
- 'he' ... Hebrew,
- 'hr' ... Croatian,
- 'hu' ... Hungarian,
- 'it' ... Italian,

- 'ja' ... Japanese euc-j*,
- 'ja_v1' ... Japanese euc-j,
- 'ja_JP.PCK' ... Japanese PCK (sjis)*,
- 'ja_JP.932' ... Japanese cp932*,
- 'ja_JP.PCK_v2' ... Japanese PCK (sjis),
- 'ko' ... Korean,
- 'no' ... Norwegian,
- 'nl' ... Dutch,
- 'pl' ... Polish,
- 'pt' ... Portuguese,
- 'ro' ... Romanian,
- 'ru' ... Russian,
- 'sk' ... Slovak,
- 'sl' ... Slovenian,
- 'sv' ... Swedish,
- 'tr' ... Turkish,
- 'zh' ... Simplified Chinese,
- 'zh.GBK' ... Simplified Chinese (GBK),
- 'zh_TW' ... Traditional Chinese euc-tw,
- 'zh_TW.BIG5' ... Traditional Chinese Big 5

To use UTF-8 as the NFS character set, append '.UTF-8' to the language code.

[none]

# Element definition: **nmswitch**

[top]

file|ldap Possible values:

- "file" ,
- "ldap"

[none]

# Element definition: **nsswitch**

[top]

nis|file|ldap Possible values:

- "nis" ,
- "file" ,
- "ldap"

[none]

# Element definition: **protocol**

[top]

Vserver protocols. Possible values:

- "nfs" - NFS protocol,
- "cifs" - CIFS protocol,
- "fcp" - FCP protocol,
- "iscsi" - iSCSI protocol,
- "ndmp" - NDMP protocol,
- "http" - HTTP protocol,
- "nvme" - NVMe over Fabrics protocol,
- "s3" - S3 protocol

[none]

## Element definition: **security-style-enum**

[top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

## Element definition: **show-aggregates**

[top]

Show aggregates of the Vserver When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggregate-name** | | aggr-name optional | Aggregate Attributes: key, non-creatable, non-modifiable |
| **aggregate-type** | | aggregatetype optional | Aggregate Type Attributes: non-creatable, non-modifiable Possible values:<br>• "hdd" - Aggregate consists of only HDDs,<br>• "hybrid" - Aggregate consists of both HDDs and SSDs,<br>• "lun" - Aggregate consists of array LUNs,<br>• "ssd" - Aggregate consists of only SSDs,<br>• "vmdisk" - Aggregate consists of only VMDISKs,<br>• "vmlun" - Aggregate consists of only VMLUNs,<br>• "vmlunssd" - Aggregate consists of only VMLUNs of type SSD |
| | | size | |

| | | | |
|---|---|---|---|
| **available-size** | | optional | Available Size Attributes: non-creatable, non-modifiable |
| **is-nve-capable** | | boolean optional | Is NVE Capable Attributes: non-creatable, non-modifiable |
| **snaplock-type** | | snaplocktype optional | Snaplock Type Attributes: non-creatable, non-modifiable<br>Possible values:<br>• "non_snaplock" - Non SnapLock,<br>• "compliance" - SnapLock Compliance,<br>• "enterprise" - SnapLock Enterprise |
| **vserver-name** | | string optional | Vserver Attributes: key, non-creatable, non-modifiable |

# Element definition: **snapshot-policy**

[top]

Snapshot Policy

[none]

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **vsadminstate**

[top]

running|stopped|starting|stopping Possible values:

- "running" ,
- "stopped" ,
- "starting" ,
- "stopping" ,
- "initializing" ,
- "deleting"

[none]

# Element definition: **vserver-anti-ransomware-state**

[top]

disabled|dry-run Possible values:

- "disabled" ,
- "enabled" ,
- "dry_run"

[none]

# Element definition: **vserver-info**

[top]

Vserver Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] optional | List of aggregates assigned for volume operations. These aggregates could be shared for use with other Vservers. When specified as part of a vserver-create, this field represents the list of aggregates that are assigned to the Vserver for volume operations. When part of vserver-get-iter call, this will return the list of Vservers which have any of the aggregates specified as part of the aggr-list. Attributes: non-creatable, modifiable |
| | | | Allowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols allowed on the Vserver. When part of vserver-get-iter call, this will |

| | | | |
|---|---|---|---|
| **allowed-protocols** | | protocol[] optional | return the list of Vservers which have any of the protocols specified as part of the allowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Attributes: non-creatable, modifiable Possible values:<br>• "nfs" - NFS protocol,<br>• "cifs" - CIFS protocol,<br>• "fcp" - FCP protocol,<br>• "iscsi" - iSCSI protocol,<br>• "ndmp" - NDMP protocol,<br>• "http" - HTTP protocol,<br>• "nvme" - NVMe over Fabrics protocol,<br>• "s3" - S3 protocol |
| **anti-ransomware-default-volume-state** | | vserver-anti-ransomware-state optional | The default anti_ransomware state on new volume create Attributes: optional-for-create, modifiable Possible values:<br>• "disabled" ,<br>• "enabled" ,<br>• "dry_run" |
| **antivirus-on-access-policy** | | antivirus-policy optional | {Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default Attributes: optional-for-create, modifiable |
| **caching-policy** | | string optional | The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are:<br>• none - Does not cache any user data or metadata blocks.<br>• auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks.<br>• meta - Read caches only metadata blocks.<br>• random_read - Read caches all metadata and randomly read user data blocks.<br>• random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.<br>• all_read - Read caches all metadata, randomly read and sequentially read user data blocks.<br>• all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data.<br>• all - Read caches all data blocks read and written. It does not do any write caching.<br><br>Default caching-policy is auto. Attributes: optional-for-create, modifiable |
| **comment** | | string optional | Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. Attributes: optional-for-create, |

| | | | |
|---|---|---|---|
| | | | modifiable |
| **disallowed-protocols** | | protocol[] optional | Disallowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols not allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the disallowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Attributes: non-creatable, modifiable Possible values:<br>• "nfs" - NFS protocol,<br>• "cifs" - CIFS protocol,<br>• "fcp" - FCP protocol,<br>• "iscsi" - iSCSI protocol,<br>• "ndmp" - NDMP protocol,<br>• "http" - HTTP protocol,<br>• "nvme" - NVMe over Fabrics protocol,<br>• "s3" - S3 protocol |
| **ipspace** | | string optional | IPspace name. The default value is 'Default' Attributes: optional-for-create, non-modifiable |
| **is-config-locked-for-changes** | | boolean optional | Is the Vserver configuration locked for modificatiion. If the config-lock is true, then modifying the Vserver's configuration is not allowed. Attributes: non-creatable, non-modifiable |
| **is-repository-vserver** | | boolean optional | This parameter is no longer supported as of ONTAP 9.5.0. If you are using Infinite Volumes it is recommended that you do not upgrade the cluster to a release that is later than Data ONTAP 9.3.0.<br><br>Specifies if this Vserver is a Vserver with Infinite Volume. When part of vserver-get-iter call, this will return the list of matching Vservers. Default value is false.<br><br>Prior to Data ONTAP 8.2.0, Vserver with Infinite Volume is called repository Vserver and once a repository Vserver is created in a cluster, additional Vservers cannot be created. Conversely, a repository Vserver cannot be created if non-repository Vservers already exist in a cluster. Attributes: optional-for-create, non-modifiable |
| **is-space-enforcement-logical** | | boolean optional | Whether to perform logical space accounting on new volume create Attributes: optional-for-create, modifiable |
| **is-space-reporting-logical** | | boolean optional | Whether to report space logically on new volume create Attributes: optional-for-create, modifiable |
| **is-vserver-protected** | | boolean optional | Vserver protection Attributes: non-creatable, non-modifiable |
| | | | Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' |

| | | | |
|---|---|---|---|
| **language** | | language-code optional | ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP. Attributes: optional-for-create, modifiable |
| **ldap-domain** | | string optional | LDAP client configuration details. Attributes: non-creatable, non-modifiable |
| **max-volumes** | | string optional | Maximum number of volumes that can be created on the Vserver. When specified as part of a vserver-create, this field represents the maximum number of volumes that can be created on the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. Attributes: non-creatable, modifiable |
| **name-mapping-switch** | | nmswitch[] optional | Name Mapping switch configuration details for the Vserver. When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name mapping switch order. Attributes: optional-for-create, modifiable Possible values:<br>• "file" ,<br>• "ldap" |
| **name-server-switch** | | nsswitch[] optional | Name Server switch configuration details for the Vserver. Possible values: 'nis', 'file', 'ldap'. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name server switch order. Attributes: optional-for-create, modifiable Possible values:<br>• "nis" ,<br>• "file" ,<br>• "ldap" |
| **nis-domain** | | nis-domain optional | NIS domain configuration details for the Vserver. Attributes: non-creatable, non-modifiable |
| | | | Operational state of the Virtual Server. This field determines the state of the Vserver LIFs. New LIFs created on a Vserver, which is in running state, will be operationally up and the |

| | | | |
|---|---|---|---|
| **operational-state** | | vsoperstate optional | LIFs created on a Vserver, which is in stopped state, will be operationally down. Attributes: non-creatable, non-modifiable Possible values:<br>• "running" ,<br>• "stopped" |
| **operational-state-stopped-reason** | | vsopstopreason optional | Vserver Operational State Stopped Reason Attributes: non-creatable, non-modifiable Possible values:<br>• "sync_destination_and_switchover_not_done" - Sync-destination Vserver and switchover is not done,<br>• "cluster_reboot_done" - Cluster reboot is done,<br>• "admin_state_stopped" - Admin state is stopped,<br>• "dp_destination_not_started" - Vserver configured as destination of Vserver DR |
| **qos-policy-group** | | string optional | The QoS policy group associated with this volume. This optionally specifies which QoS policy group to apply to the Vserver. The policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a Vserver, the system will not monitor and control traffic to it. This parameter is not supported on a Vserver with Infinite Volume. Attributes: non-creatable, modifiable |
| **quota-policy** | | string optional | Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a Vserver with Infinite Volume. default: default Attributes: optional-for-create, modifiable |
| **root-volume** | | volume-name optional | Root volume of the Vserver. Optional field for 'default' Vserver. Not allowed for creation of a 'dp-destination' Vserver. If not specified, the system will choose a default name for the root volume based on the Vserver name. Attributes: optional-for-create, non-modifiable |
| **root-volume-aggregate** | | aggr-name optional | The aggregate on which the root volume will be created. Optional field for creating a default Vserver. If this field is not provided, the most appropriate aggregate will be selected. Not allowed for creation of a dp-destination Vserver. Creating a root volume on a SnapLock aggregate is not supported. Attributes: optional-for-create, non-modifiable |
| **root-volume-security-style** | | security-style-enum optional | Security Style of the root volume. Optional field for creating a default Vserver. Not allowed for creation of a dp-destination Vserver. When specified as part of the vserver-create, this field represents the security style for the Vserver root volume. When specified as part of vserver-get-iter call, this will return the list of matching Vservers. Possible values: 'unix', 'ntfs', 'mixed'. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to a Vserver's root volume. Default value is 'unix'. Attributes: optional-for-create, non-modifiable Possible values:<br>• "unix" - NFS,<br>• "ntfs" - CIFS,<br>• "mixed" - Mixed,<br>• "unified" - Unified |

| | | | |
|---|---|---|---|
| **snapshot-policy** | | snapshot-policy optional | Default snapshot policy setting for all volumes of the Vserver. This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default Attributes: optional-for-create, modifiable |
| **state** | | vsadminstate optional | State of the Virtual Server. This field, together with the operational state, determines the data serving ability of a Vserver Attributes: non-creatable, modifiable Possible values:<br>• "running" ,<br>• "stopped" ,<br>• "starting" ,<br>• "stopping" ,<br>• "initializing" ,<br>• "deleting" |
| **uuid** | | uuid optional | Universal unique identifier (UUID) for the Vserver. Attributes: non-creatable, non-modifiable |
| **volume-delete-retention-hours** | **[0..2^32-1]** | integer optional | The number of hours that a deleted volume should be retained before the delete is completed Attributes: non-creatable, modifiable |
| **vserver-aggr-info-list** | | vserver-aggr-info[] optional | List of aggregates assigned to the Vserver with aggregate name and available size. |
| **vserver-name** | | string optional | Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name Attributes: key, non-creatable, non-modifiable |
| **vserver-subtype** | | string optional | Vserver Subtype. This option allows the admin to specify the sub-type of Vserver being created. The possible options for this value are:<br>• default<br>• dp_destination<br>• sync_source<br>• sync_destination<br><br>If a Vserver is an MCC destination, then it would have the sub-type sync-source. Vserver of sub-type sync-destination cannot be explicitly created by the admin. When a Vserver of sub-type dp-destination is created, most of the management activities are not allowed. Default value is default. Attributes: optional-for-create, non-modifiable |
| **vserver-type** | | string optional | Type of the Vserver. Possible values:<br>• data: the default scale-out vserver<br>• admin: for the cluster-wide management Vserver<br>• system: for cluster-scoped communications in an IPspace |

| | | | |
|---|---|---|---|
| | | | • node: identifies the physical controller.<br><br>Attributes: non-creatable, non-modifiable |

# Element definition: **vserver-login-banner-info**

[top]

Login Banner Message Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **message** | | string<br>optional | The login banner message. Maximum byte length for modify: 2048.<br>Attributes: optional-for-create, modifiable |
| **vserver** | | string<br>optional | Name of the Vserver. The default banner is associated with the Admin Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **vserver-login-banner-modify-iter-info**

[top]

Information about the operation that was attempted/performed against vserver-login-banner object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer<br>optional | Error code, if the operation caused an error. |
| **error-message** | | string<br>optional | Error description, if the operation caused an error. |
| **vserver-login-banner-key** | | vserver-login-banner-info | The keys for the vserver-login-banner object to which the operation applies. |

# Element definition: **vserver-modify-iter-info**

[top]

Information about the modify operation that was attempted/performed against vserver object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer<br>optional | Error code, if the modify operation caused an error. |
| **error-message** | | string<br>optional | Error description, if the modify operation caused an error. |
| **vserver-key** | | vserver-info | The keys for the vserver object to which the modify operation applies. |

# Element definition: **vserver-motd-info**

[top]

Message of the Day Configuration Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-cluster-message-enabled** | | boolean optional | Is the display of the cluster message of the day (MOTD) enabled for this Vserver? Attributes: required-for-create, modifiable |
| **message** | | string optional | The message of the day (MOTD). Maximum byte length for modify: 2048. Newlines can be supplied as either LF or CRLF, but they will always be returned as LF. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Name of the Vserver. The cluster message of the day is associated with the Admin Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **vserver-motd-modify-iter-info**

[top]

Information about the operation that was attempted/performed against vserver-motd object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **vserver-motd-key** | | vserver-motd-info | The keys for the vserver-motd object to which the operation applies. |

# Element definition: **vserverid**

[top]

Vserver Id

[none]

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

## Element definition: **aggregatetype** [top]

hdd | hybrid | lun | ssd | vmdisk Possible values:

- "hdd" - Aggregate consists of only HDDs,
- "hybrid" - Aggregate consists of both HDDs and SSDs,
- "lun" - Aggregate consists of array LUNs,
- "ssd" - Aggregate consists of only SSDs,
- "vmdisk" - Aggregate consists of only VMDISKs,
- "vmlun" - Aggregate consists of only VMLUNs,
- "vmlunssd" - Aggregate consists of only VMLUNs of type SSD

[none]

## Element definition: **antivirus-policy** [top]

Antivirus policy name

[none]

## Element definition: **attribute-info** [top]

The name of attribute and its values at source and destination

| Name | Range | Type | Description |
|---|---|---|---|
| **attribute** | | string optional | Attribute of the configuration compared - for example, volume-style in case of volumes. Attributes: non-creatable, non-modifiable |
| **destination-vserver-value** | | string optional | Value of the configuration attribute at destination Vserver Attributes: non-creatable, non-modifiable |
| **source-vserver-value** | | string optional | Value of the configuration attribute at source Vserver Attributes: non-creatable, non-modifiable |

## Element definition: **language-code** [top]

Language Code.

The following are the possible language codes along with their names:

- 'C' ... POSIX,
- 'ar' ... Arabic,

- 'cs' ... Czech,
- 'da' ... Danish,
- 'de' ... German,
- 'en' ... English,
- 'en_US' ... English (US),
- 'es' ... Spanish,
- 'fi' ... Finnish,
- 'fr' ... French,
- 'he' ... Hebrew,
- 'hr' ... Croatian,
- 'hu' ... Hungarian,
- 'it' ... Italian,
- 'ja' ... Japanese euc-j*,
- 'ja_v1' ... Japanese euc-j,
- 'ja_JP.PCK' ... Japanese PCK (sjis)*,
- 'ja_JP.932' ... Japanese cp932*,
- 'ja_JP.PCK_v2' ... Japanese PCK (sjis),
- 'ko' ... Korean,
- 'no' ... Norwegian,
- 'nl' ... Dutch,
- 'pl' ... Polish,
- 'pt' ... Portuguese,
- 'ro' ... Romanian,
- 'ru' ... Russian,
- 'sk' ... Slovak,
- 'sl' ... Slovenian,
- 'sv' ... Swedish,
- 'tr' ... Turkish,
- 'zh' ... Simplified Chinese,
- 'zh.GBK' ... Simplified Chinese (GBK),
- 'zh_TW' ... Traditional Chinese euc-tw,
- 'zh_TW.BIG5' ... Traditional Chinese Big 5

To use UTF-8 as the NFS character set, append '.UTF-8' to the language code.

[none]

# Element definition: **nis-domain**

[top]

NIS Domain

[none]

# Element definition: **nmswitch**

[top]

file|ldap Possible values:

- "file" ,
- "ldap"

[none]

# Element definition: **nsswitch**

[top]

nis|file|ldap Possible values:

- "nis" ,
- "file" ,
- "ldap"

[none]

# Element definition: **protocol**

[top]

Vserver protocols. Possible values:

- "nfs" - NFS protocol,
- "cifs" - CIFS protocol,
- "fcp" - FCP protocol,
- "iscsi" - iSCSI protocol,
- "ndmp" - NDMP protocol,
- "http" - HTTP protocol,
- "nvme" - NVMe over Fabrics protocol,
- "s3" - S3 protocol

[none]

# Element definition: **security-style-enum**

[top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

# Element definition: **size**

[top]

Size in bytes Range : [0..2^63-1].

[none]

# Element definition: **snaplocktype**

[top]

non-snaplock|compliance|enterprise Possible values:

- "non_snaplock" - Non SnapLock,
- "compliance" - SnapLock Compliance,
- "enterprise" - SnapLock Enterprise

[none]

# Element definition: **snapshot-policy**

[top]

Snapshot Policy

[none]

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **vsadminstate** [top]

running|stopped|starting|stopping Possible values:

- "running" ,
- "stopped" ,
- "starting" ,
- "stopping" ,
- "initializing" ,
- "deleting"

[none]

# Element definition: **vserver-aggr-info** [top]

Assigned aggregate name and available size.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-availsize** | | size optional | Assigned aggregate available size. Attributes: non-creatable, non-modifiable |
| **aggr-is-cft-precommit** | | boolean optional | Assigned aggregate cft pre-commit status. Attributes: non-creatable, non-modifiable |
| **aggr-name** | | aggr-name optional | Assigned aggregate name. Attributes: non-creatable, modifiable |

# Element definition: **vserver-anti-ransomware-state** [top]

disabled|dry-run Possible values:

- "disabled" ,
- "enabled" ,
- "dry_run"

[none]

# Element definition: **vserver-info** [top]

Vserver Information When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller

ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-list** | | aggr-name[] optional | List of aggregates assigned for volume operations. These aggregates could be shared for use with other Vservers. When specified as part of a vserver-create, this field represents the list of aggregates that are assigned to the Vserver for volume operations. When part of vserver-get-iter call, this will return the list of Vservers which have any of the aggregates specified as part of the aggr-list. Attributes: non-creatable, modifiable |
| **allowed-protocols** | | protocol[] optional | Allowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the allowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Attributes: non-creatable, modifiable Possible values:<br>• "nfs" - NFS protocol,<br>• "cifs" - CIFS protocol,<br>• "fcp" - FCP protocol,<br>• "iscsi" - iSCSI protocol,<br>• "ndmp" - NDMP protocol,<br>• "http" - HTTP protocol,<br>• "nvme" - NVMe over Fabrics protocol,<br>• "s3" - S3 protocol |
| **anti-ransomware-default-volume-state** | | vserver-anti-ransomware-state optional | The default anti_ransomware state on new volume create Attributes: optional-for-create, modifiable Possible values:<br>• "disabled" ,<br>• "enabled" ,<br>• "dry_run" |
| **antivirus-on-access-policy** | | antivirus-policy optional | {Deprecated, this field does not have any effect on the operation of the vserver.} Antivirus policy. When specified as part of vserver-create, this field represents the antivirus on access policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default Attributes: optional-for-create, modifiable |
| **caching-** | | string | The caching policy that is to be associated with this Vserver. This policy is used to make caching decisions for this Vserver. If a caching policy is not assigned to this Vserver, the system uses the default cluster-wide policy. The possible options for this value are:<br>• none - Does not cache any user data or metadata blocks.<br>• auto - Read caches all metadata blocks and randomly read user data blocks, and write caches all randomly overwritten user data blocks.<br>• meta - Read caches only metadata blocks.<br>• random_read - Read caches all metadata and |

| | | | |
|---|---|---|---|
| **policy** | | optional | randomly read user data blocks.<br>• random_read_write - Read caches all metadata, randomly read and randomly written user data blocks.<br>• all_read - Read caches all metadata, randomly read and sequentially read user data blocks.<br>• all_read_random_write - Read caches all metadata, randomly read, sequentially read and randomly written user data.<br>• all - Read caches all data blocks read and written. It does not do any write caching.<br><br>Default caching-policy is auto. Attributes: optional-for-create, modifiable |
| **comment** | | string<br>optional | Comment. When specified as part of a vserver-create, this field represents the comment associated with the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. Attributes: optional-for-create, modifiable |
| **disallowed-protocols** | | protocol[]<br>optional | Disallowed Protocols. When specified as part of a vserver-create, this field represent the list of protocols not allowed on the Vserver. When part of vserver-get-iter call, this will return the list of Vservers which have any of the protocols specified as part of the disallowed-protocols. When part of vserver-modify, this field should include the existing list along with new protocol list to be added to prevent data disruptions. Attributes: non-creatable, modifiable Possible values:<br><br>• "nfs" - NFS protocol,<br>• "cifs" - CIFS protocol,<br>• "fcp" - FCP protocol,<br>• "iscsi" - iSCSI protocol,<br>• "ndmp" - NDMP protocol,<br>• "http" - HTTP protocol,<br>• "nvme" - NVMe over Fabrics protocol,<br>• "s3" - S3 protocol |
| **ipspace** | | string<br>optional | IPspace name. The default value is 'Default' Attributes: optional-for-create, non-modifiable |
| **is-config-locked-for-changes** | | boolean<br>optional | Is the Vserver configuration locked for modificatiion. If the config-lock is true, then modifying the Vserver's configuration is not allowed. Attributes: non-creatable, non-modifiable |
| **is-repository-vserver** | | boolean<br>optional | This parameter is no longer supported as of ONTAP 9.5.0. If you are using Infinite Volumes it is recommended that you do not upgrade the cluster to a release that is later than Data ONTAP 9.3.0.<br><br>Specifies if this Vserver is a Vserver with Infinite Volume. When part of vserver-get-iter call, this will return the list of matching Vservers. Default value is false.<br><br>Prior to Data ONTAP 8.2.0, Vserver with Infinite Volume is called repository Vserver and once a repository Vserver is created in a cluster, additional Vservers cannot be created. Conversely, a repository Vserver cannot be created if non-repository Vservers already exist in a cluster. Attributes: optional-for-create, non-modifiable |
| **is-space-enforcement-** | | boolean | Whether to perform logical space accounting on new volume |

| | | | |
|---|---|---|---|
| **logical** | | optional | create Attributes: optional-for-create, modifiable |
| **is-space-reporting-logical** | | boolean optional | Whether to report space logically on new volume create Attributes: optional-for-create, modifiable |
| **is-vserver-protected** | | boolean optional | Vserver protection Attributes: non-creatable, non-modifiable |
| **language** | | language-code optional | Language to use for the Vserver. Default: C.UTF-8. Available language codes are: 'c' ..... POSIX 'ar' ..... Arabic 'cs' ..... Czech 'da' ..... Danish 'de' ..... German 'en' ..... English 'en_us' ..... English (US) 'es' ..... Spanish 'fi' ..... Finnish 'fr' ..... French 'he' ..... Hebrew 'hr' ..... Croatian 'hu' ..... Hungarian 'it' ..... Italian 'ja' ..... Japanese euc-j 'ja_v1' ..... Japanese euc-j 'ja_jp.pck' ..... Japanese PCK (sjis) 'ja_jp.932' ..... Japanese cp932 'ja_jp.pck_v2' .... Japanese PCK (sjis) 'ko' ..... Korean 'no' ..... Norwegian 'nl' ..... Dutch 'pl' ..... Polish 'pt' ..... Portuguese 'ro' ..... Romanian 'ru' ..... Russian 'sk' ..... Slovak 'sl' ..... Slovenian 'sv' ..... Swedish 'tr' ..... Turkish 'zh' ..... Simplified Chinese 'zh.gbk' ..... Simplified Chinese (GBK) 'zh_tw' ..... Traditional Chinese euc-tw 'zh_tw.big5' ..... Traditional Chinese Big 5 To use UTF-8 as the NFS character set, append '.UTF-8'. When specified as part of vserver-create, this field represents the language used for the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers with the specified language. The values with the '*' suffixes are not supported by Clustered ONTAP. Attributes: optional-for-create, modifiable |
| **ldap-domain** | | string optional | LDAP client configuration details. Attributes: non-creatable, non-modifiable |
| **max-volumes** | | string optional | Maximum number of volumes that can be created on the Vserver. When specified as part of a vserver-create, this field represents the maximum number of volumes that can be created on the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. Attributes: non-creatable, modifiable |
| **name-mapping-switch** | | nmswitch[] optional | Name Mapping switch configuration details for the Vserver. When specified as part of the vserver-create, this field represents the list of Name Mapping switch configurations to be used. When specified as part of the vserver-get-iter, this will return the list of Vservers which have any of the specified Name Mapping configurations as part of their nm-switch configuration. Possible values: 'file', 'ldap'. default: file. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-modify' should be preferred to specify the name mapping switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name mapping switch order. Attributes: optional-for-create, modifiable Possible values:<br>• "file" ,<br>• "ldap" |
| | | | Name Server switch configuration details for the Vserver. |

| | | | |
|---|---|---|---|
| **name-server-switch** | | nsswitch[] optional | Possible values: 'nis', 'file', 'ldap'. This field is deprecated in Data ONTAP 8.3 and later. 'nameservice-nsswitch-create' should be preferred to specify the name server switch order. 'nameservice-nsswitch-modify' should be preferred to modify the name server switch order. 'nameservice-nsswitch-get' and 'nameservice-nsswitch-get-iter' APIs must be used to fetch the currently configured name server switch order. Attributes: optional-for-create, modifiable Possible values:<br>• "nis" ,<br>• "file" ,<br>• "ldap" |
| **nis-domain** | | nis-domain optional | NIS domain configuration details for the Vserver. Attributes: non-creatable, non-modifiable |
| **operational-state** | | vsoperstate optional | Operational state of the Virtual Server. This field determines the state of the Vserver LIFs. New LIFs created on a Vserver, which is in running state, will be operationally up and the LIFs created on a Vserver, which is in stopped state, will be operationally down. Attributes: non-creatable, non-modifiable Possible values:<br>• "running" ,<br>• "stopped" |
| **operational-state-stopped-reason** | | vsopstopreason optional | Vserver Operational State Stopped Reason Attributes: non-creatable, non-modifiable Possible values:<br>• "sync_destination_and_switchover_not_done" - Sync-destination Vserver and switchover is not done,<br>• "cluster_reboot_done" - Cluster reboot is done,<br>• "admin_state_stopped" - Admin state is stopped,<br>• "dp_destination_not_started" - Vserver configured as destination of Vserver DR |
| **qos-policy-group** | | string optional | The QoS policy group associated with this volume. This optionally specifies which QoS policy group to apply to the Vserver. The policy group defines measurable service level objectives (SLOs) that apply to the storage objects with which the policy group is associated. If you do not assign a policy group to a Vserver, the system will not monitor and control traffic to it. This parameter is not supported on a Vserver with Infinite Volume. Attributes: non-creatable, modifiable |
| **quota-policy** | | string optional | Quota policy. When specified as part of vserver-create, this field represents the quota policy for the Vserver. When specified as part vserver-get-iter call, this will return the list of matching Vservers. This parameter is not supported on a Vserver with Infinite Volume. default: default Attributes: optional-for-create, modifiable |
| **root-volume** | | volume-name optional | Root volume of the Vserver. Optional field for 'default' Vserver. Not allowed for creation of a 'dp-destination' Vserver. If not specified, the system will choose a default name for the root volume based on the Vserver name. Attributes: optional-for-create, non-modifiable |
| **root-volume-aggregate** | | aggr-name optional | The aggregate on which the root volume will be created. Optional field for creating a default Vserver. If this field is not provided, the most appropriate aggregate will be selected. Not allowed for creation of a dp-destination Vserver. Creating a root volume on a SnapLock aggregate is |

| | | | |
|---|---|---|---|
| | | | not supported. Attributes: optional-for-create, non-modifiable |
| **root-volume-security-style** | | security-style-enum optional | Security Style of the root volume. Optional field for creating a default Vserver. Not allowed for creation of a dp-destination Vserver. When specified as part of the vserver-create, this field represents the security style for the Vserver root volume. When specified as part of vserver-get-iter call, this will return the list of matching Vservers. Possible values: 'unix', 'ntfs', 'mixed'. The 'unified' security style, which applies only to Infinite Volumes, cannot be applied to a Vserver's root volume. Default value is 'unix'. Attributes: optional-for-create, non-modifiable Possible values:<br>• "unix" - NFS,<br>• "ntfs" - CIFS,<br>• "mixed" - Mixed,<br>• "unified" - Unified |
| **snapshot-policy** | | snapshot-policy optional | Default snapshot policy setting for all volumes of the Vserver. This policy will be assigned to all volumes created in this Vserver unless the volume create request explicitly provides a snapshot policy or volume is modified later with a specific snapshot policy. A volume-level snapshot policy always overrides the default Vserver-wide snapshot policy. When specified as part vserver-get-iter call, this will return the list of matching Vservers. default: default Attributes: optional-for-create, modifiable |
| **state** | | vsadminstate optional | State of the Virtual Server. This field, together with the operational state, determines the data serving ability of a Vserver Attributes: non-creatable, modifiable Possible values:<br>• "running" ,<br>• "stopped" ,<br>• "starting" ,<br>• "stopping" ,<br>• "initializing" ,<br>• "deleting" |
| **uuid** | | uuid optional | Universal unique identifier (UUID) for the Vserver. Attributes: non-creatable, non-modifiable |
| **volume-delete-retention-hours** | **[0..2^32-1]** | integer optional | The number of hours that a deleted volume should be retained before the delete is completed Attributes: non-creatable, modifiable |
| **vserver-aggr-info-list** | | vserver-aggr-info[] optional | List of aggregates assigned to the Vserver with aggregate name and available size. |
| **vserver-name** | | string optional | Name of the Vserver. When specified as part of a vserver-create, this field represents the name of the Vserver. When part of vserver-get-iter call, this will return the list of matching Vservers. The following restrictions are applicable for the Vserver name: - Maximum number of characters supported is 47, and 41 for a Vserver with subtype 'sync-source' - 'all' is a reserved name and should not be used as a Vserver name Attributes: key, non-creatable, non-modifiable |
| | | | Vserver Subtype. This option allows the admin to specify the sub-type of Vserver being created. The possible options for |

| | | | |
|---|---|---|---|
| **vserver-subtype** | | string optional | this value are:<br>• default<br>• dp_destination<br>• sync_source<br>• sync_destination<br>If a Vserver is an MCC destination, then it would have the sub-type sync-source. Vserver of sub-type sync-destination cannot be explicitly created by the admin. When a Vserver of sub-type dp-destination is created, most of the management activities are not allowed. Default value is default. Attributes: optional-for-create, non-modifiable |
| **vserver-type** | | string optional | Type of the Vserver. Possible values:<br>• data: the default scale-out vserver<br>• admin: for the cluster-wide management Vserver<br>• system: for cluster-scoped communications in an IPspace<br>• node: identifies the physical controller.<br>Attributes: non-creatable, non-modifiable |

# Element definition: **vserver-login-banner-info**

[top]

Login Banner Message Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **message** | | string optional | The login banner message. Maximum byte length for modify: 2048. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Name of the Vserver. The default banner is associated with the Admin Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **vserver-motd-info**

[top]

Message of the Day Configuration Info When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of

objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **is-cluster-message-enabled** | | boolean optional | Is the display of the cluster message of the day (MOTD) enabled for this Vserver? Attributes: required-for-create, modifiable |
| **message** | | string optional | The message of the day (MOTD). Maximum byte length for modify: 2048. Newlines can be supplied as either LF or CRLF, but they will always be returned as LF. Attributes: optional-for-create, modifiable |
| **vserver** | | string optional | Name of the Vserver. The cluster message of the day is associated with the Admin Vserver. Attributes: key, non-creatable, non-modifiable |

# Element definition: **vsoperstate**

[top]

running|stopped Possible values:

- "running" ,
- "stopped"

[none]

# Element definition: **vsopstopreason**

[top]

sync destination and switchover is not done|cluster reboot is done|admin state stopped| dp destination not started Possible values:

- "sync_destination_and_switchover_not_done" - Sync-destination Vserver and switchover is not done,
- "cluster_reboot_done" - Cluster reboot is done,
- "admin_state_stopped" - Admin state is stopped,
- "dp_destination_not_started" - Vserver configured as destination of Vserver DR

[none]

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **antivirus-policy**

[top]

Antivirus policy name

[none]

## Element definition: **language-code**

[top]

Language Code.

The following are the possible language codes along with their names:

- 'C' ... POSIX,
- 'ar' ... Arabic,
- 'cs' ... Czech,
- 'da' ... Danish,
- 'de' ... German,
- 'en' ... English,
- 'en_US' ... English (US),
- 'es' ... Spanish,
- 'fi' ... Finnish,
- 'fr' ... French,
- 'he' ... Hebrew,
- 'hr' ... Croatian,
- 'hu' ... Hungarian,
- 'it' ... Italian,
- 'ja' ... Japanese euc-j*,
- 'ja_v1' ... Japanese euc-j,
- 'ja_JP.PCK' ... Japanese PCK (sjis)*,
- 'ja_JP.932' ... Japanese cp932*,
- 'ja_JP.PCK_v2' ... Japanese PCK (sjis),
- 'ko' ... Korean,
- 'no' ... Norwegian,
- 'nl' ... Dutch,
- 'pl' ... Polish,
- 'pt' ... Portuguese,
- 'ro' ... Romanian,
- 'ru' ... Russian,
- 'sk' ... Slovak,
- 'sl' ... Slovenian,
- 'sv' ... Swedish,
- 'tr' ... Turkish,
- 'zh' ... Simplified Chinese,
- 'zh.GBK' ... Simplified Chinese (GBK),
- 'zh_TW' ... Traditional Chinese euc-tw,
- 'zh_TW.BIG5' ... Traditional Chinese Big 5

To use UTF-8 as the NFS character set, append '.UTF-8' to the language code.

[none]

## Element definition: **nis-domain**

[top]

NIS Domain

[none]

## Element definition: **nmswitch**

[top]

file|ldap Possible values:

- "file" ,
- "ldap"

[none]

## Element definition: **nsswitch**

[top]

nis|file|ldap Possible values:

- "nis" ,
- "file" ,
- "ldap"

[none]

## Element definition: **protocol**

[top]

Vserver protocols. Possible values:

- "nfs" - NFS protocol,
- "cifs" - CIFS protocol,
- "fcp" - FCP protocol,
- "iscsi" - iSCSI protocol,
- "ndmp" - NDMP protocol,
- "http" - HTTP protocol,
- "nvme" - NVMe over Fabrics protocol,
- "s3" - S3 protocol

[none]

## Element definition: **security-style-enum**

[top]

security style Possible values:

- "unix" - NFS,
- "ntfs" - CIFS,
- "mixed" - Mixed,
- "unified" - Unified

[none]

## Element definition: **size** [top]

Size in bytes Range : [0..2^63-1].

[none]

## Element definition: **snapshot-policy** [top]

Snapshot Policy

[none]

## Element definition: **uuid** [top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

## Element definition: **volume-name** [top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **vsadminstate**

[top]

running|stopped|starting|stopping Possible values:

- "running" ,
- "stopped" ,
- "starting" ,
- "stopping" ,
- "initializing" ,
- "deleting"

[none]

# Element definition: **vserver-aggr-info**

[top]

Assigned aggregate name and available size.

| Name | Range | Type | Description |
|---|---|---|---|
| **aggr-availsize** | | size optional | Assigned aggregate available size. Attributes: non-creatable, non-modifiable |
| **aggr-is-cft-precommit** | | boolean optional | Assigned aggregate cft pre-commit status. Attributes: non-creatable, non-modifiable |
| **aggr-name** | | aggr-name optional | Assigned aggregate name. Attributes: non-creatable, modifiable |

# Element definition: **vserver-anti-ransomware-state**

[top]

disabled|dry-run Possible values:

- "disabled" ,
- "enabled" ,
- "dry_run"

[none]

# Element definition: **aggr-name**

[top]

Name of the aggregate

[none]

# Element definition: **size**

[top]

~~Size in~~ bytes Range : [0..2^63-1].

[none]

# APIs in Category: **vserver-peer**


vserver-peer-accept
vserver-peer-create
vserver-peer-delete
vserver-peer-get
vserver-peer-get-iter
vserver-peer-modify
vserver-peer-modify-local-name
vserver-peer-permission-create
vserver-peer-permission-delete
vserver-peer-permission-get
vserver-peer-permission-get-iter
vserver-peer-permission-modify
vserver-peer-reject
vserver-peer-repair-peer-name
vserver-peer-resume
vserver-peer-suspend


Vserver peering provides a mechanism to setup relationships between two Vservers. Relationship thus created can be used by cluster administrator to setup application (SnapMirror) relationships or delegate these to Vserver administrator. This set of APIs allow to create and manage Vserver peer relationships.

## vserver-peer-accept

[top]

Accept a pending Vserver peer relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **local-name** | | string optional | Specifies local name of the peer Vserver in the relationship. |
| **peer-vserver** | | string | Specifies name of the peer Vserver in the relationship |
| **vserver** | | string | Specifies name of the local Vserver in the relationship |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **E_PEERVSERVER_NOT_FOUND** | |
| **E_LOCALVSERVER_PEERING_NOT_EXISTS** | |
| **E_PEERVSERVER_PEERING_NOT_EXISTS** | |
| **E_INVALID_VSERVERPEERING_STATE** | |
| **E_INVALID_PEER_VSERVERPEERING_STATE** | |
| **ENOTCLUSTERED** | |
| **EINTERNALERROR** | |
| **E_INVALID_OPERATION_INTRA_CLUSTER** | |
| **E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_RETRY** | |

| | |
|---|---|
| **E_JOB_EXISTS** | |
| **E_VSERVERPEER_UNIQUE_VSERVER_NAME_EXISTS** | |
| **E_VSERVERPEER_UNIQUE_ACCEPT_ALTERNATE_NAME_OPTION** | |
| **E_VSERVERPEER_UNIQUE_LOCAL_NAMES_DISABLED** | |
| **E_VSERVERPEER_UNIQUE_UNIQUE_LOCAL_NAME_EXISTS** | |

# vserver-peer-create

[top]

Create a new Vserver peer relationship between two existing Vservers

| Input Name | Range | Type | Description |
|---|---|---|---|
| **applications** | | vserver-peer-application[] | Applications which can make use of the peering relationship. Possible values: 'snapmirror', 'file_copy', 'lun_copy', 'flexcache'. |
| **local-name** | | string optional | Specifies local name of the peer Vserver in the relationship. |
| **peer-cluster** | | string optional | Specifies name of the peer Cluster. If peer Cluster is not given, it considers local Cluster. |
| **peer-vserver** | | string | Specifies name of the peer Vserver in the relationship |
| **vserver** | | string | Specifies name of the local Vserver in the relationship |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **E_PEERVSERVER_NOT_FOUND** | |
| **E_LOCAL_VSERVERPEERING_EXISTS** | |
| **E_PEER_VSERVERPEERING_EXISTS** | |
| **EINVALIDINPUTERROR** | |
| **ENOTCLUSTERED** | |
| **E_PEERVSERVER_NAME_EXISTS** | |
| **EINTERNALERROR** | |
| **E_PEERVSERVER_SAME_LOCALVSERVER** | |
| **E_ECANNOT_PEER_WITH_SAME_VSERVER** | |
| **E_PEER_CLUSTER_NOT_VALID** | |
| **E_LOCAL_VSERVER_NOT_RUNNING_OR_STOPPED** | |
| **E_PEER_VSERVER_NOT_RUNNING_OR_STOPPED** | |
| **E_DUPLICATE_PEER_VSERVER_NAME_VSERVER** | |
| **E_DUPLICATE_PEER_VSERVER_NAME_FILER** | |
| **E_DUPLICATE_VSERVER_NAME_ON_PEER_CLUSTER_VSERVER** | |
| **E_DUPLICATE_VSERVER_NAME_ON_PEER_CLUSTER_FILER** | |
| **E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_RETRY** | |
| **E_CANT_PEER_FLEXVOL_VSERVER_WITH_INFINITEVOL_VSERVER** | |
| **E_JOB_EXISTS** | |
| **EVSERVERPEER_SYSTEM_MANAGED_APPLICATION_NOT_ALLOWED** | |
| **EVSERVERPEER_CANNOT_SPECIFY_SYNC_DEST_VSERVER** | |
| **E_VSERVERPEER_INTER_CLUSTER_LUN_COPY_NOT_ALLOWED** | |
| **E_VSERVERPEER_CANNOT_ENABLE_PEERED_LUN_COPY** | |
| **E_VSERVERPEER_UNIQUE_ALTERNATE_NAME_OPTION** | |

| | |
|---|---|
| **E_VSERVERPEER_UNIQUE_VSERVER_NAME_EXISTS** | |
| **E_VSERVERPEER_UNIQUE_LOCAL_NAMES_DISABLED** | |
| **E_VSERVERPEER_UNIQUE_UNIQUE_LOCAL_NAME_EXISTS** | |
| **E_VSERVERPEER_UNIQUE_LOCAL_NAME_INTRA_INVALID** | |
| **E_VSERVERPEER_PEER_CLUSTER_VERSION_MISMATCH** | |
| **E_VSERVERPEER_NO_FLEXCACHE_AT_LOCAL_CLUSTER** | |
| **E_VSERVERPEER_NO_FLEXCACHE_AT_PEER_CLUSTER** | |

# vserver-peer-delete

[top]

Delete a Vserver peer relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force Delete |
| **peer-vserver** | | string | Specifies name of the peer Vserver in the relationship |
| **vserver** | | string | Specifies name of the local Vserver in the relationship |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **E_PEERVSERVER_NOT_FOUND** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **E_PEERVSERVER_PEERING_NOT_EXISTS** | |
| **E_INVALID_VSERVERPEERING_STATE** | |
| **E_INVALID_PEERVSERVERPEERINGS_TATE** | |
| **ENOTCLUSTERED** | |
| **EINTERNALERROR** | |
| **E_PEER_RELATIONSHIP_IN_USE** | |
| **E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_FORCE_OPTION** | |
| **E_JOB_EXISTS** | |
| **EVSERVERPEER_RELATIONSHIP_CREATION_IN_PROGRESS** | |
| **E_VSERVERPEER_RELATIONSHIP_IN_USE_BY_FLEXCACHE** | |

# vserver-peer-get

[top]

Display information about Vserver peer relationships. Displays the local Vserver, peer Vserver, applications, remote Vserver name and the state of the peering relationship.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-peer-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **peer-vserver** | | string | Specifies name of the peer Vserver in the relationship |

| | | | |
|---|---|---|---|
| | | | |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vserver-peer-info | The attributes of the vserver-peer. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EPEERVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |

# vserver-peer-get-iter

[top]

Display information about Vserver peer relationships. If the API is issued to the Cluster LIF, then information about all Vservers is shown. If the request is sent to the Vserver LIF, then information about that Vserver is shown.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-peer-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vserver-peer-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-peer object. All vserver-peer objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vserver-peer-info[] optional | The list of attributes of vserver-peer objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vserver-peer objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **E_PEERVSERVER_NOT_FOUND** | |
| **EINTERNALERROR** | |

# vserver-peer-modify

[top]

Modify a Vserver peer relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **applications** | | vserver-peer-application[] | Applications which can make use of the peering relationship. Possible values: 'snapmirror', 'file_copy', 'lun_copy', 'flexcache'. |
| **peer-vserver** | | string | Specifies name of the peer Vserver in the relationship |
| **vserver** | | string | Specifies name of the local Vserver in the relationship |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **E_PEERVSERVER_NOT_FOUND** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **E_PEER_VSERVERPEERING_NOT_EXISTS** | |
| **E_INVALID_VSERVERPEERING_STATE** | |
| **E_INVALID_PEER_VSERVERPEERING_STATE** | |
| **ENOTCLUSTERED** | |
| **EINTERNALERROR** | |
| **E_VSERVERPEER_MODIFY_OP_NOT_ALLOWED** | |
| **E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_RETRY** | |
| **E_JOB_EXISTS** | |
| **EVSERVERPEER_SYSTEM_MANAGED_APPLICATION_NOT_ALLOWED** | |
| **E_VSERVERPEER_INTER_CLUSTER_LUN_COPY_NOT_ALLOWED** | |
| **E_VSERVERPEER_CANNOT_ENABLE_PEERED_LUN_COPY** | |
| **E_VSERVERPEER_PEER_CLUSTER_VERSION_MISMATCH** | |
| **E_VSERVERPEER_NO_FLEXCACHE_AT_LOCAL_CLUSTER** | |
| **E_VSERVERPEER_NO_FLEXCACHE_AT_PEER_CLUSTER** | |
| **E_VSERVERPEER_RELATIONSHIP_IN_USE_BY_FLEXCACHE** | |

# vserver-peer-modify-local-name

[top]

Modify the local name for a peer Vserver.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **new-name** | | string | Remote Peer Vserver Local Name |
| **peer-cluster** | | string | Peer Cluster |
| **peer-vserver** | | string | Remote Peer Vserver |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **E_PEERVSERVER_NOT_FOUND** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **EINTERNALERROR** | |
| **ENOTCLUSTERED** | |
| **EVSERVER_CANT_END_WITH_MC** | |
| **EINVALIDINPUTERROR** | |
| **E_INVALID_OPERATION_INTRA_CLUSTER** | |

| | |
|---|---|
| **E_VSERVERPEER_UNIQUE_CANT_USE_SAME_NAME** | |
| **E_VSERVERPEER_UNIQUE_CANT_RENAME_NAME_CONFLICT** | |
| **E_VSERVERPEER_UNIQUE_FAILED_TO_RENAME_PEERVSERVER** | |

# vserver-peer-permission-create

[top]

Create a new Vserver peer permission. Allow cluster admin to configure list of permitted clusters/Vservers/applications for intercluster Vserver peer relationship creation. Once configured no explicit Vserver peer accept required for any incoming Vserver peer request from remote cluster

| Input Name | Range | Type | Description |
|---|---|---|---|
| **applications** | | vserver-peer-permission-application[] | Peering Applications Possible values:<br>• "snapmirror" - SnapMirror,<br>• "flexcache" - FlexCache |
| **peer-cluster** | | string | Specifies name of the peer Cluster. |
| **vserver** | | string | Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ENOTCLUSTERED** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **E_LOCAL_VSERVER_NOT_RUNNING_OR_STOPPED** | |
| **E_VSERVERPEER_VPP_VP_PERMISSION_EXISTS** | |
| **E_VSERVERPEER_IPSPACE_MISMATCH** | |
| **E_VSERVERPEER_VPP_ECV_BELOW_9_2_0** | |

# vserver-peer-permission-delete

[top]

Delete a Vserver peer permission

| Input Name | Range | Type | Description |
|---|---|---|---|
| **peer-cluster** | | string | Specifies name of the peer Cluster. |
| **vserver** | | string | Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers. |

| Errno | Description |
|---|---|
| **E_VSERVERPEER_VPP_VP_PERMISSION_NOT_EXISTS** | |
| **E_VSERVERPEER_VPP_VSERVER_NOT_EXISTS** | |

# vserver-peer-permission-get

[top]

Gets a Vserver peer permission

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-peer-permission-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **peer-cluster** | | string | Specifies name of the peer Cluster. |
| **vserver** | | string | Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vserver-peer-permission-info | The attributes of the vserver-peer-permission. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# vserver-peer-permission-get-iter

[top]

Gets list of Vserver peer permission

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-peer-permission-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vserver-peer-permission-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-peer-permission object. All vserver-peer-permission objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vserver-peer-permission-info[] | The list of attributes of vserver-peer-permission objects. |

| | | | |
|---|---|---|---|
| | | optional | |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vserver-peer-permission objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# vserver-peer-permission-modify

[top]

Modify the existing Vserver peer permission

| Input Name | Range | Type | Description |
|---|---|---|---|
| **applications** | | vserver-peer-permission-application[] | Peering Applications Possible values:<br>• "snapmirror" - SnapMirror,<br>• "flexcache" - FlexCache |
| **peer-cluster** | | string | Specifies name of the peer Cluster. |
| **vserver** | | string | Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **ENOTCLUSTERED** | |
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **E_LOCAL_VSERVER_NOT_RUNNING_OR_STOPPED** | |
| **E_VSERVERPEER_VPP_VP_PERMISSION_EXISTS** | |
| **E_VSERVERPEER_VPP_ECV_BELOW_9_5_0** | |

# vserver-peer-reject

[top]

Reject a Vserver peer relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **peer-vserver** | | string | Specifies name of the peer Vserver in the relationship |
| **vserver** | | string | Specifies name of the local Vserver in the relationship |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **E_PEERVSERVER_NOT_FOUND** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **E_PEER_VSERVERPEERING_NOT_EXISTS** | |

| | |
|---|---|
| **E_INVALID_VSERVERPEERING_STATE** | |
| **E_INVALID_PEER_VSERVERPEERING_STATE** | |
| **ENOTCLUSTERED** | |
| **EINTERNALERROR** | |
| **E_INVALID_OPERATION_INTRA_CLUSTER** | |
| **E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_RETRY** | |
| **E_JOB_EXISTS** | |

# vserver-peer-repair-peer-name

[top]

Fix Peer Vserver name in the remote Vserver peer tables

| Input Name | Range | Type | Description |
|---|---|---|---|
| **vserver-name** | | string | vserver |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |
| **EVSERVER_RENAME_FAILED_TO_UPDATE_PEER_VSERVER_NAME** | |
| **EVSERVER_RENAME_VSERVER_NAME_CONFLICT_RESOLVED** | |

# vserver-peer-resume

[top]

Resume a Vserver peer relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force Resume |
| **peer-vserver** | | string | Specifies name of the peer Vserver in the relationship |
| **vserver** | | string | Specifies name of the local Vserver in the relationship |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **E_PEERVSERVER_NOT_FOUND** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **E_PEER_VSERVERPEERING_NOT_EXISTS** | |
| **E_INVALID_VSERVERPEERING_STATE** | |
| **E_INVALID_PEER_VSERVERPEERING_STATE** | |
| **ENOTCLUSTERED** | |
| **EINTERNALERROR** | |
| **E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_FORCE_OPTION** | |
| **E_JOB_EXISTS** | |

# vserver-peer-suspend

[top]

Suspend a Vserver peer relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **force** | | boolean optional | Force Suspend |
| **peer-vserver** | | string | Specifies name of the peer Vserver in the relationship |
| **vserver** | | string | Specifies name of the local Vserver in the relationship |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **E_PEERVSERVER_NOT_FOUND** | |
| **E_LOCAL_VSERVERPEERING_NOT_EXISTS** | |
| **E_PEER_VSERVERPEERING_NOT_EXISTS** | |
| **E_INVALID_VSERVERPEERING_STATE** | |
| **E_INVALID_PEER_VSERVERPEERING_STATE** | |
| **ENOTCLUSTERED** | |
| **EINTERNALERROR** | |
| **E_FAILED_TO_COMMUNICATE_WITH_PEER_CLUSTER_SUGGEST_FORCE_OPTION** | |
| **E_JOB_EXISTS** | |

# Element definition: **vserver-peer-application**

[top]

Application using the Vserver peering relationship Possible values:

- "snapmirror" - SnapMirror,
- "file_copy" - FileCopy,
- "lun_copy" - LunCopy,
- "flexcache" - FlexCache

[none]

# Element definition: **vserver-peer-info**

[top]

Contains information about the Vserver peer relationship(s). When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **applications** | | vserver-peer-application[] optional | Applications which can make use of the peering relationship. Attributes: non-creatable, non-modifiable Possible values:<br>• "snapmirror" - SnapMirror,<br>• "file_copy" - FileCopy,<br>• "lun_copy" - LunCopy,<br>• "flexcache" - FlexCache |
| **peer-cluster** | | string optional | Specifies name of the peer Cluster. If peer Cluster is not given, it considers local Cluster. This value is not shown and cannot be set in desired-attributes when the API is issued on Vserver LIF. Attributes: non-creatable, non-modifiable |
| **peer-state** | | vserver-peer-state optional | State of the Vserver peer relationship Attributes: non-creatable, non-modifiable Possible values:<br>• "peered" - Vserver peer relationship is established and the applications can use peer relationship,<br>• "pending" - Vserver peer relationship is initiated in the peer cluster and local cluster needs to accept the request,<br>• "initializing" - Communicating to the peer cluster for initializing the peer relationship,<br>• "initiated" - Relationship initiated in local cluster,<br>• "rejected" - Relationship initiated and peer cluster rejected the same,<br>• "suspended" - Relationship suspended, should not initiate any data transfers ,<br>• "deleted" - Relationship got deleted on peer cluster |
| **peer-vserver** | | string optional | Specifies name of the peer Vserver in the relationship Attributes: key, non-creatable, non-modifiable |
| **peer-vserver-uuid** | | uuid optional | Specifies uuid of the peer Vserver in the relationship. Attributes: non-creatable, non-modifiable |
| **remote-vserver-name** | | string optional | Specifies remote name of the peer Vserver in the relationship Attributes: non-creatable, non-modifiable |
| **vserver** | | string optional | Specifies name of the local Vserver in the relationship Attributes: key, non-creatable, non-modifiable |
| **vserver-uuid** | | uuid optional | Specifies uuid of the local Vserver in the relationship. Attributes: non-creatable, non-modifiable |

# Element definition: **vserver-peer-permission-application**

[top]

Intercluster application for Vserver peer permission Possible values:

- "snapmirror" - SnapMirror,
- "flexcache" - FlexCache

[none]

[top]

# Element definition: **vserver-peer-permission-info**

Information about the Vserver peer permission. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **applications** | | vserver-peer-permission-application[] optional | Applications which can make use of the intercluster Vserver peer relationship. Attributes: non-creatable, non-modifiable Possible values:<br>• "snapmirror" - SnapMirror,<br>• "flexcache" - FlexCache |
| **peer-cluster** | | string optional | Specifies name of the peer Cluster. Attributes: key, non-creatable, non-modifiable |
| **vserver** | | string optional | Specifies name of the local Vserver. Use symbol * to denote a permission that applies for all local Vservers. Attributes: key, non-creatable, non-modifiable |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **vserver-peer-application**

[top]

Application using the Vserver peering relationship Possible values:

- "snapmirror" - SnapMirror,
- "file_copy" - FileCopy,
- "lun_copy" - LunCopy,
- "flexcache" - FlexCache

[none]

# Element definition: **vserver-peer-permission-application**

[top]

Intercluster application for Vserver peer permission Possible values:

- "snapmirror" - SnapMirror,
- "flexcache" - FlexCache

[none]

# Element definition: **vserver-peer-state**

[top]

peered|pending|initializing|initiated|rejected|suspended|deleted Possible values:

- "peered" - Vserver peer relationship is established and the applications can use peer relationship,
- "pending" - Vserver peer relationship is initiated in the peer cluster and local cluster needs to accept the request,
- "initializing" - Communicating to the peer cluster for initializing the peer relationship,
- "initiated" - Relationship initiated in local cluster,
- "rejected" - Relationship initiated and peer cluster rejected the same,
- "suspended" - Relationship suspended, should not initiate any data transfers ,
- "deleted" - Relationship got deleted on peer cluster

[none]

# APIs in Category: **vserver-peer-transition**


vserver-peer-transition-create
vserver-peer-transition-destroy
vserver-peer-transition-destroy-iter
vserver-peer-transition-get
vserver-peer-transition-get-iter
vserver-peer-transition-modify


transition peer provides mechanism to setup relationships between a Data ONTAP 7-Mode system and a Data ONTAP Cluster-Mode Vserver. This relationship can be used by Cluster Admin to setup Snapmirror transition relationships or delegating these to Vserver Admin. These set of ZAPIs allow either to create or manage transition peer relationships.

## vserver-peer-transition-create

[top]

Create a new transition peer relationship between a Data ONTAP 7-Mode system and a Data ONTAP Cluster-Mode Vserver

| Input Name | Range | Type | Description |
|---|---|---|---|
| **local-lifs** | | lif-name[] optional | List of Local LIFs |
| **local-vserver** | | vserver-name | Local Vserver name |
| **multi-path-address** | | string optional | Additional address for source 7-Mode system |
| **return-record** | | boolean optional | If set to true, returns the vserver-peer-transition on successful creation. Default: false |
| **src-filer-name** | | string | Source 7-Mode system |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **result** | | vserver-peer-transition-info optional | The vserver-peer-transition created (keys or the entire object if requested) |

| Errno | Description |
|---|---|
| **EVSERVERNOTFOUND** | |
| **EVSERVER_OP_NOT_ALLOWED** | |
| **E_LOCAL_VSERVER_NOT_RUNNING_OR_STOPPED** | |
| **E_DUPLICATE_PEER_VSERVER_NAME_VSERVER** | |
| **E_PEERVSERVER_SAME_LOCALVSERVER** | |
| **E_LIF_NOT_FOUND** | |
| **E_LIF_NOT_OWNED_BY_VSERVER** | |

# vserver-peer-transition-destroy

[top]

Deletes a transition peer relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **local-vserver** | | vserver-name | Local Vserver name |
| **src-filer-name** | | string | Source 7-Mode system |

| Errno | Description |
|---|---|
| **E_PEER_RELATIONSHIP_IN_USE** | |

# vserver-peer-transition-destroy-iter

[top]

Deletes multiple transition peer relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **continue-on-failure** | | boolean optional | This input element is useful when multiple vserver-peer-transition objects match a given query. If set to true, the API will continue deleting the next matching vserver-peer-transition even when the deletion of a previous vserver-peer-transition fails. If set to false, the API will return on the first failure. Default: false |
| **max-failure-count** | **[1..2^32-1]** | integer optional | When allowing failures ('continue-on-failure' is set to true), then this input element may be provided to limit the number of failed deletions before the server gives up and returns. If set, the API will continue deleting the next matching vserver-peer-transition even when the deletion of a previous matching vserver-peer-transition fails, and do so until the total number of objects failed to be deleted reaches the maximum specified. If set to the maximum or not provided, then there will be no limit on the number of failed deletions. Only applicable if 'continue-on-failure' is set to true. Default: 2^32-1 |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of vserver-peer-transition objects to delete in this call. Default: 20 |
| **query** | | vserver-peer-transition-info | If deleting a specific vserver-peer-transition, this input element must specify all keys. If deleting multiple vserver-peer-transition objects based on query, this input element must specify a query. |
| **return-failure-list** | | boolean optional | If set to true, the API will return the list of vserver-peer-transition objects (just keys) that were not deleted due to some error. If set to false, the list of vserver-peer-transition objects not deleted will not be returned. Default: true |
| **return-success-list** | | boolean optional | If set to true, the API will return the list of vserver-peer-transition objects (just keys) that were successfully deleted. If set to false, the list of vserver-peer-transition objects deleted will not be returned. Default: true |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the next-tag obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| | | vserver- | |

| | | | |
|---|---|---|---|
| **failure-list** | | peer-transition-destroy-iter-info[] optional | Information about vserver-peer-transition objects that were not deleted due to some error. This element will be returned only if input element 'return-failure-list' is true. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more matching vserver-peer-transition objects to be deleted. |
| **num-failed** | **[0..2^32-1]** | integer optional | Number of vserver-peer-transition objects that matched the query, but were not deleted due to some error. |
| **num-succeeded** | **[0..2^32-1]** | integer optional | The number of vserver-peer-transition objects that matched the query and were successfully deleted. |
| **success-list** | | vserver-peer-transition-destroy-iter-info[] optional | The vserver-peer-transition objects that were successfully deleted. This element will be returned only if input element 'return-success-list' is true |

| Errno | Description |
|---|---|
| **E_PEER_RELATIONSHIP_IN_USE** | |

# vserver-peer-transition-get

[top]

Gets a transition peer relationship.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-peer-transition-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **local-vserver** | | vserver-name | Local Vserver name |
| **src-filer-name** | | string | Source 7-Mode system |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes** | | vserver-peer-transition-info | The attributes of the vserver-peer-transition. |

| Errno | Description |
|---|---|
| **EOBJECTNOTFOUND** | |
| **EINTERNALERROR** | |

# vserver-peer-transition-get-iter

[top]

Gets list of transition peer relationship.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **desired-attributes** | | vserver-peer-transition-info optional | Specify the attributes that should be returned. If not present, all attributes for which information is available will be returned. If present, only the desired attributes for which information is available will be returned. |
| **max-records** | **[1..2^32-1]** | integer optional | The maximum number of records to return in this call. Default: 20 |
| **query** | | vserver-peer-transition-info optional | A query that specifies which objects to return. A query could be specified on any number of attributes in the vserver-peer-transition object. All vserver-peer-transition objects matching this query up to 'max-records' will be returned. |
| **tag** | | string optional | Specify the tag from the last call. It is usually not specified for the first call. For subsequent calls, copy values from the 'next-tag' obtained from the previous call. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **attributes-list** | | vserver-peer-transition-info[] optional | The list of attributes of vserver-peer-transition objects. |
| **next-tag** | | string optional | Tag for the next call. Not present when there are no more vserver-peer-transition objects to return. |
| **num-records** | **[0..2^32-1]** | integer | The number of records returned in this call. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |

# vserver-peer-transition-modify

[top]

Modifies a transition peer relationship

| Input Name | Range | Type | Description |
|---|---|---|---|
| **local-lifs** | | lif-name[] optional | List of Local LIFs |
| **local-vserver** | | vserver-name | Local Vserver name |
| **multi-path-address** | | string optional | Additional address for source 7-Mode system |
| **src-filer-name** | | string | Source 7-Mode system |

| Errno | Description |
|---|---|
| **E_LIF_NOT_FOUND** | |
| **E_LIF_NOT_OWNED_BY_VSERVER** | |

# Element definition: **lif-name**

[top]

Logical Interface Id

[none]

# Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# Element definition: **vserver-peer-transition-destroy-iter-info**

[top]

Information about the deletion operation that was attempted/performed against vserver-peer-transition object.

| Name | Range | Type | Description |
|---|---|---|---|
| **error-code** | **[0..2^32-1]** | integer optional | Error code, if the deletion operation caused an error. |
| **error-message** | | string optional | Error description, if the operation caused an error. |
| **vserver-peer-transition-key** | | vserver-peer-transition-info | The keys for the vserver-peer-transition object to which the deletion applies. |

# Element definition: **vserver-peer-transition-info**

[top]

Information about the transition peer. When returned as part of the output, all elements of this typedef are reported, unless otherwise stated in the elementâ€™s description or limited by a set of desired attributes specified by the caller.

When used as input to specify desired attributes to return, omitting a given element indicates that it shall not be returned in the output. In contrast, by providing an element (even with no value) the caller ensures that a value for that element will be returned, given that the value can be retrieved.

When used as input to specify queries, any element can be omitted in which case the resulting set of objects is not constrained by any specific value of that attribute.

| Name | Range | Type | Description |
|---|---|---|---|
| **local-lifs** | | lif-name[] optional | List of Local LIFs Attributes: optional-for-create, modifiable |
| **local-vserver** | | vserver-name optional | Local Vserver name Attributes: key, required-for-create, non-modifiable |
| **multi-path-** | | string | Additional address for source 7-Mode system Attributes: optional- |

| | | | |
|---|---|---|---|
| **address** | | optional | for-create, modifiable |
| **src-filer-name** | | string<br>optional | Source 7-Mode system Attributes: key, required-for-create, non-modifiable |

## Element definition: **lif-name**

[top]

Logical Interface Id

[none]

## Element definition: **vserver-name**

[top]

The name of the Vserver.

[none]

# APIs in Category: **wafl**


wafl-get-sync-status
wafl-sync


## wafl-get-sync-status

[top]

Returns the status of the previously issued asynchronous Consistency Point operations.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **sync-handle** | | wafl-sync-handle | Handle representing a previously issued wafl-sync operation. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **status** | | string optional | Status information about the previous CP request on volume. Possible values:<br>• "failed",<br>• "in_progress",<br>• "succeeded". |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

## wafl-sync

[top]

Forces a WAFL consistency point (CP) in order to reduce the time for succeeding fence and snapshot related operations. In Data ONTAP 7-Mode this call is synchronous and will not return until the CP has completed. In Data ONTAP Cluster-Mode this API is asynchronous and will return immediately as soon as the CP is scheduled. The wafl-get-sync-status API can be used to check status of the previously scheduled CP. Two uses of this API are

- to predict how fast a successive consistency group based operation will finish,
- to improve performance of succeeding consistency group primitives.

| Input Name | Range | Type | Description |
|---|---|---|---|
| **volume-uuids** | | uuid[] optional | A list of volume UUIDs in this filer to take a CP on. |
| **volumes** | | volume-name[] optional | A list of volume names to take a CP on. In Data ONTAP 7-Mode, the CP operation will be performed on all the volumes on the controller if no volumes are specified. In Data ONTAP Cluster-Mode, "volumes" is a required input and all specified volumes must belong to the same Vserver. If an error is encountered when processing the sync request |

| | | | |
|---|---|---|---|
| | | | for a volume, the operation is aborted and sync operation will not be performed on the rest of the volumes specified. |

| Output Name | Range | Type | Description |
|---|---|---|---|
| **handles** | | wafl-sync-handle[] optional | List of handles to be used to query the sync status using 'wafl-get-sync-status' ZAPI. |

| Errno | Description |
|---|---|
| **EINTERNALERROR** | |
| **EINVALIDINPUTERROR** | |

| Vfiler-enabled |
|---|
| **Yes** |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

# Element definition: **wafl-sync-handle**

[top]

Handle representing a specific wafl-sync operation on a volume.

| Name | Range | Type | Description |
|---|---|---|---|
| **handle** | **[0..2^32-1]** | integer | Opaque handle that represents a specific wafl-sync operation. |
| **volume** | | volume-name optional | Volume name on which wafl-sync operation being performed. |
| **volume-uuid** | | uuid optional | Volume UUID on which wafl-sync operation being performed. |

# Element definition: **uuid**

[top]

The 128-bit universally-unique identifier (UUID).

UUIDs are formatted as 36-character strings. These strings are composed of 32 hexadecimal characters broken up into five groupings separated by '-'s.The first grouping has 8 hex characters, the second through fourth groupings have four hex characters each, and the fifth and final grouping has 12 hex characters. Note that a leading '0x' is not used.

[none]

# Element definition: **volume-name**

[top]

The name of the volume.

Volume names can contain letters, numbers, and the underscore character (_). The first character must be a letter or an underscore. When creating a Cluster-Mode volume, the user can specify at most 203 characters. If the prefix '/vol/' appears in the volume name, it is stripped out and the characters that follow the prefix constitute the actual volume name.

Volume names are scoped by their owning Vserver in a cluster, with each Vserver's volume namespace being totally independent. Thus, any Vserver 'S' in a cluster cannot have two volumes with the same name 'V'. However, two different Vservers in the same cluster can each have a volume named 'V'.

For example, any given Vserver in a cluster can only have at most one volume named 'vol0'. However, two different Vservers S1 and S2 in the cluster may each have a volume named 'vol0'.

[none]

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### The NetApp Manageability SDK Discussion Forum:

Go to http://developer.netapp.com to post query in the discussion forum.

- This forum is the preferred way to obtain support.
- Use this forum for non-confidential queries and issues regarding the SDK.

### The NetApp Manageability SDK mailing list:

dl-sdk-answers@netapp.com

Use this mailing list to post any confidential information.

### Customer Success Services (CSS):

Technical Support
mysupport.netapp.com
888.4.NETAPP (US and Canada)
(888.463.8277) 00.800.44.NETAPP (EMEA/Europe)
+800.800.80.800 (Asia/Pacific)

- NetApp Manageability SDK customers and end customers of partner products can contact CSS to log issues related to the SDK.
- However, CSS does not offer support for SDK usage during solution development.

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